

Construction Environmental Management Plan

Project:
Sydney Yard Access Bridge

Project No:
K26

Date:
01/03/2018

Rev:
2.0

Sydney Metro City and Southwest Sydney Yard Access Bridge K26-LOR-PLN-011: Construction Environmental Management Plan

Document and revision history

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Terms and Definitions

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

| Terms | Explanation |
|---------------------------|---|
| AA | Acoustic Advisor |
| AHD | Australian Height Datum |
| ARI | Average Rainfall Intensity |
| AS | Australian Standard |
| Assurance | Laing O'Rourke's Online Tool to manage Non-Conformances |
| CAQMP | Construction Air Quality Management Plan |
| CAR | Corrective Action Request |
| CCTV | Closed Circuit Television |
| CEMP | Construction Environmental Management Plan |
| CFCs | Chlorofluorocarbons |
| CHMP | Construction Heritage Management Plan |
| CNVMP | Construction Noise and Vibration Management Plan |
| CoA | Conditions of Approval |
| Core Process and Enabling | Core Process (Governance) and Enabling Process (Detail) provide a coordinated overview of the processes and controls in Laing O'Rourke. |
| Council | City of Sydney Council |
| CRAW | Construction Risk Assessment Workshop |
| CSSC | City of Sydney Council |
| CSSI | Critical State Significant Infrastructure |
| CTAMP | Construction Traffic and Access Management Plan |
| Cwth | Commonwealth |
| dB | Decibels |
| DECC | Department of Energy and Climate Change |
| DPE | Department of Planning and Environment |
| ECM | Environmental Control Map |
| EIFR | Environmental Incident Frequency Rate |
| EIS | The Sydney Metro City and Southwest Chatswood to Sydenham |
| EMS | Environmental Management System |
| EP&A Act | <i>Environmental Planning and Assessment Act 1979 (NSW)</i> |
| EPA | NSW Environment Protection Authority |
| EPL | Environmental Protection Licence under the POEO Act |
| ER | Environmental Representative (independent of design and construction personnel) |
| HSE | Health Safety and Environment |
| HSEQ | Health Safety Environment and Quality |
| HV | High voltage |
| iGATE | Laing O'Rourke Intranet |
| IMPACT | Laing O'Rourke Online Reporting System |

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|-------------------------------|--|
| ISO | International Standardization Organisation |
| ITP | Inspection and Test Plan |
| JSEA | Job Safety and Environment Assessment |
| Laing O'Rourke / LOR / LORAC | Laing O'Rourke Australia Construction Pty Limited |
| LEP | Local Environmental Plan |
| LPG | Liquefied Petroleum Gas |
| LV | Low voltage |
| Minister, the | The Minister of New South Wales (NSW) Planning |
| NATA | National Association of Testing Authorities |
| NSW | New South Wales |
| OEH | NSW Office of Environment and Heritage |
| OHWS | Overhead Wiring System |
| OOHW | Out-of-Hour Works |
| PEM | Project Environmental Manager |
| PIR | Preferred Infrastructure Report - |
| POEO Act | <i>Protection of Environment Operations Act 1997 (NSW)</i> |
| PPE | Personal Protective equipment |
| Proponent | The person or organisation identified as the proponent in Schedule 1 of the planning |
| Registered Aboriginal Parties | As defined in the Aboriginal cultural heritage consultation requirements for proponents 2010 |
| RMS | Road and Maritime Services |
| Secretary | The Secretary of the Department of Planning and Environment |
| SDS | Safety Data Sheet |
| SM | Sydney Metro |
| SSI | State Significant Infrastructure |
| SWMS | Safe Works Method Statement |
| SYAB | Sydney Yard Access Bridge |
| TBA | To be announced |
| TEC | Threatened Environmental Communities |
| TfNSW | Transport for New South Wales |
| TSMP | Threatened Species Management Plan |
| WIRES | Wildlife Information, Rescue and Education Service |

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1.0 Purpose of the CEMP

The Construction Environmental Management Plan (this Plan) has been developed to:

- ensure that the needs and expectations of the client are met;
- ensure that the project meets contractual, legal and other environmental requirements;
- meet the requirements of ISO 14001 including the need for continual improvement;
- provide a link between the corporate and project management system; and
- provide all Laing O’Rourke personnel with systems, procedures and documentation necessary to undertake the construction of this project with environmental requirements.
- Minimise negative impacts on the community
- Identify reasonable and feasible opportunities to minimise the environmental impact of the project

This CEMP details how the performance outcomes, commitments and mitigation measures specified in Chapter 11 of the PIR (Preferred Infrastructure Report) will be implemented and achieved during construction.

The following plans, which will be prepared separately to this document, will form the part of CEMP suite;

- Construction Noise and Vibration Management Plan (as referred to in CoA C8 & C13)
- Construction Heritage Management Plan (as referred to in CoA C8)
- Construction Traffic Management Plan (as referred to in CoA E82)

Management of the following aspects during construction have incorporated into the CEMP Environmental Risk Action Plans seen in Appendix D;

- Biodiversity
- Air Quality
- Soil and Water
- Groundwater

Management for blasting is not required for the SYAB works.

In addition, this Plan will provide continuity between a range of documents and specific requirements to ensure that the Sydney Yard Access Bridge (SYAB) Project is carried out generally in accordance with;

- The Sydney Metro City and Southwest – Development Consent – Determination, dated 9th January 2017
- The Sydney Metro City and Southwest - Environmental Impact Statement , dated 3rd May 2016;
- The Sydney Metro Construction Environmental Management Framework v1.3;
- Department’s Guideline for the Preparation of Environmental Management Plans. Appendix A1;
- The Overarching Stakeholder and Community Involvement Plan (Sydney Metro Community Consultation Strategy (CCS));
- The Sydney Metro Construction Noise and Vibration Strategy (including out-of-hour works protocol)
- The conditions of all other environmental legislative requirements
- All other requirements of The Contract

Construction will not commence until the CEMP and relevant Sub-plans are approved by the Secretary.

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2.0 Project Overview, Scope of Works and Indicative Construction Schedule

This plan applies to the construction phase of the Sydney Metro City and Southwest - Sydney Yard Access Bridge (SYAB) project. This plan applies to all those activities, products and services on the site over which it has control or influence.

The project site is located mainly within the rail corridor near the Sydney Yard, beyond rail access gate at Regent Street, Sydney NSW, and 56-64 Regent St including the adjacent footpath to Regent St.

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

2.1 Overview of the Sydney Yard Access Bridge (SYAB) Project

Sydney Metro City & Southwest is a new 30km metro line extending metro rail from the end of Sydney Metro Northwest at Chatswood under Sydney Harbour, through new CBO stations and southwest to Bankstown. It is due to open in 2024 with the capacity to run a metro train every two minutes each way through the centre of Sydney. The SYAB project forms part of the Sydney Metro City & Southwest project and is a new permanent road bridge that will provide a connection from Regent Street into the Sydney Yard. In particular, the SYAB will extend from Regent Street over the Mortuary Station line and intercity tracks into the Sydney Yard. The users of the SYAB will include:

- the contractors responsible for the construction of the Sydney Metro City & Southwest works at Central Station;
- the contractors responsible for other construction activities at Central Station;
- the operator and maintainer of Sydney Metro; and
- Sydney Trains and NSW Trains for the purpose of maintenance activities and periodic major projects in and around Sydney Yard.

SYAB will be owned by Transport for New South Wales (TfNSW) and, following completion of the Sydney Metro City & Southwest construction works, will be operated and maintained by Sydney Trains or the Sydney Metro operator and will provide an improved access which is grade separated into the Sydney Yard for Sydney Trains and Sydney Metro operations by:

- avoiding track crossings, usually restricted to Sydney Trains possessions, for the majority of vehicles and loads that need access to the Sydney Yard;
- providing a service access point for vehicles to Central Station away from the public entrances;
- supporting emergency vehicles access to Central Station; and
- improving safety by avoiding construction or maintenance traffic crossing the high traffic pedestrian area at the Eddy Avenue entrance and at the proposed Sydney Light Rail crossing.

2.2 SYAB Scope of Works

2.2.1 Permanent Works

The works include all permanent new infrastructure and modifications to existing infrastructure, which must be constructed to enable the construction of the SYAB. The permanent new infrastructure and modifications to existing infrastructure to be constructed includes;

- The bridge substructure, superstructure, heritage and architectural treatment, protection screens and provisions for future Utility Services.
- The Regent Street entrance including demolition of associated terrace buildings on Regent St, road pavements and line marking, signage, road furniture, kerb and gutters and lighting.
- New security measures for the Sydney Yard, including fencing, gates, an electronic access control system and CCTV system.
- Adjustments to existing Rail Corridor boundary fencing necessary as a consequence of the construction of SYAB
- Adjustments to the Sydney Yard Railway Track including the shortening of the Up Shunting Neck, a new friction buffer stop and realignment and/or replacement of existing railway.
- Adjustments to existing Utility Services in Sydney Yard, including associated combined services route and local cables routes.

2.2.2 Temporary Works

The SYAB temporary works include:

- temporary arrangements to divert and control pedestrians, public transport users, cyclists, public transport and traffic and to provide public access, amenity, security and safety during all stages of design and construction of the Works;
- temporary arrangements for people and vehicles to safely access all property, including publicly accessible space affected by the Contractor's Activities;

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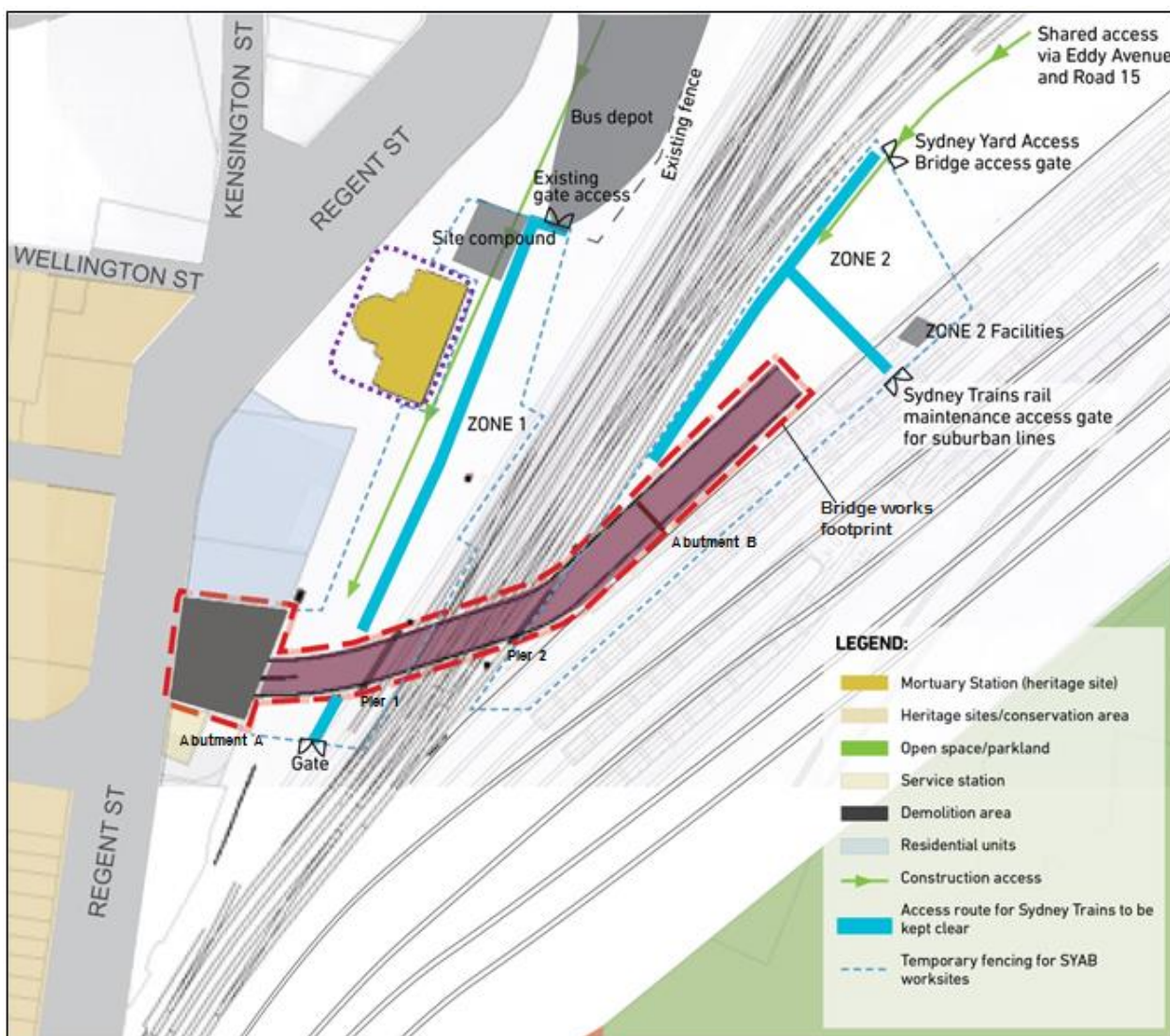
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- temporary arrangements for people and vehicles to safely access the Site;
- temporary access stairs, walkways and platforms within the Site;
- temporary construction hoardings, fencing, noise walls, access gates and barriers on and around the Site;
- all environmental safeguards and measures necessary to mitigate environmental effects which may arise during the design and construction of the Works;
- cleaning, maintenance, repair, replacement and reinstatement, as required, of all areas occupied by the Contractor during design and construction of the Works;
- temporary site facilities required for design and construction of the Works,;
- temporary infrastructure, safety screens and ground support installed or erected to undertake design and construction of the Works;
- temporary arrangements for Utility Services including water, electricity, stormwater, sewerage, gas and electronic communications;
- temporary works and measures required as a consequence of requirements arising from the stakeholder and community liaison process; and
- all other temporary works and measures required for the construction of the Works.

2.3 Works Location and Site Layout

The SYAB work location and site layout is highlighted in Figure 1 below. Refer also to the Environmental Control Map in Appendix S.

Figure 1: Site Layout



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2.4 Indicative Construction Schedule

Table 1 shows the indicative construction timeframe;

Table 1: Indicative Construction Schedule

| SYAB Activities | Months | | | | | | | | | | | | | | | | | | | | | |
|--|--------|---|---|---|---|---|---|---|---|----|----|----|------|----|----|----|----|----|----|----|----|----|
| | 2017 | | | | | | | | | | | | 2018 | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Mobilise Project and Design Consultant Teams | █ | | | | | | | | | | | | | | | | | | | | | |
| Design and Approvals Period | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Commence Enabling Works | | | | | █ | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Construction Packages Procurement Period | | | | █ | █ | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Enabling Works and Track Works Period | | | | █ | █ | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Site Establishment Facilities Installation | | | | █ | █ | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Demolition Works Period | | | | | | █ | █ | █ | █ | █ | █ | | | | | | | | | | | |
| Construction Commencement | | | | | | █ | | | | | | | | | | | | | | | | |
| Bridge Construction Period | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| Bridge Beams Installation Span 1 - Abutment A to Pier 1 | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| Bridge Beams Installation Span 2 - Abutment Pier 1 to Pier 2 | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| SYAB Fit Out & Finishes Period | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| Bridge Beams Installation Span 3 - Abutment Pier 2 to Abutment B | | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| Regent Street Services Relocation Works Complete | | | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | |
| Regent Street Roadworks & Entrance Practical Completion | | | | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | |
| Testing and Commissioning Complete | | | | | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | |
| Wet Weather Contingency | | | | | | | | | | | | | | | | █ | █ | █ | █ | █ | █ | |
| Milestone 1 Finish (Bridge Completion - Open to Traffic) | | | | | | | | | | | | | | | | | █ | █ | █ | █ | █ | |
| Milestone 2 Finish (Project Completion) | | | | | | | | | | | | | | | | | | | | | █ | |
| Up Shunt Track Shortening | | | | | | | | | | | | | | | | | | | | | | |

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2.5 Construction Hours

In accordance with Condition of Approval (CoA) – E36 - Construction, except as allowed by Condition E47 and E48 (excluding cut and cover tunnelling), must only be undertaken during the following standard construction hours:

- 7:00am to 6:00pm Mondays to Fridays, inclusive;
- 8:00am to 1:00pm Saturdays; and
- at no time on Sundays or public holidays.

CoA E37 places further restriction on the hours that 'high noise impact' generating activities may occur where internal noise levels are greater than $Leq(15min) 60dB(A)$ at nearest sensitive receivers. Construction works and activities with the potential to exceed internal criteria will be scheduled to occur between the hours of 7am and 8pm. CoA E37 provides for an extended daytime period as it may be preferred by commercial (or residential) receivers for high noise generating activities to occur after 5pm. As required in CoA E38, the relevant receivers have been identified throughout the Construction Noise and Vibration Management Plan (CNVMP) regarding the determination of hours of respite so that construction noise (including ground-borne noise) does not exceed the Highly Noise Affected Management Level (HNAML) outlined within the Interim Construction Noise Guideline (ICNG). Construction noise management levels have been outline within **Table 4.1** of the CNVMP.

2.5.1 Out of Hours Works Protocol

Out of Hours Works (OOHW) at this stage are proposed for a number of phases during construction of the SYAB.

CoA E44(f) and E47 requires the preparation of an OOHW Protocol when undertaking works outside of standard construction hours. Different approval pathways apply for works covered subject to the EPL. The approval authority for areas outside ST EPL is AA endorsement and ER/DPE approval and the approval authority for areas within ST EPL is TfNSW approval. An OOHW Protocol has been prepared and is located in **Appendix B** of the Construction Noise and Vibration Management Plan (CNVMP) and should be referred to during the assessment, management and approval of work outside of standard construction hours (as defined in Condition of Approval E36).

2.6 Plant and Equipment

The following plant and equipment is proposed to be utilised during construction;

Table 2: List of Plant and Equipment

| Work Phase | Plant Utilised | Details |
|-------------------------------------|---|-------------------------------|
| Demolition of Terrace Buildings | 35t Excavator x 2 Bogie x 4 Bobcat | Mid-week works |
| Site Investigation and setup | Vac Truck Cranes 6t Excavator Road sweeper | Possession and mid-week works |
| Removal of part of Up Shunting Neck | Loader 8t Excavator + tamping head 10t Roller Bogie x 2 Semitrailer Rail saw | Possession and mid-week works |

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| Work Phase | Plant Utilised | Details |
|------------------------------------|-------------------|--|
| Piling of Bridge Abutments & Piers | Piling Rig | Abutment A & B mid-week works Piers 1 & 2 mid-week and possession based |
| | 8t Excavator | |
| | Bogie Tipper | |
| | Concrete Pump | |
| | Concrete Agi | |
| | 50t All Terrain | |
| | Semitrailer | |
| Abutments and Piers - Precast | Tower Crane | Possession and mid-week works |
| | Cherry Picker x 2 | |
| Abutments and Piers – Cast in Situ | Concrete Pump | Possession and mid-week works |
| | Concrete Agi | |
| Deck Spans | Tower Crane | Possession works only |
| | Cherry Picker x 2 | |
| | Jinkers x 3 | |
| | Rattle gun | |
| RE Wall | 10t Roller | Mid-week works |
| | City crane | |
| | 8t Excavator | |
| | Bogie x 2 | |
| Deck | Concrete Pump | Mid-week works |
| | Concrete Agi | |
| Regent St Services | 5t Excavator | Mid-week nights |
| | Road saw | |
| | Bogie | |
| | 2.5t Roller | |
| | Concrete Agi | |

2.7 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:

Table 3: CEMP Distribution

| Copy No. | Issued To |
|----------|-----------------------|
| 01 | Project Leader |
| 02 | Environmental Manager |
| 03 | Client Representative |

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.

2.8 Issue, Revision and Re-issue

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The initial issue of this plan has been reviewed by the Regional 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.

In accordance with CoA C7, the CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of construction or within another timeframe agreed with the Secretary.

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 the Company's standard system

It is expected that the Environmental Audits and Management Reviews will be within 3 months of commencing on site and approximately every 3-6 months thereafter. The CEMP and sub-plans would be subsequently reviewed and updated by the Environmental Manager as required. The CEMP and sub-plans would be reviewed at least on a six monthly basis.

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.

The Independent Environmental Representative would be given the authority to approve amendments to the CEMP.

Revised versions of the CEMP and sub-plans would be updated on Teambinder and notifications sent to the SYAB Project team.

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3.0 Environmental Management 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:

- Client requirements as detailed in the Contract
- Laing O'Rourke Australia Construction Pty Limited Environmental Management System as detailed on iGATE
- ISO 14001 Environmental Management System
- The Sydney Metro Chatswood to Sydenham Environmental Impact Statement
- The Construction Environmental Management Framework v1.3;
- The Overarching Stakeholder and Community Involvement Plan; and
- All other legal requirements

This CEMP references relevant parts of the Laing O'Rourke's environmental management system and incorporates the additional elements necessary to satisfy the client's environmental system requirements. An outline of Laing O'Rourke's Environmental Management System is provided below.

Figure 2: Laing O'Rourke Environmental Management System



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4.0 Legal and Other Requirements

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

- Laws – Acts, regulations, policies, etc.
- Environment Protection Licences and permits
- Development consents
- Relevant industry standards / codes

Licences, permits and approvals are outlined in Appendix B 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 17 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.

Status of compliance conditions relating to items listed on the SYAB Permits and Licences Register will be tracked in a separate 'live' SYAB Environmental Compliance Matrix. Specific details and controls are included in the associated sub-plans and Environmental Risk Action Plans.

An assessment of the relevant legislative instruments has been conducted and recorded in Appendix A. A copy of relevant Permits, Licences and any development approvals relevant to Laing O'Rourke's activities will be kept on site.

4.1 Project Approval and Development Consent

The works are to be delivered under the Environmental Planning and Assessment Act 1979 in accordance with the Critical State Significant Infrastructure Sydney Metro City & Southwest Chatswood to Sydenham Conditions of Approval (SSI 15_7400) issued for the Project under Section 115ZB. The approval process includes specific planning conditions and commitments that must be addressed in this CEMP and delivered during the project.

A Compliance Matrix for the project has been established in accordance with the Sydney Metro compliance tracking program to ensure the approval conditions are captured, addressed and closed out. The Matrix includes all conditions relevant to Laing O'Rourke's scope of works and will be updated as the works progress and reviewed on a monthly basis to verify compliance with each condition.

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) seen in Appendix D.

Non-compliances with the conditions will be documented and addressed through Laing O'Rourke's 'Impact' Assurance application.

4.2 Environmental Authority / Licence

The SYAB works will be delivered in accordance with the Sydney Trains Environment Protection Licence (EPL) 12208 and all information required by the EPL will be submitted to Sydney Trains within the stipulated timeframes and subject to requirements of an interface agreement to be put in place for the project. Compliance with all relevant licence conditions will be tracked, monitored and ensured. If any inconsistencies between the EPL and planning approval arise, the planning approval will take precedence. The EPL applies for all works within the premise boundaries under the EPL. The EPL does not apply to the Regent Street terrace site and Regent Street footpath works.

4.3 References, Standards, Codes and Regulations

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

In addition to legislative requirements, the following environmental publications, standards, codes of practice and guidelines are relevant to the SYAB Project and are referenced throughout this Plan. Other aspect specific guidelines are discussed in the relevant CEMP sub-plans and other project management plans.

4.4 Compliance Tracking

In accordance with CoA A28, A29 and A30, a compliance tracking program must be developed and implemented during construction works in order to monitor compliance with the terms of the project approval.

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A compliance matrix has been established for the proposed works and is attached in Appendix T, incorporating CoA, licence conditions, permits and other approvals relevant to the SYAB works to track issues and ensure compliance issues are addressed and closed out. SYAB compliance tracking will be undertaken in accordance with the Sydney Metro Compliance Tracking Program.

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Table 4: Relevant Standards/Guidelines

| Standard/Guideline | Relevant Authority |
|---|--------------------------------------|
| TfNSW Sustainable Design Guidelines | TfNSW |
| Sydney Metro Construction Noise and Vibration Strategy (CNVS) (NSW Govt, 2017) | TfNSW |
| Construction Noise Strategy (CNS) (TfNSW, 2013). | TfNSW |
| ISO 14001 Environmental Management Systems – Requirements with Guidelines for use | DP&E |
| Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2001) | DP&E |
| Interim Construction Noise Guidelines (Department of Environment and Climate Change, 2009) | NSW EPA |
| Traffic Control at Worksites Manual Version 4 (NSW RMS, 2010) | RMS |
| AS1742.3:2009 Manual of Uniform Traffic Control Devices – Traffic Control Devices for Works on Roads | RMS |
| Guide to Traffic Management – Part 2 0 Traffic Theory (Austroads, 2008) | RMS |
| NSW Road Noise Policy (RNP) (NSW Department of Environment, Climate Change and Water, 2011) | OEH |
| NSW Environmental Noise Management - Assessing Vibration: a Technical Guide (the NSW Vibration Guideline) | OEH |
| Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000) | NSW EPA |
| Australian Rainfall and Runoff – Volume 1 (Engineers Australia, 2001) | |
| Best Practise Erosion and Sediment Control (International Erosion Control Association, 2008) | IECA Australasia |
| Managing Contaminated Land Planning: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning & Environment Protection Authority, 1998) | NSW EPA |
| Managing Urban Stormwater: Soil and Construction (Landcom, 2008) | NSW EPA |
| AS2436:1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites | NSW EPA |
| AS2436:2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites | NSW EPA |
| AS1055-1997 Description and Measurement of Environmental Noise | NSW EPA |
| AS IEC 61672.1-2004 Electro Acoustics – Sound Level Meters Specifications Monitoring / AS1259.2-1990 Acoustic – Sound Level Meters – Integrating/Averaging (as appropriate to the device) | NSW EPA |
| AS/IEC 60942:2004/IEC 60942:2003 Electroacoustic – Sound Calibrators | NSW EPA |
| AS/ NZS 1940: 2004 - The Storage and Handling of Flammable and Combustible Liquids | NSW EPA |
| Rail Infrastructure Noise Guidelines (EPA, 2013) | NSW EPA |
| Industrial Noise Policy (NSW Government, 2000) | NSW EPA |
| Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006) | NSW EPA |
| AS/NZS 3580.1.1:2007 Methods for Sampling and Analysis of Ambient Air – Part 1.1 Guide to Siting Air Monitoring Equipment | NSW EPA |
| AS/NZS 3580.10.1:2003 Methods for Sampling Analysis of Ambient Air, Method 10.1 Determination of Particulate Matter – Deposited Matter – Gravimetric Method | NSW EPA |
| Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW Environmental Protection Authority, 2005) | NSW EPA |
| DIN 4150:3 (1990-2002) Structural Vibration – Effects of Vibration on Structures | German Institute for Standardisation |
| BS7385 – Evaluation and Measurement for Vibration in Buildings – Part 2 – Guide to Damage from Ground-borne Vibration (1993) | British Standard |
| AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting | OEH |

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| Standard/Guideline | Relevant Authority |
|--|-------------------------|
| Code of Practice for the Safe Removal of Asbestos 2nd edition (National Occupational Health and Safety Commission, 2005) | National OHS Commission |
| Code of Practice for the Management and Control of Asbestos in Workplaces (National Occupational Health and Safety Commission, 2005) | National OHS Commission |
| AS2601:1991 Demolition of Structures | DP&E |
| Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2008) | NSW EPA |
| Waste Reduction and Purchasing Policy (Environment Protection Authority, 1997) | NSW EPA |
| Code of Practice for the archaeological investigation of Aboriginal objects in NSW (2010) | OEH |
| Aboriginal cultural heritage consultation requirements for proponents (2010) | OEH |
| Due Diligence Code of practice for protection of Aboriginal objects in NSW (2010) | OEH |
| Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (2011) | OEH |
| Guide to Aboriginal Heritage Impact Permit processes and decision making (2011) | OEH |
| Assessing Heritage Significance (NSW Heritage Office, 2001) | OEH |
| Levels of Heritage Significance (NSW Heritage Office, 2008) | OEH |
| Assessing Significance for Historical Archaeological Sites and Relics (NSW Heritage Branch, Department of Planning, 2009) | DPE |
| Investigating Heritage Significance (NSW Heritage Office, 2001) | OEH |
| NSW Government's Aboriginal Participation in Construction Guidelines (2007) | NSW Govt. |
| How to Prepare Archival Recording of Heritage Items (Heritage Branch, 1998). | OEH |
| Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Branch, 2006) | OEH |

Access to the latest Australian standards is available via the through iGATE (Laing O'Rourke Intranet).

4.5 Stakeholder Consultation and Approval of Plans

The Minister's Condition of Approval C3 requires that the CEMP be endorsed by Environmental Representative (ER) and to be submitted to DPE for approval. The CEMP will be submitted to the ER for endorsement prior to approval by DPE.

CEMP sub-plans are required to be prepared in consultation with the relevant government agencies as listed in Condition of Approval C3. The sub-plans relevant to the SYAB project and associated stakeholder consultation is listed below.

Table 5 – CEMP sub-plan consultation requirements

| Required SYAB CEMP Sub-plan | Relevant government agencies to be consulted |
|----------------------------------|---|
| Construction Noise and Vibration | Sydney City Council |
| Heritage | NSW Heritage Council (or delegate), Sydney City Council |
| Construction Traffic | RMS, Sydney Coordination Office, Sydney Metro Traffic and Transport Liaison Group |

Comments received on the CEMP sub-plan will be considered and, where relevant, incorporated in the respective sub-plan and recorded in Appendix R – Stakeholder Consultation.

It is noted that due to the limited environmental risk associated with the SYAB project, management of the following aspects are considered appropriate and effective as outlined in this CEMP document in Appendix D – Environmental Risk Action Plans;

- Biodiversity,
- Air Quality,
- Soil and Water and Groundwater.

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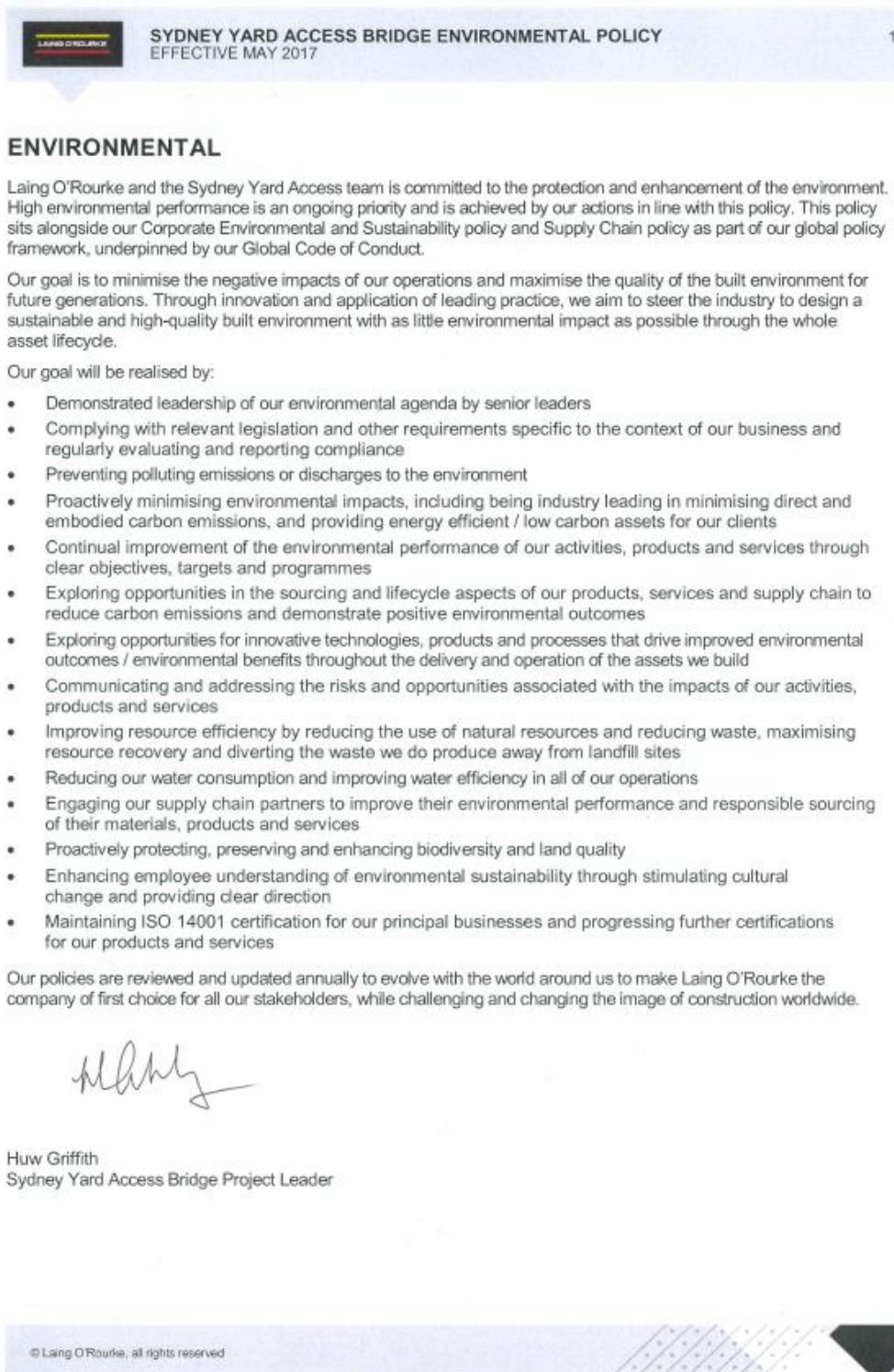
5.0 Policy

LOR maintains a Corporate and Project Environmental Policy, which will be:

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

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

Figure 3: Project Environmental Policy



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6.0 Objectives and Targets of the project

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

Table 6: Objectives and targets of the project

| Objective | Target | Reporting / Monitoring |
|--|--|----------------------------|
| Effective site environmental controls | Set-up prior to starting work in the affected area; Maintain effective controls | Inspection checklists |
| Environmental performance | No breaches or environmental infringement notices No Class 1 or Class 2 incidents | Monthly reports |
| Environmental Lead Indicators | 100% of weekly environmental inspections signed off by the Project Leader | Monthly reports |
| Effective implementation of the environmental system | No level 1 Corrective Action Requests <3 level 2 risks each report <20 level 3 risks each report Closure of CARs within the nominated timeframe. Timely release of Environmental Hold Points | Audit report |
| Community issues carefully managed | Complainant contacted within two hours Matter closed out within one week. | Complaints form and Impact |

Operational objectives and targets relating to significant environmental issues are contained in within the operational control procedures provided in Appendix D.

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7.0 Responsibilities and Authorities

Authorities and responsibilities for all positions are defined and communicated in Job Descriptions and project documentation. Project specific reporting and communication lines are shown in the Organisation Chart in Appendix E. Key responsibilities are indicated in the table below.

Table 7: Key responsibilities and authorities

| Position | Key Responsibilities and Authorities |
|----------------------------------|---|
| Regional Director | <ul style="list-style-type: none"> – Reports to the Group General Manager and Board of Directors – Ensure that independent audits of the environmental management system are conducted – Review audit outcomes and take action as necessary – Review regional environmental performance through the monthly reporting cycle – Authorise resourcing on environmental issues – Resolve major issues which cannot be resolved by the Sector General Manager – Must complete corporate and project induction covering environmental responsibilities and LORs' environmental management system. |
| General Manager - Infrastructure | <ul style="list-style-type: none"> – Reports to the Regional Director – Ensure that internal audits of the system are conducted – Review audit corrective actions and take action as necessary to ensure timely close out of issues – Authorise expenditure on environmental issues within limits of authority – Resolve major issues which cannot be resolved by the Project Leader – Must complete corporate and project induction covering environmental responsibilities and LORs' environmental management system. |
| Project Leader | <ul style="list-style-type: none"> – Reports to the Sector General Manager – Ensure that project responsibilities and authorities are defined and communicated – Provide adequate resources to meet environmental objectives – Approve the CEMP – Ensure that the CEMP is effectively implemented and maintained – Appoint/nominate and provide support for the PEM – 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 client / local authorities as required – Must complete corporate and project induction covering environmental responsibilities and LORs' environmental management system. |
| Construction Manager | <ul style="list-style-type: none"> – Reports to the Project Leader – 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 PEM – Report all environmental incidents – Take action to resolve non-conformances and incidents – Must complete corporate and project induction covering environmental responsibilities and LORs' environmental management system. |
| Procurement Personnel | <ul style="list-style-type: none"> – Reports to the Project Leader and Construction 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 – Where practical, select materials which are “environmentally friendly” – Must complete corporate and project induction covering environmental responsibilities and LORs' environmental management system. |
| Project Environmental Manager | <ul style="list-style-type: none"> – Reports to the Project Leader and Regional Environmental Manager – Ensure that the CEMP is effectively established, implemented and maintained at the project level |

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| Position | Key Responsibilities and Authorities |
|--|--|
| | <ul style="list-style-type: none"> – Ensure relevant licences, approvals and permits identified in Appendix B are obtained. – Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies – Liaise with the Principal’s Environmental Representative and/or Superintendent 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 Client’s Representative and Environmental Manager 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. – Ensure that environmental controls, materials and equipment are maintained – Must have tertiary qualifications in environmental engineering / science along with relevant experience working in environmental management roles in Australia. Infrastructure Sustainability Accredited Professional preferred. – Must complete corporate and project induction covering environmental responsibilities and LORs’ environmental management system. |
| Regional Environmental Manager | <ul style="list-style-type: none"> – Reports to the General Manager Infrastructure – Provide environmental support to the project team – Coordinate internal environmental audits – Must have tertiary qualifications in environmental engineering / science along with relevant experience working in environmental management roles in Australia. Infrastructure Sustainability Accredited Professional preferred. – Must complete corporate and project induction covering environmental responsibilities and LORs’ environmental management system. |
| Sub-Contractors | <ul style="list-style-type: none"> – Comply with all legal and contractual requirements – Comply with site environmental requirements – Comply with management / supervisory directions – Participate in induction and training as directed – Report all incidents – Environmental qualifications as required by contract – Must complete project induction covering environmental responsibilities and LORs’ environmental management system. |
| All Personnel | <ul style="list-style-type: none"> – Comply with the relevant Acts, Regulations and Standards – Comply with the Company’s 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 as directed by management – Report all incidents – Act in an environmentally responsible manner – Must complete corporate and project induction covering environmental responsibilities and LORs’ environmental management system. |
| Independent Environmental Representative | <ul style="list-style-type: none"> – Receive and respond to communications from the Secretary in relation to the environmental performance of the Critical State Significant Infrastructure (CSSI); – Consider and inform the Secretary on matters specified in the terms of the planning approval; – Consider and recommend any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; |

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| Position | Key Responsibilities and Authorities |
|-------------------|--|
| | <ul style="list-style-type: none"> – Review all documents required to be prepared under the terms of the planning approval, ensure they address any requirements in or under the planning approval and if so, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); – Regularly monitor the implementation of all documents required by the terms of the planning approval for implementation in accordance with what is stated in the document and the terms of the planning approval; – Notify the Secretary of an incident in accordance with Condition A41 of the planning approval; – As may be requested by the Secretary, help plan, attend or undertake Department audits of the CSSI, briefings, and site visits; – If conflict arises between the Proponent and the community in relation to the environmental performance of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B3 of the planning approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary; – Review any draft consistency assessment that may be carried out by the Proponent, and provide advice on any additional mitigation measures required to minimise the impact of the work; – Consider any minor amendments to be made to the CEMP, CEMP sub-plans and monitoring programs that comprise updating or are of an administrative nature, and are consistent with the terms of the planning approval and the CEMP, CEMP sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of the planning approval; – Assess the impacts of minor ancillary facilities as required by Condition A18 of the planning approval; and prepare and submit to the Secretary and other relevant regulatory agencies, for information, a monthly Environmental Representative Report detailing the ER's actions and decisions on matters for which the ER was responsible in the preceding month (or other timeframe agreed with the Secretary). The Environmental Representative Report must be submitted within seven (7) days following the end of each month for the duration of works and construction of the CSSI, or as otherwise agreed with the Secretary. – Must complete project induction covering LORs' environmental management system. |
| Acoustics Advisor | <ul style="list-style-type: none"> – Review all noise and vibration documents required to be prepared under the project approval and, should they be consistent with the CoA, endorse them prior to submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); – Consider and provide recommendations on improvements that may be made to works practices to avoid or minimise noise and vibration impacts; – Regularly monitor the implementation of all noise and vibration documents required to be prepared under the project approval to ensure implementation is in accordance with what is stated in the document and the project approval; – Notify the Secretary of noise and vibration incidents in accordance with CoA A41; – In conjunction with the ER: <ul style="list-style-type: none"> ○ consider requests for out of hours construction activities and determine whether to endorse the proposed activities in accordance with Condition E47; ○ as may be requested by the Secretary or Complaints Commissioner, help plan, attend or undertake audits of noise and vibration management; ○ facilitate conflict resolution with the community in relation to noise and vibration management performance during construction as required; ○ consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of the project approval and the management plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, endorse the amendment; ○ assess the noise impacts of minor ancillary facilities as required by Condition A18 of the project approval; and ○ prepare and submit to the Secretary and other relevant regulatory agencies, for information, a monthly Noise and Vibration Report detailing the AAs actions and decisions on matters for |

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| Position | Key Responsibilities and Authorities |
|----------|--|
| | which the AA was responsible in the preceding month. |

8.0 Environmental Risk Assessment and Control

Project wide environmental aspects and impacts have been identified and assessed in Appendix C – Risk Assessment.

Significant environmental issues, with a risk ranking of High (10 – 16) or Medium (5 – 9), will be controlled to a degree which is commensurate with the level of risk and the level of influence which the Company has over these issues. The control measures to address these issues are documented in Environmental Risk Action Plans (Appendix D).

Activities, aspect or impacts that represent an extreme risk (>17) after control measures have been applied must be reviewed / redesigned or have approval of the Regional Environmental Manager. These controls also include specific management requirements including:

- Air quality management by way of dust suppression within the site work area.
- Possible Indigenous and non-indigenous heritage items that may be discovered during excavation works on site.
- The possible impact of construction works on ground water quality.
- The identification and treatment of contaminated soils should they be identified during construction works.
- The level of site contamination, if any, will be confirmed by way of a Geotechnical investigation and assessment by a Hygienist.

The key environmental risks as defined in Appendix C will be reviewed as and when required during the course of the contract when the following situations arise:

- Client recommendations for changes (particularly following initial review)
- Changes to the Company's standard 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.

It is expected that the Environmental Audits and Management Reviews will be within 3 months of commencing on site and approximately every 3-6 months thereafter.

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9.0 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 toolbox meetings, briefings, notifications and the like.

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

- Environmental Policy
- 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)
- Basic understanding of their legal obligations

Personnel performing tasks, which can cause significant environmental impacts, will be competent based on appropriate education, training and / or experience.

All Laing O'Rourke operational staff on this project will be provided with training in the requirements and implementation of this Environmental Management Plan. Initial training in the project Environmental Management Plan shall be undertaken within 1 month of the HSEQ Launch. CEMP training for new staff members shall be completed within 1 month of their commencement on the project.

Training in the operation and implementation of Laing O'Rourke's Environmental Management System shall be provided for all operational staff. Training in aspects outlined below shall be undertaken as the project progresses. An outline of the proposed training is provided below. The training shall be scheduled to reflect the requirements of the construction program.

Table 8: Training Requirements

| Aspect | Training Inclusion | Personnel Required | Timing / Frequency/Means |
|------------------------------|---|---|---|
| Emergency Spill Response | <ul style="list-style-type: none"> – Use and location of spill kits – Spill control – Emergency response procedures – Identification of hydraulic hose fatigue | Construction Personnel | Project Toolbox Talks ECM briefing |
| Erosion and Sediment Control | <ul style="list-style-type: none"> – Standard erosion and sediment controls from the Landcom 'Blue Book' – Implementation of controls on site – Erosion and Sediment Control Plans | Construction Personnel | Project Toolbox Talks ECM briefing |
| Heritage Awareness | <ul style="list-style-type: none"> – Stop works and reporting protocols for discovery of previously unknown heritage and archaeological items – Exclusion zone for Mortuary Station – Archaeological monitoring requirements | Construction Personnel LOR Management Team | Project Induction Project Toolbox Talks Protocol posted on message boards |
| Contamination Awareness | <ul style="list-style-type: none"> – Contamination status of site – Stop works protocols for unidentified potential contamination (hydrocarbons, asbestos, etc.) | Construction Personnel | Project Induction Project Toolbox Talks Protocol posted on message boards |

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| Aspect | Training Inclusion | Personnel Required | Timing / Frequency/Means |
|---|--|---|--|
| Environmental Legal Obligations | <ul style="list-style-type: none"> – POEO Act and other project requirements – Applicable fines and prosecutions – Planning Approval – Minister’s Conditions of Approval | Construction Personnel LOR Management Team | Project Induction Project Toolbox Talks |
| Energy and Resource Usage | <ul style="list-style-type: none"> – Awareness training of energy and resource efficiency in the workplace including office/compound and site | Construction Personnel LOR Management Team | Project Toolbox Talks |
| Community / Stakeholder Awareness | <ul style="list-style-type: none"> – Adjacent community and Project involvement – Relevant Project stakeholders – Community engagement protocols – Accepted behaviours – Approved hours of work | Construction Personnel LOR Management Team | Project Induction Project Toolbox Talks |
| Biodiversity | <ul style="list-style-type: none"> – Stop work and reporting protocols for injured wildlife – Measures to stop feral animals coming to site | Construction Personnel | Project Toolbox Talks |
| Noise and Vibration | <ul style="list-style-type: none"> – Work hours – CNVMP and OOHV Protocol – EPL Requirements – POEO Act and other project requirements | Construction Personnel LOR Management Team | Project Induction Project Toolbox Talks |

All required evidence of training is maintained on the On Site Track Easy System (Pegasus). The Site Induction Register is maintained on the projects K/; Drive. Staff qualifications are maintained on LOR’s SuccessFactors portal.

All training and tool box meetings will be recorded. The name of trainee, when the person was trained, the name of the trainer, and a general description of the training content will be included in the recording of training and tool box meetings.

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10.0 Communication and Reporting

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

10.1 Internal

Internal Stakeholders include LOR employees/staff and subcontractors.

Internal communication methods include:

- Management reports (via the Digital Contract Review tab on LOR's iGate portal).
 - o Includes monthly progress reports from each discipline and includes non-conformances, issues and corrective actions
 - o Each section is prepared by the relevant discipline manager and submitted via the Digital Contract Review software for Project Leader review
 - o Electronically submitted by the Project Leader to LOR senior management for information and action
 - o Revisions are tracked electronically
- Site inspection reports (via LOR Fieldview software on computer tablets)
 - o Weekly Environmental Inspection (refer to the template provided in Appendix I) are undertaken by the Environmental Manager
 - o Submitted to the Project Leader, Construction Manager and Supervisor for information and action.
 - o Closeout of Environmental Actions are tracked by the Environmental Manager
- Audit reports (via LOR SMS on LOR's iGate portal)
 - o LOR EMS audits to be undertaken by external auditor
 - o Project audits to be undertaken by the Regional Environmental Manager
 - o Content to include Observations, Non-conformances, Corrective Actions and Issues identified on project performance against LOR's EMS and project CEMP
 - o Audit reports submitted to LOR Senior Management, and the Project Leader, Construction Manager, Environmental Manager, Quality Manager, Safety Manager, and Supervisors for information and action.
 - o Closeout of required actions is tracked by the Quality Manager and the Environmental Manager.
- Incident reports (via Impact on LOR's iGate portal)
 - o Includes information on Action Required Target, Completion Date, Person Responsible, Risk Level and Closeout information / Date.
 - o Submitted by the Environmental Manager
 - o Issued by the Impact software to Senior Management
 - o Tracked by Environmental Manager and the Regional Environmental Manager
 - o Reported in Monthly Report
- Noticeboards to include:
 - o Information on Next Gear safety program
 - o Health and Well-being Information
 - o Environmental Control Map
 - o Site Contacts
 - o Results of site inspections
 - o Toolbox Information
 - o Other information as required
 - o Noticeboard content updated by the Environmental Manager, Safety Manager, Construction Manager and Site Supervisor
- Site meetings
 - o Includes regular project meetings and issue specific meetings to discuss issues and track project performance
 - o Managed by the Project Leader and Construction Manager or relevant discipline manager
 - o Minutes to be saved on Project hard drive
- Employee induction
 - o Includes LOR Corporate Induction and Project specific induction
 - o Records maintained by LOR HR and the Safety Manager
- Training
 - o Issue specific as required by roles and responsibilities
 - o Records to be maintained on the project hard drive or On Site Track Easy (Pegasus) as required
- Tool box sessions
 - o Conducted daily or prior to commencement of a new activity covering safety and environmental requirements relevant to the activity undertaken

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- Briefings, notifications and alerts
 - o Content defined by current issues
 - o Prepared by the relevant Manager
 - o Documents saved on Project hard drive

Templates, further details of required report content, responsibilities, communication protocols, and document controls are provided on LOR's intranet.

10.2 External

External Stakeholders include TfNSW/Sydney Metro (the Client), Department of Planning and Environment (DPE), EPA, OEHL, Sydney City Council, Members of Public (Community), other relevant third party agencies, government authorities and organisations.

External communication methods include:

- Site meetings with the Client
- All significant incidents notified to the client
- Project reports to client at progress meetings and in the Project Report
- 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

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11.0 System Documentation

The Company's Environmental Management System is part of an integrated management system which is known as iGATE. This Plan references relevant parts of the Company's environmental management system and incorporates the additional elements necessary to satisfy the client's environmental system requirements.

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12.0 Document Control and Records

All project documentation, including environmental records, will be controlled in accordance with Laing O'Rourke Project requirements using TeamBinder – the Project's main Document Control System.

Environmental records will be:

- kept as objective evidence of compliance with environmental requirements; and
- filed in the Document Control System, TeamBinder, and made available to all Project personnel, subcontractors and the Client.

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13.0 Operational Control

13.1 General

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

- ERAPs
- CEMP Sub-plans as standalone documents
- SWMS, JSEA's, HAZID, CRAW, Inspection and Test Plans / check sheets (as appropriate)
- Work instructions (e.g. refuelling and servicing)

Significant environmental issues, with a risk ranking of High (10 – 16) or Medium (5 – 9), will be controlled Environmental Risk Action Plans and issue specific Sub-plans as required.

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.

13.2 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. These hold points should be incorporated into the working plans for the project (SWMS, work instructions, construction methodologies, etc.)

Table 9: Hold Points

| Item | Process Held | Acceptance Criteria | Approval Authority |
|---|---|--|---|
| Construction Environmental Management Plan and sub-plans | Site activities | Site specific Construction Environmental Management Plan and sub-plans have been developed, reviewed and approved. | Department of Planning and Environment. |
| Dewatering | Dewatering / pumping water off the site. | Verification that the water quality criteria have been met. | Environment Manager |
| Sediment and erosion control measures | Construction activities involving ground disturbance. | Sediment and Erosion Control Plan has been developed, reviewed, approved and implemented | Construction Manager |
| 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. | Environment Manager |
| 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 Site Environmental Management Representative and addresses the relevant requirements of the CEMP ERAPs. | Project Engineer |
| Out of Hours Work (OOHW) | Works to be performed outside of approved construction hours | OOHW Protocol Application Form and Community Notification Approval authority for areas outside ST EPL is AA endorsement and ER/DPE approval. Approval authority for areas within ST EPL is TfNSW approval. | ER/ DPE Acoustic Advisor TfNSW |
| Dangerous Goods | Transport of dangerous goods | Verification that transport vehicles meet the requirements. | Construction Manager |
| Dangerous Goods | Storage of dangerous goods | Verification that bunded storage is provided and that offset distances are maintained for the storage area. | Construction Manager |
| Controlled/Hazardous Waste | Transport of Controlled / Hazardous waste from the | Verification that the waste has been classified in accordance with the guidelines, transport licensing in | Construction Manager |

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| Item | Process Held | Acceptance Criteria | Approval Authority |
|---------------------------------------|--|--|---|
| | site | place and landfill can lawfully receive the waste | |
| Spoil Transport | Removal of spoil from site | Verification that the spoil has been classified and the disposal location can lawfully receive the waste. | Construction Manager |
| Encounter of Unexpected Heritage Item | Commencement of works in the affected area | A 'Stop Works' protocol is developed as part of CHMP and must be applied in the event of encountering unexpected/potential heritage items. | Construction Manager Environmental Manager |

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

13.3 Environmental Control Map

The project Environmental Control Map(s) will be 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 for the relevant stage of works. It is the practical application of the proposed control measures.

It is noted that the SYAB ECM is a 'live' document and will be updated to reflect the relevant works stage as works progress and will be used in project inductions, work site set-up, reviewing ongoing environmental performance, included as information in tender documents to subcontractors were applicable and in support of ancillary environmental approvals.

The project Environmental Control Map would include;

- 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 and type of sediment and erosion control measures, including size / capacity of detention basins and wheel wash facilities (unless a separate Erosion and Sediment Control Plan has been developed)
- 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 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
- Location of stormwater drainage and watercourses leading to / from the worksite
- Specific environmental management requirements from licenses, approvals or permit conditions
- Key environmental risk issues and the specific mitigation measures

The plan is in addition to any erosion and sediment control plans or other documentation that specify the location of environmental controls on site.

13.4 Design

The project is a design and construct contract in which Laing O'Rourke is responsible for the design functions. The following environmental issues should be considered during the design of the works:

- How to minimise any adverse impacts on the environment including energy efficient operation, reduction of operational greenhouse gas emissions, incorporation of sustainable or recycled materials
- How to improve design efficiency to conserve natural resources
- Address the requirements of Laing O'Rourke's sustainability agenda
- How to meet environmental codes, regulations and other requirements
- Incorporate requirements from TfNSW's Sustainability Design Guidelines into the SYAB design
- Adhere to the relevant heritage design requirements and inputs

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

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The design process is controlled in accordance with the Project Design Execution Plan, Design Brief and the requirements outlined in the Engineering Design and Design Management Swim Lane in Core Process.

Relevant CoAs outlining design requirements relating to specific environmental issues and potential environmental impacts have been addressed in this CEMP and sub-plans as appropriate.

13.5 Procurement

The supply of goods and/or services by suppliers and subcontractors will be carefully controlled in accordance with the Project Leader and Commercial Manager procedures in Core Process and as follows:

- Environmental issues should be taken into account when selecting subcontractors and suppliers (as provided in E-P-3-0410 Procure Evaluate Select).
- 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 the client.
- 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.

13.6 Handling, Storage, Packaging and Transport

The handling, storage, packaging and transport of goods will be controlled in accordance with LOR Procurement Requirements. Dangerous Goods/Hazardous materials will be stored and handled in accordance with Material 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

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 D, ERAP 10 - Delivery and Storage of Chemicals, Fuels & Oils and including Dangerous Goods requirements. SDS's must be stored along with or at the point of storage.

13.7 Manufacture, Construction and Fabrication Processes

These processes will be controlled in accordance with the Project Team (Operations/Construction & HSEQ) Swim Lane and the procedures provided in 2237 Plan Workmanship, Quality Inspections and Commissioning.

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

13.8 Plant and Equipment

Plant and equipment owned by Laing O'Rourke will be maintained in a safe and serviceable manner in accordance with Project Team (Operations/Construction & HSEQ) Requirements the procedures provided in Plant Operational Control.

In particular, the following requirements apply:

- 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. Items found to be worn, damaged or otherwise degraded are to be replaced prior to operation

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- Plant will be serviced, re-fuelled and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed
- 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

Further information on environmental controls is contained in Appendix D.

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14.0 Emergency Preparedness and Response

Environmental emergencies, and relevant preparations, are shown in Appendix G.

The client and relevant statutory and regulatory authorities (such as the EPA) will also be informed as necessary.

Environmental emergencies will be handled as follows:

- Immediately report all incidents to the Project Leader and Construction Manager who will assess the situation and manage the following steps:
 - Immediately take all reasonable steps to contain further damage or danger to personnel, public, property and the environment
 - Inform relevant authorities in accordance with the regulatory requirements provided in Section 16 below.
 - Contact emergency service personnel as necessary (eg. fire dept., spill clean-up services, etc.).
 - Provide notification to the Regional Environmental Manager, HSE General Manager and Head of Legal immediately via phone and email.
 - Inform the Client's Representative as necessary and in accordance with contractual requirements (nominated in Figure 5 of Appendix H)
 - Complete a detailed report of the incident using IMPACT.
 - Liaise with the Client's 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 in the *SDS* file.

Emergency Services contact numbers are to be displayed in the main site office.

Project Emergency contact numbers are included in the table below:

Table 10: Emergency Contact Details

| Contact | Phone Number | Address |
|-------------------------------------|--|--|
| EPA Pollution Hotline | 131 555 or (02) 9995 5555 (if calling from outside NSW). | City of Parramatta, 10 Valentine Ave, Parramatta NSW 2150 |
| Ministry of Health | (02) 9391 9000 | 73 Miller Street North Sydney NSW 2060 Australia |
| SafeWork NSW | 13 10 50 | Not Applicable |
| Fire and Rescue NSW | 000 | 211-217 Castlereagh St, Sydney NSW 2000 |
| City of Sydney Council | (02) 9265 9333 | Town Hall House, Level 2, 456 Kent Street Sydney NSW 2000 |
| Sydney Metro 24-hour Enquiries Line | 1800 171 386 | 22 Giffnock Avenue, Macquarie Park NSW |

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15.0 Monitoring and Measurement

Key characteristics of the project operations and activities will be regularly monitored and measured. This will include:

- recording of information to track performance
- monitoring operational controls
- level of conformance with objectives and targets

E-T-8-1227 Environmental Inspection Report (Appendix I) will be used to monitor environmental issues on site and issued to the Project Leader. The report will be completed on a weekly basis or as required for works under rail possession basis.

A supervisor's safety and environmental checklist E-T-8-0905 Management H & S and Environmental Checklist (Appendix J) will be completed by the project supervisors to monitor environmental issues on site and issued to the Project Leader for review and endorsement. Issues identified during environmental inspection requiring further action beyond normal practice or maintenance and are to be logged into Impact's assurance application. Impact is a LOR software application which records, collates and distributes Health, Safety and Environmental (HSE) data. HSE Dashboards in Impact will be included as part of a Monthly Project Review and issued the Business Unit Managers on a monthly basis.

Non-conformance to operational control procedures or to the Environmental Management System that cannot be rectified immediately will be recorded and addressed by logging it into the IMPACT via the assurance application.

The following environmental issues / non-conformances are to be included within Impact as corrective actions.

- Internal inspection outcomes that cannot be rectified immediately – actions nominated on E-T-8-1227 (Appendix I) and E-T-8-0905 (Appendix J)
- Incidents and associated corrective actions
- Internal audit observations/non-compliance
- Client audits or other notice of non-compliance
- Notices or action from regulatory authorities

Where environmental inspection or monitoring outcomes will be recorded into Impact, a workplace visit is to be created and the associated actions generated. Where deemed necessary by the Project Environmental Manager 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.

As required under CoA C9, Construction Monitoring Programs were prepared in consultation to the relevant government agencies. Each construction monitoring program has been incorporated into the relevant CEMP sub-plan and are included below:

- Construction Noise and Vibration Monitoring Program – included within Section 8 of the Construction Noise and Vibration Management Plan (CNVMP) (also complies with CoA C11 by making available all monitoring data to the relevant agencies and the construction team);

It is noted that 'Blasting' (a feature of the broader Sydney Metro City and Southwest project) is not required for the SYAB project. Blasting has not been addressed in the CNVMP and as a result, a construction monitoring program was not prepared.

The Environmental Manager would be in attendance at any ER site inspections and would be responsible for actioning and responding to any identified corrective actions in accordance with the CAR Register timeframes outlined in Section 15.1 and as agreed with the ER.

If monitoring and measuring equipment is required, then it will be calibrated, maintained and controlled in accordance with Project Team (Operations/Construction & HSEQ) and the procedures provided in Plan Workmanship, Quality Inspections and Commissioning. Records of calibration will be kept in the Contract Filing System.

15.1 Non Compliances and Corrective Actions

Non-conformance arising out of the above monitoring, inspections and audit outcomes shall be recorded and addressed by raising a **Non-Conformance Report F 0103** and logged within Impact. TfNSW or the Environmental Representative may raise non-compliances against environmental requirements. All communications from TfNSW (including CAR's and Audit reports) expressing concern or dissatisfaction with the implementation or operation of the CEMP shall be documented in the Assurance application in Impact. Management system non-conformances and recurring environmental incidents will be handled in accordance with the LOR EMS – Corrective and Preventative Action Procedure by the Environmental Manager. The Environmental Manager is responsible for the investigation, tracking and ensuring appropriate closeout of non-compliances, corrective and preventative actions.

Corrective and preventive actions may include:

- Site remediation and rehabilitation

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- 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

Corrective actions are differentiated by risk ranking. The nominated timeframes to resolve items on the Corrective Actions Requests (CAR) Register are as follows:

Table 11: Corrective Actions Timeframes

| CAR Risk Ranking | Timeframe for resolution |
|------------------|---|
| 1 | Action needs to be commenced immediately to resolve the issue |
| 2 | Action needs to be resolved within 1 week. |
| 3 | Action needs to be resolved within 1 month. |

Actions will be resolved within the required timeframe and the CAR closed on Impact.

15.2 Monthly Environmental Reporting

In addition, the project shall complete on a monthly basis the Sydney Metro City and Southwest Environmental and Sustainability reports (Appendix K). Each report is to be included in the Monthly Project Review.

15.2.1 Impact Monthly Data Application

On a monthly basis, monthly environmental indicators, energy use, water consumption and waste information shall be entered into Impact.

Monthly Environmental Metrics

- Waste consumption
- Water usage including volume of water extracted from surface water sources and ground water sources
- Subcontractor energy and emissions data

15.2.2 Impact Assurance Application

Monthly oversight of inspection outcomes, audit issues and corrective actions provided through the Actions created within the Impact Assurance application. Actions are to be addressed in accordance with the timeframes outlined in section 15.1.

15.3 Compliance Reporting

Reports on compliance with the approval or any other statutory requirements will be submitted to TfNSW for inclusion in the Construction Compliance Reports prepared and submitted by TfNSW to the Secretary for information every six (6) months from the date of the commencement of construction or within another timeframe agreed with the Secretary, for the duration of construction. The Reports will include:

- a results summary and analysis of environmental monitoring;
- the number of any complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints;
- details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period;
- a register of any consistency assessments undertaken and their status;
- results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit;
- a summary of all incidents notified in accordance with Condition A41 and Condition A44 of this approval; and
- any other matter relating to compliance with the terms of this approval or as requested by the Secretary.

The Compliance Tracking Reports will be provided to the Environmental Representative for information.

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16.0 Incidents, and Complaints,

Environmental control and performance will be continually monitored on site, with site inspections completed by the Environmental Manager and as required by TfNSW's appointed Environmental Representative.

All identified incidents will be registered on IMPACT, Laing O'Rourke's online incident reporting system. IMPACT will allocate a number to the identified incident to ensure traceability. Depending on the severity of the incident, it will be categorised as Class 1, Class 2 or Class 3 with Class 1 being the most serious and Class 3 being the least serious. Incidents are to be logged in Impact within 48 hours of occurrence. For Class 1 and Class 2 incidents, an investigation must also be logged in Impact. The Regional Environmental Manager, HSE General Manager and Head of Legal shall be notified by telephone as soon as practicable after any Actual or Potential Class 1 & Class 2 Incidents.

The classifications are explained in detail with examples in [the Laing O'Rourke Environmental Incident Classification Guidelines](#) which is available in the [Environmental Management System](#).

Class 3 Incidents

Where a Class 3 incident has occurred, the Laing O'Rourke Construction Manager or immediate supervisor is to be informed. Class 3 incidents must be logged directly into IMPACT.

Actual or Potential Class 2 Incidents

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

Class 1 Incidents

Where a Class 1 incident occurs the Laing O'Rourke HSE General Manager and the Head of Legal are to be informed immediately. The requirements of the Figure 4 in Appendix H are to be applied to all actual or potential Class 1 environmental incidents.

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 16.2 - External Incident Reporting.

See Appendix H for environmental incident investigation guidelines.

Correspondence with Sydney Metro Incident Classifications

All environmental incidents and non-conformances must also be reported to the ER and Sydney Metro in accordance with TfNSW Environmental Incident Classification Procedure SMNW ES-PW-303/1.0, see figure 5 of Appendix H. The corresponding Sydney Metro incident classifications are outlined below.

Table 12: Environmental Incident Classification

| LOR Incident Classification | | | | | |
|--|---|--|---|---|--|
| Class 3 | | Class 2 | | Class 1 | |
| 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. | | Class Two Environmental Incidents create short to medium term damage to the environment. This damage will result in the environment taking up to 12 months to return to pre-existing conditions. Potential for prosecution or infringement notice. | | 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. Major environmental investigation and potential for large prosecution. | |
| Corresponding Sydney Metro Incident Classification | | | | | |
| C6 | C5 | C4 | C3 | C2 | C1 |
| No appreciable changes to environment and/or highly localised event | Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries | Short-term and/or well-contained environmental effects. Minor remedial actions probably required | Impacts external ecosystem and considerable remediation is required | Long-term environmental impairment in neighbouring or valued ecosystems Extensive remediation required | Irreversible large-scale environmental impact with loss of valued ecosystems |

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16.1 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 form [E-T-8-1222 Environmental Incident and Complaint Report](#) shall be completed for all environmental actual and potential class 1 and 2 incidents and complaints within 2 working days of the incident and forwarded to the Project Leader.

Laing O'Rourke will provide notification of the incident to the Client's Representative as required and in accordance with TfNSW Environmental Incident Classification Procedure SMNW ES-PW-303/1.0. Sydney Metro incident reporting requirements are outlined in Figure 5 of Appendix H.

In accordance with the contract requirements, the Client is to be notified as follows:

Table 13: Incident and Complaints Reporting Requirements

| Notification Type | Contract Requirement |
|--|--|
| Initial verbal notification | Notify TfNSW/TfNSW Representative regarding the incident as soon as possible. If the incident is a notifiable event, LOR will notify the EPA and relevant authorities immediately. LOR will inform Sydney Metro of this notification status. |
| Environmental Incident Report requirements | Prepare an incident / non-conformance report and submit to Sydney Metro within 48 hours. |

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

Management system non-conformances and recurring environmental incidents will be handled in accordance with LOR Incident Management Requirements.

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.

Specific procedures relating to heritage finds are outlined in the SYAB Construction Heritage Management Plan (a sub-plan to this CEMP).

Note: where a Class 1 Incident has occurred the HSE General Manager will initiate the investigation and allocate responsibilities.

16.1.1 Senior Leaders Environmental incident review

For all Class 1 & Class 2 incidents, within 3 days the Project Leader will convene a briefing with the relevant Senior Business Leader/Area/Operations Manager to provide an update on the incident investigation and to allow the Area/Operations Manager to be actively involved in the investigation process. The briefing will include discussion on the progress of the investigation and any specific initial findings. A status report on any rectification work or maintenance activities to the relevant environmental controls will also be provided.

The following information relating to the incident investigation shall be forwarded to the Senior Business Leader/Area/Operations Manager and Regional HSE Manager.

- The condition of the environment and the status of any rectification or remediation works,
- The completed incident investigation report, including appropriate causal analysis and corrective actions,

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- Program for the implementation of the corrective actions and any maintenance activities,
- A completed HSE Learning Bulletin template to be included in the monthly Learning Bulletin,
- Any other relevant information.

16.2 External Incident Notification

DPE notification requirements are outlined in CoA A41-A44 as tabulated below. Any incidents will be notified to the Secretary in accordance with these requirements.

Table 14: Incident Notification to DPE

| CoA | Requirement |
|-----|--|
| A41 | The Secretary must be notified as soon as possible and in any event within 24 hours of any incident. |
| A42 | Notification of an incident under Condition A41 of this approval must include the time and date of the incident, details of the incident and must identify any non-compliance with this approval. |
| A43 | Any requirements of the Secretary or Relevant Public Authority (as determined by the Secretary) to address the cause or impact of an incident reported in accordance with Condition A41 of this approval, must be met within the timeframe determined by the Secretary or relevant public authority. |
| A44 | If statutory notification is given to the EPA as required under the POEO Act in relation to the CSSI, such notification must also be provided to the Secretary for information within 24 hours after the notification was given to the EPA. |

16.2.1 State Matters

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 Regional Environmental Manager and the Head of Legal.

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 131 555.

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 (via the local Public Health Unit – (02) 9391 9000)
- SafeWork NSW (13 10 50)
- City of Sydney Council – (02) 9265 9333
- Fire and Rescue NSW on 000

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. IMPACT may be used to record contact with the regulatory authorities.

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16.2.2 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)

16.3 Client Complaints

All communications from the Client (including CAR's and Audit reports) expressing concern or dissatisfaction with the implementation or operation of the CEMP shall be documented in the Assurance application in Impact.

Public Complaints shall be logged into IMPACT and are to be responded to in accordance with the Sydney Metro Community Communication Strategy (CCS). Environmental Management related complaints will be forwarded to the Environment Manager.

Management system non-conformances and recurring environmental incidents will be handled in accordance with the Environmental Management System – Corrective and Preventative Action.

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

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17.0 Environmental Management System Audit

Auditing of the project Environmental Management System will be carried out in accordance with Environmental Management System Requirements.

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

The Regional Environmental Manager, in consultation with the other managers, will decide on the frequency, scope and timing of project/site audits. It is expected that the project will be audited within 3 months of commencing on site and approximately every 3-6 months thereafter.

An audit report will be issued to management for action. Actions will be followed up for close-out of actions within 1 month of the issue of the audit report.

Audits shall be captured within the Assurance application in Impact. Actions associated with audits shall also be logged in the Assurance application in Impact.

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18.0 Management Review

Project Management, will check the status and adequacy of the Project Environmental Management Plan to ensure that it meets current Sydney Metro and Laing O'Rourke requirements as well as relevant environmental standards.

The Plan and an analysis of key environmental risks as defined in Appendix C will be reviewed during the course of the contract when the following situations arise:

- Client recommendations for changes (particularly following initial review)
- Changes to the Company's standard 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. It is expected that the Environmental Audits and Management Reviews will be within 3 months of commencing on site and approximately every 3-6 months thereafter.

The management review may be undertaken during the HSEQ re-launch process, which is undertaken at 6 monthly intervals.

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APPENDIX A – Legal and Other Requirements

The relevant legal and other requirements are shown in the table below. Access to this legislation is available on iGATE.

| Legal and Other Requirements | Summary of Obligations | Relevance to the Project / Notes and System |
|---|---|---|
| Environmental Planning Legislation | | |
| <i>Environmental Planning and Assessment Act 1979</i> | This Act establishes a system of environmental planning and assessment of development proposals for the State. | High Relevance The development consent conditions and obligations are incorporated into the specification documents and Laing O'Rourke's CEMP. |
| <i>Local Government Act 1993</i> <i>Local Government (General) Regulation 2005</i> | 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). | Medium Relevance The local Council (the Local Government body for this area) has number powers to control local issues including Development Applications (other than state significant development). |
| <i>Roads Act 1993</i> <i>Roads (General) Regulation 2000</i> | 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 This Act is mostly an administrative Act for RMS and has minor relevance to carrying out SYAB works. |
| <i>Soil Conservation Act 1938</i> | 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 SYAB site is not located within "protected land". Further, such notification has not been given to the owner of the land. |
| <i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i> | 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 SYAB as it has been determined not to trigger the provisions of the act. |
| <i>Native Vegetation Act 2003</i> <i>Native Vegetation Regulation 2013</i> | 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 <i>Native Vegetation Act 2003</i> excludes the clearing of land carried out in accordance | Low Relevance Clearing of native vegetation is not required as part of the SYAB works. |

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|---|--|--|
| | <p>with consent under Division 3 of Part 9 of the <i>Roads Act 1993</i>. Clearing of native vegetation required for construction of the work under the contract would be covered by such consent.</p> <p>The Native Vegetation Regulation 2013 allows for the development of self-assessable codes for clearing of feral species, clearing of invasive species, environmental works, thinning native vegetation, clearing of paddock trees, and clearing of mulga.</p> | |
| <i>Land and Environment Court Act 1979</i> | <p>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.</p> | <p>Low Relevance</p> <p>The relevance of this Act would only apply to work under the contract if Laing O'Rourke were prosecuted for an Environmental Offence.</p> |
| <i>Greenhouse Gas (GHG) Emissions National Greenhouse and Energy Reporting Act 2007</i> | <p>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.</p> | <p>High Relevance</p> <p>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.</p> <p>Laing O'Rourke does have Operational Control of the SYAB site.</p> |
| Contaminated Land Legislation | | |
| <i>Contaminated Land Management Act 1997</i> | <p>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.</p> | <p>Medium Relevance</p> <p>The relevance of this Act to the contractor will be in the event suspected or potentially contaminated ground is found during construction activities.</p> |
| Fire Control Legislation | | |
| <i>Rural Fires Act 1997</i> | <p>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.</p> | <p>Low Relevance</p> <p>This SYAB site and surrounding areas <u>are not</u></p> |

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|---|---|---|
| prone to bush fires. | | |
| Hazardous Substances Legislation | | |
| <i>Environmentally Hazardous Chemicals Act 1985</i> | 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. |
| <i>Dangerous Goods (Road and Rail Transport) Act 2008</i> | 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. | High 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. Laing O'Rourke will need to review and ensure Dangerous Goods requirements are addressed where transported by its vehicles, plant and equipment. |
| <i>Water Management Act 2000</i> <i>Water Management (General) Regulation 2004</i> | 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 SYAB project approval does not trigger the provisions of this Act. |
| <i>Dams Safety Act 1978</i> | This Act constitutes the Dams Safety Committee and confers and imposes on the Committee functions relating to the safety of certain prescribed dams. | No Relevance It is unlikely any action in respect to this project will endanger the safety of any prescribed dam |
| <i>Coastal Protection Act 1979</i> | 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 | No Relevance The project is not located in areas associated |

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| | <p>function of the Coastal Council.</p> <p>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.</p> | <p>with this act.</p> |
| <i>National Parks and Wildlife Act 1974</i> | <p>The relevance of this Act is firstly in respect to the protection and preservation of aboriginal artefacts. Discovery of material on site suspected as being of aboriginal origin must be reported and protected pending assessment and direction by the Client's Representative.</p> <p>Secondly it is an offence under Part 8A of this Act to pick or harm threatened species. (Refer to the notes under the Threatened Species Conservation Act for more information)</p> | <p>Low Relevance</p> <p>No identified aboriginal artefacts have been identified within the construction area. The only relevance would be if new previous unknown artefacts were discovered during construction</p> |
| <p><i>Threatened Species Conservation Act 1995</i></p> <p><i>Threatened Species Conservation Regulation 2002</i></p> <p><i>Threatened Species Conservation (Savings and Transitional) Regulation 1996</i></p> | <p>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 meaning of Part 5 of the EP&A Act.</p> | <p>No Relevance</p> <p>No threatened species of flora or fauna listed in the schedules of this Act have been identified within the area of the proposed SYAB work.</p> |
| <i>Fisheries Management Act 1994</i> | <p>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.</p> | <p>Low Relevance</p> <p>Along with the POEO Act water discharging from the site must not pollute the adjacent streams or watercourses.</p> |
| <i>Marine Pollution Act 1987</i> | <p>This Act creates offences for discharges of oil, oily mixtures and noxious liquid substances from ships into State waters.</p> | <p>No Relevance</p> <p>The site is located adjacent to state waters and may involve the use of applicable vessels.</p> |
| <i>Noxious Weeds Act 1993</i> | <p>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".</p> | <p>Low Relevance</p> <p>The Act applies to owners or occupiers of land including public authorities. No noxious weeds have been identified on the SYAB site.</p> |
| <i>Water Act 1912</i> | <p>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</p> | <p>Low Relevance</p> <p>It is not proposed that construction water will be</p> |

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|---|---|---|
| | ponds) or artesian sources a licence will be required. | obtained from surface (eg creeks, lakes etc.) or artesian sources. |
| <i>Heritage Act 1977</i> | <p>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.</p> <p>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.</p> <p>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.</p> | <p>High Relevance</p> <p>Works will be undertaken within the State Heritage Registered Central Station Railway Group and adjacent to the listed Mortuary Station.</p> |
| <i>Wilderness Act 1987</i> | 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. | <p>No Relevance</p> <p>This project is not within or immediately adjacent to a declared Wilderness area. This Act has little or no relevance to the project.</p> |
| <i>Plantations and Re-forestation Act 1999</i> | 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. | <p>No Relevance</p> <p>The location of work under this contract is not located within or adjacent to reforested or plantation forest land.</p> |
| <i>Australian Heritage Council (Consequential & Transitional Provisions) Act 2003</i> <i>Australian Heritage Council Act 2003 (Cwth)</i> | <p>The Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 repealed the Australian Heritage Commission Act 1975.</p> <p>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.</p> | <p>No Relevance</p> <p>The site is not on Register of the National Estate of places.</p> |
| <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)</i> | 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. | <p>No Relevance</p> <p>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.</p> |

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|---|--|---|
| <i>Ozone Protection Act 1989</i> | 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. |
| <i>Protection of the Environment Operations Act 1997</i> | 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 Act provides for the issuing of environmental protection notices to control work and activities not covered by licences. 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. The SYAB project will be completed under the Sydney Trains EPL. |
| <i>Sydney Water Act 1994</i> | This Act establishes the Sydney Water Corporation as a statutory State owned corporation. The functions of the Sydney Water Corporation is to supply and store water, provide sewerage services, provide stormwater drainage and dispose of waste water within it area of operations. | Medium Relevance Coordination may be required with Sydney Water during the works |
| <i>Sydney Water Catchment Management Act 1999</i> | This Act establishes the Sydney Catchment Authority as a statutory corporation representing the Crown. The role of the Sydney Catchment Authority is to manage and protect the catchment areas and catchment infrastructure works, be a bulk water supplier and to regulate activities within or affecting the catchment areas | Low Relevance This project will not impact on areas regulated by the Sydney Catchment Authority. |
| <i>Pesticides Act 1999</i> <i>Pesticides Regulation 1995</i> | 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. | Low Relevance It is not envisaged that pesticides will be used on the project by Laing O'Rourke. |
| <i>Waste Avoidance and Resource Recovery Act 2001</i> | 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 | High Relevance The relevance of the Act to this project is to implement the strategies by adopting the hierarchy of avoidance; avoidance of |

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|------------------------------|--|--|
| | Act to wilfully or negligently dispose of waste in a manner that harms or is likely to harm the environment. | unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), disposal (as a last resort). |

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APPENDIX B – 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 | | | | | | | |
| <p>Planning Determination under Part 5.1 of the EP&A Act</p> <p>TfNSW required approval of the Minister of Planning NSW under Section 115ZB of the EP&A Act</p> | Yes | SSI 15_7400 | 09/01/2017 | This approval lapses five (5) years after the date on which it is granted, unless works for the purpose of the CSSI are physically commenced on or before that date. | Construction Compliance Report to determine regular periodic status of compliance against the conditions of the planning approval and the approval to be closed out after completion of construction and operation phases of Stage 1 - to which the approval applies | LOR Project Environmental Manager | Relevant requirements will be briefed to project personnel as per the requirements |
| Protection of Environment Operations Act 1997 | | | | | | | |
| <p>The SYAB works will be completed under an Environment Protection Licence, as required under Protection of Environment Operations Act 1997</p> | Yes | Sydney Trains EPL 12208 | Start of construction (March 2017) | N/A | EPL surrender requirements will be managed directly by Sydney Trains. Once construction of the SYAB is finished, LOR compliance requirements will be closed out as per the contract. | Project Environmental Manager | Relevant EPL requirements will be briefed to project personnel as per the requirements stated in the Section 9 of this CEMP |

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| 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 |
|--|---|--|--------------------------|--------------------|-------------------------------|--------------------------|------------------------------|
| <i>Water Act 1912</i> | | | | | | | |
| Section 10 Surface Water Licence | No | | | | | | |
| Part 5 Section 112 Groundwater Licence | No | | | | | | |
| Part 8 Division 3 Approval of controlled work | No | | | | | | |
| <i>Water Management Act 2000</i> | | | | | | | |
| Section 56 Access Licences | No | | | | | | |
| Section 89 Water use approvals | No | | | | | | |
| Section 90 Water management work approvals | No | | | | | | |
| Section 91 Activity Approvals | No | | | | | | |
| <i>Fisheries Management Act 1994</i> | | | | | | | |
| Division 3 (Sections 199, 200, 201) Dredging and Reclamation | No | | | | | | |
| Section 205 Marine vegetation - regulation of harm Permit to Harm Marine Vegetation | No | | | | | | |

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| 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 220ZW Licence to harm threatened species, population or ecological community or damage habitat | No | | | | | | |
| <i>Sydney Water Act 1994</i> | | | | | | | |
| Section 49 Offence to discharge into works - Trade Waste Permit | No | | | | | | |
| Permit to Use Approved Metered Standpipes on Sydney Water Hydrants | Yes | LOR Subcontractors may work under these approvals – copies of approvals to be obtained upon engagement of subcontractors and this register will be updated accordingly | Details to be confirmed once the approval is in place on the Project | Details to be confirmed | Details to be confirmed | Project Construction Manager | Requirements will be briefed to project personnel as per the requirements stated in the Section 9 of this CEMP |
| Section 31 Offence to discharge into works - Trade Waste Permit | No | | | | | | |
| <i>Dangerous Goods (Road and Rail) Transport Act</i> | | | | | | | |
| Section 6 Licensing of vehicles transporting dangerous goods | Yes | LOR Subcontractors will work under these approvals – copies of approvals to be obtained upon engagement of subcontractors and this | Details to be confirmed once the licence is in place on the Project | Details to be confirmed | Details to be confirmed | Project Environmental Manager | Requirements will be briefed to relevant project personnel |

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| 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 |
|---|--------------------------------------|---|--|--|--|---|--|
| | | register will be updated accordingly | | | | | |
| Section 7 Licensing of drivers transporting dangerous goods | Yes | LOR Subcontractors will work under these approvals – copies of approvals to be obtained upon engagement of subcontractors and this register will be updated accordingly | Details to be retained on project server | Details to be retained on project server | Details to be retained on project server | Project Environmental Manager | Requirements will be briefed to relevant project personnel |
| Local Government Act | | | | | | | |
| Section 68 - What activities, general, require the approval of council | No | | | | | | |
| Section 68A - Operation of a system of sewage management | No | | | | | | |
| Roads Act 1993 | | | | | | | |
| Section 138 Works and structures - permit to undertake works to roads | Yes | TBC | | | | | |
| Occupational Health and Safety Regulation 2001 | | | | | | | |
| Section 174ZS Notification to WorkCover | Yes | Asbestos Removal Work Notification may be undertaken by LOR | Details to be retained on project server | Details to be retained on project server | Details to be retained on project server | Asbestos Removal Work Notification will | Details to be retained on project server |

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|--|--------------------------------------|--|-------------------|-------------|------------------------|----------------------|---|
| | | Subcontractors where required during construction phase - copies of approvals to be obtained upon engagement of subcontractors and this register will be updated accordingly | | | | be undertaken by LOR | Subcontractors where required during construction phase |
| Section 175L Major hazard facility must be registered or provisionally registered | No | | | | | | |
| <i>National Parks and Wildlife Act 1974</i> | | | | | | | |
| Section 90 Aboriginal heritage impact permit | No | | | | | | |
| <i>Heritage Act 1977</i> | | | | | | | |
| Section 60 | No | | | | | | |
| Division 3 Applications for approval | No | | | | | | |
| Section 139 Excavation permit | No | | | | | | |
| <i>Marine Safety Act</i> | | | | | | | |
| Section 29 Types of marine safety licences | No | | | | | | |

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| 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 |
|---|--------------------------------------|---|-------------------|-------------|------------------------|-------------------|-----------------------|
| Management of Waters and Waterside Lands Regulations | | | | | | | |
| Division 3 Occupation of Waters | No | | | | | | |
| Rural Fires Act 1997 | | | | | | | |
| Section 89 Issue of permits (includes "hot works" which would constitute lighting a fire) | No | | | | | | |
| Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) | | | | | | | |
| Include details of approvals under this Act where applicable | No | | | | | | |
| Other | | | | | | | |
| List other relevant legislation here | | | | | | | |

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APPENDIX C – Risk Assessment

All environmental issues have been assessed in accordance with the table below:

Risk Assessment Rankings: >17 = Extreme 10 - 16 = High 5 - 9 = Medium 1 - 4 = 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. An owner for the implementation of the management measures must be nominated.

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 | | |
|--|---|---------------------|-----|------|---|----------------------|-----|------|
| | | P X | C = | Risk | | P X | C = | Risk |
| Approvals and Licensing | | | | | | | | |
| Not identifying appropriate approvals, licenses or permits required and proceeding without them. | Works delayed, infringements, poor community relations and reputational loss. | 2 | 3 | 6 | Review the project EIS and statutory documentation for requirements relevant to the SYAB works. Identify and implement approval requirements within ERAPs. Check contract documentation. Identify and implement requirements from the Contract. Establish a register of approvals, licenses, permits. | 1 | 3 | 3 |
| Noise | | | | | | | | |
| Noise from general construction activities resulting in impact to residents. | Disturbance to residents or neighbouring businesses. Potential for complaints. | 4 | 2 | 8 | Control measures as per ERAP 1 - Noise and SYAB CNVMP are to be implemented. Respond to community enquiries and complaints in accordance with Sydney Metro requirements and Community & Stakeholder Manager (TfNSW), control measures as per Community Consultation Strategy (CCS) are to be implemented. Consult with the | 3 | 2 | 6 |

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|--|---|---------------------|---|---|---|----------------------|---|---|
| | | | | | 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. | | | |
| Noise during works required to be undertaken out of standard construction hours. | Disturbance to residents or neighbouring businesses with potential for complaints. | 4 | 2 | 8 | Implement noise mitigation strategies for out of standard hours work. Monitor noise for compliance to project goals. Control Measures as per the CNVMP are to be implemented. | 3 | 3 | 6 |
| 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 | 3 | 2 | 6 | Control Measures as per ERAP 1 - Noise and Vibration and CNVMP are to be implemented. 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. | 2 | 2 | 4 |
| 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. | 2 | 3 | 6 | Control Measures as per ERAP 5 - Water Quality, Site Drainage and Erosion and Sediment Control to be implemented. Install stormwater drainage protection within the project | 1 | 3 | 3 |

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|--|---|---------------------|---|---|---|----------------------|---|---|
| | | | | | area. 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. Relevant people to undertake Erosion and Sediment Control training. | | | |
| 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. | 2 | 3 | 6 | Develop Environmental Control Maps to show stockpile areas. Utilise appropriate locations for stockpiling (away from waterways, watercourses, drains). Designated vegetation stockpiling areas. Minimise stockpiling / Use temporary stockpiling Cover stockpiles if left for extended periods. | 1 | 3 | 3 |
| Non-compliant water from construction works discharged from site | Non-compliant water entering stormwater system waterways (i.e. polluting - not compliant with discharge criteria). | 2 | 3 | 6 | Induction and toolbox talks Toolbox training on site procedures for water discharge Educate site staff on licence conditions and consequences of prosecution Environmental Manager/representative to approve all water discharges from site | 1 | 3 | 3 |
| Works with the potential to intercept Ground water table | Ground water entering excavations Without appropriate safeguards onsite could lead to ground water contamination | 3 | 3 | 9 | Induction and toolbox talks Toolbox training on site procedures for water discharge Educate site staff on licence conditions and consequences of prosecution Environmental Manager/representative to approve all water discharges from site | 2 | 3 | 6 |

Waste

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|--|--|---------------------|---|---|--|----------------------|---|---|
| Waste disposal during construction. | Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued. | 3 | 2 | 6 | <p>Implement the Project Waste Management Strategy.</p> <p>Identify opportunities to incorporate recovered materials into the permanent works.</p> <p>Provide facilities on site for source separation and recycling.</p> <p>Ensure accurate waste records are retained.</p> <p>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.</p> <p>All material to be recovered off-site to be appropriately classified in accordance with the Resource Recovery Exemptions.</p> <p>All material that requires off-site disposal to be appropriately tested and classified against the Waste Classification Guidelines (DECC, 2008).</p> | 2 | 2 | 4 |
| Earthworks spoil disposal. | Incorrect classification of waste (spoil) resulting in incorrect / illegal disposal/re-use. | 3 | 2 | 6 | <p>Inductions, toolbox talks and training on recycling facilities and waste segregation practices.</p> <p>Separation of waste on site.</p> <p>Tracking of disposal processes.</p> <p>All contamination hotspots would be clearly marked in the field.</p> | 2 | 2 | 4 |
| Washout of concrete in undesignated areas. | Sediment laden/alkaline water polluting surrounding stormwater system / watercourses. | 3 | 2 | 6 | <p>Concrete washout areas clearly marked on Environmental Control Maps and delineated.</p> <p>Inductions on designated concrete washout areas.</p> <p>Subcontractor's agreements to include project compliant waste management principles.</p> | 1 | 2 | 2 |

Contamination

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|--|--|---------------------|---|---|---|----------------------|---|---|
| Management of contaminated or untreated materials | <p>Non-compliant material and contaminated water entering surrounding waterways.</p> <p>Decrease in health of nearby ecosystems.</p> | 3 | 3 | 9 | <p>Develop contamination management procedures and protocols.</p> <p>Identify any contamination hotspots and incorporate procedures for these locations into construction documentation.</p> <p>Develop unexpected finds procedures.</p> <p>Induct personnel on unexpected finds procedure.</p> | 2 | 3 | 6 |
| Potential for discovery of unexpected contaminated spoil during construction. | <p>Health effects resulting from airborne contamination, e.g. asbestos.</p> <p>Complaints received from odours released during excavations.</p> <p>Classification of spoil is changed and disposal options altered, costs incurred associated with disposal of higher classification of waste.</p> | 2 | 3 | 6 | <p>If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence.</p> <p>Induct personnel on location, type, nature, concentration of contaminants on site if found.</p> | 1 | 3 | 3 |
| Encountering asbestos / contaminated material on site. | <p>Transfer of material into previously uncontaminated area (outside work site) causing new contamination.</p> | 3 | 3 | 9 | <p>Inspections of excavated and filled surfaces would be made during construction to determine the presence of visible asbestos.</p> <p>Conduct further site investigations to determine the presence and extent of contamination prior to construction works commencing</p> <p>Contaminated soils would not be stockpiled on the structural fill layer or formation layers to avoid cross contamination.</p> | 2 | 3 | 6 |
| Hazardous Materials | | | | | | | | |
| Storage of hazardous substances, leaking plant and equipment and spillage from refuelling. | <p>Localised ground contamination / pollution of stormwater and requiring clean-up and/or receiving fines. Risk of igniting volatile substances.</p> | 3 | 3 | 9 | <p>Induction, toolbox talks and training on appropriate handling and storage of liquids.</p> <p>All storm water drains should be identified prior to works</p> | 1 | 3 | 3 |

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| Aspect | Potential Environmental Impact | Initial Risk Rating | Control Measures | Residual Risk Rating | | | | |
|---|---|---------------------|---|----------------------|---|----------|----------|----------|
| | Unauthorised access to site / potential vandalism/damage leading to pollution. | | <p>and protection installed.</p> <p>No fuels to be stored on site</p> <p>Storage areas to be away from sensitive areas and appropriately bunded.</p> <p>SDS approved prior to bringing hazardous substances on site including risk assessment.</p> <p>Plans showing storage locations and associated controls e.g. spill kits, etc. (Environmental Control Maps).</p> <p>Training in use of spill kits.</p> <p>Contingency plans would be developed to deal with any spills which might occur during construction.</p> <p>Clearly label containers.</p> <p>Regular auditing and inspection of storage areas and materials.</p> <p>Make storage areas restricted access areas.</p> <p>Reduce/eliminate need for hazardous substances.</p> <p>Ensure all work sites are secure before leaving the site.</p> <p>All liquids i.e. paint etc. are to be securely locked away at the end of each day.</p> | | | | | |
| Fuel contaminated runoff from construction works leaving site | Fuel contaminated runoff entering stormwater or waterways (i.e. polluting - not compliant with discharge criteria). | 3 | 3 | 9 | <p>All storm water drains should be identified prior to works and controls implemented.</p> <p>No fuels to be stored on site</p> <p>Appropriate bunding/storage of substances.</p> <p>Toolbox on site procedures for sediment controls and chemical storage.</p> <p>Educate site staff on project conditions and consequences of prosecution.</p> | 1 | 3 | 3 |

Biodiversity

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|---|---|---------------------|---|---|--|----------------------|---|---|
| Vegetation trimming / clearing required outside approved work area. | Unauthorised works / removal of vegetation outside defined work area, possibility of removing threatened species, fines incurred. | 2 | 3 | 6 | <p>Induction and tool box training on clearance zones and required protection measures</p> <p>If vegetation, other than grass and weeds, needs to be trimmed or removed, further assessment would be undertaken and approval sought from Sydney Metro prior to trimming or removal.</p> <p>Inspections during clearing activities.</p> <p>Fencing in place/ clear marking of trees to be retained and cleared / demarcation areas / plans showing clearing areas.</p> <p>Pre clearing checklist to be completed before any clearing of vegetation.</p> | 1 | 3 | 3 |
| Clearing and grubbing of vegetation within work site. | <p>Erosion of soils, uncontrolled runoff, sediment deposited into surrounding vegetated areas and water courses, and invasion of weeds.</p> <p>Wrong vegetation removed.</p> <p>Potential for injury to native fauna.</p> | 3 | 2 | 6 | <p>Inductions and toolbox training on erosion and sediment controls.</p> <p>Where possible works to be staged so environmental controls can be implemented after clearance works.</p> <p>If vegetation, other than grass and weeds, needs to be trimmed or removed, further assessment would be undertaken and approval sought from Sydney Metro prior to trimming or removal.</p> <p>Approved Erosion and Sediment Control Plans in place prior to starting works.</p> <p>Where applicable, mature trees and other native vegetation to be retained would be clearly delineated, with all construction activities excluded from these areas.</p> <p>Pre clearing checklist to be completed before any clearing of vegetation.</p> | 2 | 2 | 4 |

Air Quality

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|---|---|---------------------|---|---|--|----------------------|---|---|
| General construction works; site establishment, excavations, piling | Dust activity in close proximity to residential and commercial premises, complaints received. | 3 | 2 | 6 | <p>Toolbox training on Dust and Air Quality Management.</p> <p>Provide dust mitigation measures through water sprays/misting as required.</p> <p>Erosion and Sediment Control Plans approved before works commence. Controls are then reviewed for maintenance.</p> | 2 | 2 | 4 |
| Exhaust from plant and equipment. | Emissions resulting in air pollution. | 3 | 2 | 6 | <p>Inductions and toolbox training on Dust and Air Quality Management.</p> <p>Well maintained plant/ equipment and pre-start checks and servicing.</p> <p>Non-complaint vehicles removed from site / repaired.</p> | 2 | 2 | 4 |
| Heritage | | | | | | | | |
| Unexpected heritage items encountered. | Work delays, additional studies, approvals required, damage to heritage item. | 3 | 3 | 9 | <p>General inductions toolbox training on heritage management protocols.</p> <p>Label any known heritage items on Environmental Control Maps.</p> <p>If suspected heritage item encountered. Works to stop immediately and Environment Manager contacted.</p> <p>Clearly highlight no-go zones on the ECM and communicate requirements to construction personnel during pre-start briefs, inductions and tool-box talks.</p> | 2 | 3 | 6 |
| Impact to Mortuary Railway Station | Damage to mortuary Station fabric by SYAB works and construction traffic. Visual impacts. | 3 | 3 | 9 | <p>General inductions toolbox training on heritage management protocols.</p> <p>Label any known heritage items on Environmental Control Maps.</p> <p>Work within the safe working distances nominated in the SYAB CNVMP.</p> <p>Undertake vibration compliance monitoring as per the</p> | 2 | 3 | 6 |

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|---|---|---------------------|---|---|---|----------------------|---|---|
| | | | | | <p>SYAB CNVMP.</p> <p>Clearly highlight no-go zones on the ECM and communicate requirements to construction personnel during pre-start briefs, inductions and tool-box talks.</p> <p>Pass on the access requirements and speed limits at this site to all delivery personnel and other construction related vehicles.</p> <p>Demarcation of worksites and communicate it clearly with all construction personnel.</p> <p>Independent review of the SYAB design (detailed design) by appropriately qualified and experienced heritage architect.</p> <p>As a minimum the design would:</p> <ul style="list-style-type: none"> • Incorporate materials and finishes sympathetic to the heritage context of the railway station • Minimise height and bulk of the structure <p>Avoid direct impacts to the Sydney Yard</p> | | | |
| Impacts to Co-Masonic Temple including interior | Likely impacts on the views and vistas towards the Co-Masonic Temple from Regent Street and the potential to significantly detract from the setting of the heritage item. | 3 | 3 | 9 | <p>General inductions toolbox training on heritage management protocols.</p> <p>Label any known heritage items on Environmental Control Maps.</p> <p>Work within the safe working distances nominated in the SYAB CNVMP.</p> <p>Undertake vibration compliance monitoring as per the SYAB CNVMP.</p> <p>Clearly highlight no-go zones on the ECM and communicate requirements to construction personnel during pre-start briefs, inductions and tool-box talks.</p> <p>The method for the demolition of existing buildings and /</p> | 2 | 3 | 6 |

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| Aspect | Potential Environmental Impact | Initial Risk Rating | | | Control Measures | Residual Risk Rating | | |
|---|--|---------------------|---|---|--|----------------------|---|---|
| | | | | | or structures at the Project Site would be developed to minimise direct and indirect impacts to adjacent and / or adjoining heritage items. | | | |
| 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. | 2 | 2 | 4 | Assess risk for acid sulphate soils, and if the risk is determined to be high then develop and implement Acid Sulphate Soils Management Plan. Awareness training in the identification and management of ASS. Provide containment and treatment facility on site. Ensure ASS material is left under the water table, disposed off-site or appropriately treated in a bunded area with sump. | 1 | 2 | 2 |
| 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. | 3 | 2 | 6 | Community notifications in accordance with Sydney Metro Community Consultation Strategy. Site vehicles shall be parked within the rail corridor and not affect public parking area Develop Traffic Management Plan / Traffic control procedures. Limited street parking available around the SYAB site. | 2 | 2 | 4 |
| 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. | 3 | 2 | 6 | Deliveries of plant and materials shall be undertaken outside of peak periods where possible Site vehicles shall be parked within the rail corridor and not affect public parking areas Scheduled road movements shall be minimised where possible Oversized deliveries would be undertaken in accordance | 2 | 2 | 4 |

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|---|--|---------------------|---|---|--|----------------------|---|---|
| | | | | | <p>with the requirements of NSW Police or Roads and Maritime Services.</p> <p>Approved Traffic Management Plans in consultation with relevant authorities. Detour routes to be advertised/ notified.</p> <p>Approved access routes, detailed Traffic Control Plans.</p> <p>Clear notifications / signage.</p> | | | |
| Management of heavy vehicles / access routes. | Complaints from sensitive receivers due to increased level and frequency of noise. | 3 | 2 | 6 | <p>Deliveries of plant and materials shall be undertaken outside of peak periods where possible</p> <p>Site vehicles shall be parked within the rail corridor and not affect public parking areas</p> <p>Scheduled road movements shall be minimised where possible</p> <p>Oversized deliveries would be undertaken in accordance with the requirements of NSW Police or Roads and Maritime Services.</p> <p>Designated access routes.</p> <p>Approved Traffic Management Plans.</p> <p>Community Notifications.</p> <p>Pedestrian management with traffic controller in place where required.</p> | 2 | 2 | 4 |

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|--|--|---------------------|---|---|--|----------------------|---|---|
| Truck deliveries out of normal working hours (un-approved). | Non-conformance with project requirements. Noise impact to community / potential complaints. | 3 | 2 | 6 | 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 Approved traffic/access routes. Planning and staging of works in approved hours as much as practical. | 2 | 2 | 4 |
| 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. | 3 | 2 | 6 | 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. | 2 | 2 | 4 |
| Water usage during construction activities. | Excess usage of potable water for site activities leading to wastage | 2 | 2 | 4 | Include water conservation measures and verifiable targets. Capture and reuse rainfall and runoff for site activities where possible | 1 | 2 | 2 |
| 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). | 2 | 3 | 6 | 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 | 2 | 2 | 4 |

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|---|---|---------------------|---|---|---|----------------------|---|---|
| | | | | | waste management principles. Waste management undertaken in accordance with the Waste Avoidance and Resource Recovery Act 2001. | | | |
| Visual Amenity | | | | | | | | |
| Temporay storage containers Plant and equipment movement Lighting Landscape Design | Surrounding aesthetic temporary altered during construction Lighting towers used during out of hours works may spill on nearby residents Poor integration of landscape design Poor Environmental Design for the prevention of crime. | 2 | 3 | 6 | The work area shall be maintained in an orderly manner Outward facing elements of site hoarding or noise barriers, including the removal of graffiti or weeds Lighting required during night works shall be directed towards the work area and are from adjacent sensitive receivers Apply the principles of AS 4282-1997 Control of the obtrusive effects of outdoor lighting Incorporation of the principles of Crime Prevention Through Environmental Design Weekly Inspections | 1 | 3 | 3 |
| SYAB Site Compound | | | | | | | | |
| Appropriate management of the SYAB site compound under approval CSSI 15_7400 | Inadequate assessment of impacts to surrounding business and residential receivers and environmental receptors. Potential for complaints. | 2 | 3 | 6 | Any SYAB site compound not identified in the EIS/PIR must have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in this CEMP and will be assessed by the ER to have; <ul style="list-style-type: none"> minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts; minimal environmental impact with respect to waste management and flooding; and | 1 | 3 | 3 |

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|--------|--------------------------------|---------------------|--|----------------------|
| | | | <ul style="list-style-type: none">no impacts on biodiversity, soil and water, and heritage items beyond those already approved under the planning approval CSSI 15_7400. | |

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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.

Probability:

5 = Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare

1 - 4 Acceptable
UNACCEPTABLE

5 - 9 Acceptable with control measures

Consequence:

5 = Severe 4 = Major 3 = Moderate 2 = Minor 1 = Incidental

10 - 16 Requires the implementation of best practice

17 and Above =

| | | | | | |
|---|----------|---|---|----------|--|
| 5 | Certain | <ul style="list-style-type: none"> Common or repeating occurrence Consequence can reasonably be expected to occur in life of Project. | 5 | 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 |
| 4 | 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. | 4 | 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 |
| 3 | Possible | <ul style="list-style-type: none"> Could occur / "heard of it happening" Exceptional conditions may allow | 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. |

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| | | | | | |
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| | | consequences to occur on the Project, or has occurred nationally within the Australian Business. | | | <ul style="list-style-type: none"> - Demonstrated breach of legislative, licence or guideline requirements. - Likely infringement notice or fine, potential for prosecution up to \$50,000. - Will cause complaints. |
| 2 | 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. | 2 | 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. |
| 1 | Rare | <ul style="list-style-type: none"> - Practically impossible - Not known to have occurred in industry or unheard of. | 1 | 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 ► | | CERTAIN | LIKELY | POSSIBLE | UNLIKELY | RARE |
|----------------|----|---------|--------|----------|----------|------|
| ▼ Consequence | | 5 | 4 | 3 | 2 | 1 |
| 5 – Severe | 25 | | 20 | 15 | 10 | 5 |
| 4 – Major | 20 | | 16 | 12 | 8 | 4 |
| 3 – Moderate | 15 | | 12 | 9 | 6 | 3 |
| 2 – Minor | 10 | | 8 | 6 | 4 | 2 |
| 1 – Incidental | 5 | | 4 | 3 | 2 | 1 |

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APPENDIX D – Operational Control Procedures - Environmental Risk Action Plans

Environmental Risk Action Plans will be developed for each environmental issue, which has a risk ranking of **Medium** or **High**.

Significant environmental issues will be managed according to the Environmental Risk Action Plans below.

ERAP 1 – Noise and Vibration

| | |
|--|--|
| Objective | – To comply with contractual 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. – No unreasonable noise or vibration. – No noise and vibration impacts on external receptors. |
| Legal, Contractual and Other Requirements | <ul style="list-style-type: none"> – Planning consent conditions – SSI 15_7400 – <i>Protection of the Environment Operations Act 1997</i> – <i>Protection of the Environment Operations (Noise Control) Regulation 2000</i> – AS2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites; – Construction, except as allowed by Condition E48 (excluding cut and cover tunnelling), must only be undertaken during the following standard construction hours: <ul style="list-style-type: none"> (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 1:00pm Saturdays; and (c) at no time on Sundays or public holidays. – No work outside of these hours without approval – EPL 12208 Consent conditions – With regard to construction activities any high noise impact generating works must only be undertaken: <ul style="list-style-type: none"> (a) between the hours of 8:00am and 10:00pm Monday to Friday (b) between the hours of 8:00am and 6:00pm Saturdays and Sundays; and (c) where the high noise impact generating works are likely to impact the same noise sensitive receivers, in blocks of no more than 3 hours, with at least a 1 hour respite between each block of work. – Construction activities that are inaudible external to the site may be undertaken outside of these hours where approved. |
| Site specific planning / approval conditions / licence conditions | <ul style="list-style-type: none"> – CoA - A16 – vii – CoA - A18 – (b) – i – CoA - A20 – CoA – C9 – CoA – C10 – CoA – C11 CoA – E28 – EPL 12208 CoA O5.1 to O5.6 |

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- CoA – A25
- CoA – A26
- CoA – A27
- CoA – C3
- CoA – E29
- CoA – E30 to E56

**Controls
(means and resources)**

- Refer to the SYAB Construction Noise and Vibration Management Plan (CNVMP) for detailed management and mitigation measures.
- No work will be undertaken outside of the agreed hours without prior approval.
- Where work outside the hours nominated above hours is required, approval will be gained prior to the commencement of works.
- Where construction vibration is found to be causing a disturbance to, the construction methods shall be reviewed to reduce the impact where possible.
- Delivery operations or other noise generating activities at compound and storage areas will take place during the designated construction hours nominated above, unless specifically required by Police or RTA requirements.
- 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.
- 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:
 - 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.

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Responsibilities

- 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

- Duration of site works.

Monitoring and Reporting

- Weekly inspections.
- Complaints to be recorded on IMPACT.
- Daily inspection (pre-start) checks and regular servicing of equipment.
- Daily / weekly check sheets to be kept for engine-driven or other 'noisy' equipment.

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ERAP 2 – Tree Protection

Objective – To comply with contractual and Development Consent requirements and ensure that on-site trees are protected, where required from construction activities.

Targets

- Compliance with Development Consent requirements in relation to protected trees from Local Council.
- No damage/ death to trees marked as protected on the project.
- All Laing O'Rourke staff and subcontractors are informed of the requirements of protected trees on the project.

Legal, Contractual and Other Requirements

- Planning consent conditions – SSI 15_7400
- *Heritage Act 1977*

Site specific planning / approval conditions / licence conditions

- CoA – E6
- CoA - E7
- CoA – E101e

Controls (means and resources)

- Ensure approval is in place prior to removal/trimming of trees
- Appropriately trained and qualified tree removal contractors to be used.
- Awareness training in the need to preserve vegetation to be retained.
- Provide barricading or other suitable protection measures for trees to be retained

Responsibilities – Site Manager, Project Leader and Laing O'Rourke Staff to ensure all targets are met.

Timeframe – Duration of works by Laing O'Rourke.

Monitoring and Reporting

- Weekly inspections.
- Complaints to be recorded on IMPACT.
- Daily inspection (pre-start) checks and regular servicing of equipment.
- Daily / weekly check sheets to be kept for engine-driven or other 'noisy' equipment.

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ERAP 3 – Dust and Air Quality

Objective – 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

- No valid dust complaints from construction works.
- No dust affecting offsite activities or surrounding residences.
- No release of contaminants, (odour, smoke etc.) into the air.
- Comply with construction contract conditions.

Legal, Contractual and Other Requirements

- Planning consent conditions – SSI 15_7400
- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Operations (Clean Air) Reg 2002*

Site specific planning / approval conditions / licence conditions

- CoA – A18b
- CoA – E5
- CoA – A20
- Mitigation measures committed in the EIS & PIR

Controls (means and resources) **Commitments & Mitigation Measures outlined in the EIS / PIR:**

| <i>Mitigation Measure</i> | <i>Applicable to Central Station Locality</i> |
|---|---|
| The engines of all on-site vehicles and plant would be switched off when not in use for an extended period. | Applicable |
| Plant would be well maintained and serviced to minimise emissions. Emissions from plant would be considered as part of pre-acceptance checks. | Applicable |
| Construction site layout and placement of plant would consider air quality impacts to nearby receivers. | Applicable |
| Hard surfaces would be installed on long term haul routes and regularly cleaned. | Applicable |
| Unsurfaced haul routes and work area would be regularly damped down in dry and windy conditions. | Applicable |
| All vehicles carrying loose or potentially dusty material to or from the site would be fully covered. | Applicable |
| Stockpiles would be managed to minimise dust generation. | Applicable |
| Demolition would be managed to minimise dust generation. | Applicable |
| Ventilation from acoustic sheds would be filtered. | N/A |

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Site Specific Mitigation & Control Measures developed as part of this CEMP:

- Construction site layout and placement of plant would consider air quality impacts to nearby receivers; Residential receivers on Regent St, Central Station users, public and road traffic on Regent St, service station adjacent the site on Regent St.
- Spraying exposed work areas to suppress dust using water carts or other suitable equipment.
- Minimise traffic on exposed areas – designated haul routes will be installed early in the construction program to ensure ground surfaces are well stabilised to minimise dust and tracking of material.
- Cover haul vehicles loads & ensure tail gates are closed when operating on public roads.
- Remove dirt from haul vehicles prior to entering public roads.
- Remove any spilt dirt by construction equipment or vehicles on public roads immediately. Street sweepers to be engaged to ensure roads are clean.
- Reprogram dust generating work during periods of high wind or when fugitive dust emissions cannot be controlled.
- Provide awareness training in the need to minimise dust during site inductions and toolbox talks.
- Regular visual monitoring of dust generation will be undertaken by the site supervisors.
- Water suppression will be used for active earthwork areas, stockpiles, unsurfaced haul roads and loads of soil/quarried material being transported to reduce wind-blown dust emissions.
- Bored piles will be utilised when construction the SYAB, minimising dust generation.
- The majority of bridge section will consist of elements prefabricated offsite and installed by crane. Dust and air quality impacts with fabrication have therefore been eliminated from site.
- Demolition of Terraces on Regent St will be managed to minimise dust generation. Regent St Terraces will require minimal hydraulic 'breaking' activities as the structures do not contain suspended reinforced concrete slabs, minimising potential for dust generation.
- Shade cloth will be installed on scaffold surrounding the Regent St demolition site to assist in containing dust emissions and materials.
- Water application will be used during all Regent St demolition activities to minimise dust emissions.
- Any stockpiles will suitably stabilised or covered (geofabric or similar) to ensure fugitive dust emissions are not created.

Responsibilities

- The Site Supervisor/Project Leader to implement the requirements of this plan.
- Site Manager to inspect the works at regular intervals to identify areas of dust generation.

Timeframe

- Water carts and other measures available during excavation works.
 - Spilt sediment to be removed from public roads immediately.
-

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- Monitoring and Reporting**
- Weekly inspections.
 - Visual inspections for dust emissions.
 - Daily inspection (pre-start) checks and regular servicing of equipment.
 - Meteorological monitoring

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ERAP 4 - 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 60% by weight of construction waste.– Waste will be minimised wherever possible. |
| Legal, Contractual and Other Requirements | <ul style="list-style-type: none">– Planning consent conditions – SSI 15_7400– <i>Protection of the Environment Operations Act 1997</i>– <i>Protection of the Environment Operations (Waste) Regulation 2005</i>– <i>Waste Avoidance and Resource Recovery Act 2001</i> |
| Site specific planning / approval conditions / licence conditions | <ul style="list-style-type: none">– CoA – E106 |
| Controls (means and resources) | <ul style="list-style-type: none">– Licensed waste contractors will be utilised to remove waste.– All waste is to be disposed of at a lawful facility. Note: A lawful facility includes one that has the appropriate Development Consent, Environment Protection Licence or is complying with EPA approved conditions and requirements.– Waste must be classified prior to disposal – refer to NSW EPA Waste Classification Guidelines– All spoil material removed from the site will be classified as per the NSW EPA Waste Classification Guidelines.– Records of the quantity and final location of the spoil material will be retained.– Use skip bins and ensure there are an adequate number of bins on site to hold all waste generated.– Provide bins to enable waste segregation– Provide recycling services. E.g. Paper, Concrete, Steel, Cardboard, Timber.– Ensure housekeeping is maintained and waste is disposed of to the appropriate bin.– Retain waste disposal permits and figures on the amount of waste that has been removed from site. |

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Responsibilities

- Site Manager will ensure waste is correctly stored, classified, recorded, tracked and minimised at all times
- The Project Leader is accountable for ensuring lawful waste disposal
- All personnel are responsible for ensuring waste is placed in the bins provided.

Timeframe

- Duration of site works.

Monitoring and Reporting

- Skips monitored visually by the Site Supervision on a daily basis.
- Environmental Inspection Checklist to be used to verify site waste practices
- Waste disposal records to be recorded in Waste Tracker through IMPACT

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ERAP 5 – Water Quality, Site Drainage and Erosion & Sediment Controls

| | |
|--|---|
| 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"> Planning consent conditions – SSI 15_7400 <i>Protection of the Environment Operations Act 1997</i> |
| Site specific planning / approval conditions / licence conditions | <ul style="list-style-type: none"> CoA - E107 to E109 Mitigation measures committed in the EIS & PIR |

Controls (means and resources)

Commitments & Mitigation Measures outlined in the EIS / PIR:

| <i>Mitigation Measure</i> | <i>Applicable to Central Station Locality</i> |
|--|---|
| <p>Updated desktop contamination assessments would be carried out for Chatswood dive site, Blues Point temporary site, Barangaroo Station, Central Station and Waterloo Station. If sufficient information is not available to determine the remediation requirements and the impact on potential receivers, then detailed contamination assessments, including collection and analysis of soil and groundwater samples would be carried out.</p> <p>Detailed contamination assessment would also be carried out for the Barangaroo power supply route within Hickson Road and the Marrickville power supply route adjacent to Sydney Park and Camdenville Oval.</p> <p>In the event a Remediation Action Plan is required, these would be developed in accordance with <i>Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land</i> (Department of Urban Affairs and Planning and Environment Protection Authority, 1998) and a site auditor would be engaged.</p> | Applicable |
| <p>Prior to ground disturbance in high probability acid sulfate areas at Barangaroo Station, Waterloo Station and Marrickville dive site, testing would be carried out to determine the presence of acid sulfate soils.</p> <p>If acid sulfate soils are encountered, they would be managed in accordance with the <i>Acid Sulfate Soil Manual</i> (Acid Sulfate Soil Management Advisory Committee, 1998).</p> | N/A |
| <p>Erosion and sediment control measures would be implemented in accordance with <i>Managing Urban Stormwater: Soils and Construction Volume 1</i> (Landcom, 2004) and <i>Managing Urban Stormwater: Soils and Construction Volume 2</i> (Department of Environment and Climate Change, 2008a). Measures would be designed as a minimum for the 80th percentile; 5-day rainfall event.</p> | Applicable |
| <p>Discharges from the construction water treatment plants would be monitored to ensure compliance with the</p> | Applicable |

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| discharge criteria in an environment protection licence issued to the project. | |
| A silt curtain would be used around the Sydney Harbour ground improvement work barges. | N/A |
| A water quality monitoring program would be implemented to monitor water quality within Sydney Harbour during ground improvement work. The water quality monitoring program would be carried out to detect any potential impacts on the water quality of Sydney Harbour from the ground improvement work and inform management responses in the event any impacts are identified. Specific monitoring locations and frequencies would be determined during the development of the program in consultation with the Environment Protection Authority. | N/A |
| Discharges from the tunnel water treatment plant would be monitored to ensure compliance with the discharge criteria determined in consultation with the NSW Environment Protection Authority. | N/A |

Site Specific Mitigation & Control Measures developed as part of this CEMP:

- Erosion and sediment control plans (ESCPs) will be developed and implemented prior to the commencement of any excavation activities; abutment construction and piling.
- Groundwater interception is not anticipated for the SYAB works.
- The development of ESCPs will be guided by the Blue Book and other guidelines where required. The Erosion and Sediment Control Plan is to be maintained and up to date for the current site conditions.
- Excavation works will be minimised on the SYAB project; stabilised areas will be created on top of existing material and bored piles will be utilised in localised pier locations with spoil removed from site.
- No major cut and fill operations are required for construction of the SYAB.
- Stormwater protection will be installed for all drains and swales (sediment fence, sediment bags, etc) within the project area or those with potential to be impacted from the SYAB works. Diversion of water from entering the SYAB site will form part of the ESCP's for the SYAB site.
- Particular attention will be paid to the design criteria for sediment fences, 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 Laing O'Rourke approval. Discharge quality must comply with:
 - TSS: $\leq 50\text{mg/L}$ (~Turbidity 30NTU). If this cannot be achieved through natural settling, then the trapped sediment laden water is to be flocculated with gypsum applied at a rate of approx. 40kg/100m³.
 - pH: Between 6.5 and 8.5.
- All egress points will be stabilised with stabilisation with coarse granular material, compacted and/or sealed material to minimise tracking of dirt offsite.
- All stockpiles will be located clear of watercourses and drains.

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- Wastewater management facilities shall only be provided through connection to existing sewer or proprietary storage and pump out systems are permitted.
- Wastewater storage and pump out systems shall be procured, installed and operated in accordance with Laing O'Rourke Primary Standard 11- including the provision of automatic cut off valves for inflows and high level alarms.
- All disturbed surfaces will be revegetated within 1 month of final land forming and in compliance with the landscaping plans.
- Erosion and Sediment Control devices are to be maintained when their capacity has been reduced by 25%.
- 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 stormwater drains as required.
- All ESC works will be removed immediately prior to final completion and all surfaces will be returned to pre-existing condition. Review of the City of Sydney LEP 2012 Acid Sulfate Soils Map - Sheet ASS 16 indicates the site is located in a Class 5 ASS area. It is considered unlikely that ASS materials would be encountered on the site at elevations above the groundwater table.

Responsibilities

- All staff to ensure adequate ESC devices are installed and maintained.
- The PEM 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

- Duration of site works.

Monitoring and Reporting

- Visually monitored daily by site supervision.
- Weekly inspections.
- Maintenance activities for ESCPs shall be documented – items that cannot be immediately repaired are to be documented on the project CAR Register.
- All water quality data including quantity, quality and dates of water release will be maintained the project records.

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ERAP 6 – Traffic Management

| | |
|--|--|
| Objective | – To comply with contractual requirements and ensure that noise and additional traffic from construction activities does not cause an environmental nuisance |
| Targets | – 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 |
| Legal, Contractual and Other Requirements | – Planning consent conditions – SSI 15_7400 – <i>Roads Act 1993</i> |
| Site specific planning / approval conditions / licence conditions | – CoA – C3 – CoA – D12 – CoA – E75 to E91 |
| Controls (means and resources) | – Refer to the SYAB Construction Traffic Management Plan, detailing the route to the site, signage, and traffic control measures. – There will be no cueing due to construction related traffic on any roads adjacent to the site – There will be no construction parking in non-approved zones or parking areas – Ensure pedestrian access ways are clearly defined and maintained – Regular checks will 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 |
| Responsibilities | – The Site Manager is responsible for ensuring traffic management plans and TCPs are developed, approved and implemented |
| Timeframe | – Duration of site works. |
| Monitoring and Reporting | – Weekly site inspections |

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ERAP 7 – Hazardous/Contaminated Material

| | |
|--|--|
| Objective | <ul style="list-style-type: none">– To comply with contractual and legislative requirements and ensure that hazardous / contaminated material from construction activities does not cause an environmental nuisance / harm and is disposed of in accordance with legislative requirements. |
| 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 found contaminated material will be tracked |
| Legal, Contractual and Other Requirements | <ul style="list-style-type: none">– <i>Dangerous Goods Safety Management Act 2001</i>– <i>Dangerous Goods Safety Management Regulation 2001</i>– AS/ NZS 1940: 2004 - The Storage and Handling of Flammable and Combustible Liquids– Australian Dangerous Goods Code, 5th Edition |
| Site specific planning / approval conditions / licence conditions | <ul style="list-style-type: none">– CoA - E66 to E70 |
| Controls (means and resources) | <p>Suspected material may include that which is visibly different to surrounding material, fibrous in nature, exhibits hydrocarbon odours or other unexpected characteristics, unknown containers, piping, underground storage tanks, or similar structures. If discovered;</p> <ul style="list-style-type: none">– Immediately cease work and contact the Site Supervisor– Demarcate the 'unexpected find' to prevent access and install appropriate environmental and safety controls.– Project Leader to contact the client representative– If substance is assessed as not presenting an unacceptable risk to human health. Site Supervisor to remove controls and continue work.– In addition, the following controls will be incorporated;– Manage any contaminated material as per legislative/EPA requirements including the testing and assessment at the direction of the Client's representative.– Protect the environment by implementing control measures to divert surface runoff away from the potentially contaminated ground.– Capture and manage any surface runoff contaminated by exposure to contaminated ground.– Environmental awareness training relating to the identification and management of acid sulphate soils to be provided to all site personnel involved in earthworks, excavation or drainage construction activities– The Client's Representative shall be notified upon discovery of suspected ASS or PASS.– Implementation of a specific runoff control plan to prevent acid runoff from contaminating site areas and watercourses. |

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Responsibilities

- Site Supervisors, Project Leader and Laing O'Rourke Staff to ensure all targets are met.

Timeframe

- Contaminated Material: Duration of any contaminated material removal.
- Hazardous Material: Duration of site works.

Monitoring and Reporting

- Receipts for the disposal of any found hazardous material will be filed on site by the PEM.
- The finding of any contaminated material on site will be reported monthly by the PEM using IMPACT

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ERAP 8 – Trade Waste

| | |
|--|--|
| Objective | <ul style="list-style-type: none">– To comply with contractual and legislative requirements and ensure that trade waste from construction activities does not cause an environmental nuisance / harm. |
| Targets | <ul style="list-style-type: none">– All trade waste to be discharged in accordance with legislation and approvals.– Educate Laing O’Rourke staff and subcontractors on the relevant legislation, the correct use of the washout system and the Laing O’Rourke Trade Waste Permit where required.– Reduced impacts to the surrounding environment and waterways. |
| Legal, Contractual and Other Requirements | <ul style="list-style-type: none">– Planning consent conditions – SSI 15_7400– <i>Sydney Water Act 1994.</i> |
| Controls (means and resources) | <ul style="list-style-type: none">– Provide a washout system on site which complies with all relevant legislation and contract conditions– Any paint washout required shall only be undertaken in the designated areas with appropriate bunding and control measures. Ensure the washout system is in a location which is away from stormwater drains and water courses.– Trade waste or other prohibited substances will not be discharged into infrastructure (storm water drains or sewerage system) without the approval.– Note: Laing O’Rourke staff and subcontractors may be prosecuted if they are found illegally dumping trade waste and could be responsible for paying sewerage system repair costs.– Toolbox talks will be conducted for Laing O’Rourke staff and subcontractors in the correct use of the washout system and legislation.– Ensure the washout system is monitored and cleaned on a regular basis. |
| Responsibilities | <ul style="list-style-type: none">– The Project Leader will ensure a permit has been obtained prior to discharging trade waste– The PEM will ensure all relevant subcontractors undertake toolbox talks in relation to washout legislation and use. |
| Timeframe | <ul style="list-style-type: none">– At all times when there is site connection to sewage facilities |
| Monitoring and Reporting | <ul style="list-style-type: none">– Visually monitored daily by the PEM.– Weekly inspections. |

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ERAP 9 – Concrete Washout

| | |
|--|---|
| Objective | – To comply with contractual and legislative requirements in relation to the washing out of concrete on the project |
| Targets | – Zero spills or uncontrolled release of concrete. – No instances of uncontrolled concrete washout |
| Legal, Contractual and Other Requirements | – <i>Protection of the Environment Operations Act (1997)</i> |
| Site specific planning / approval conditions / licence conditions | – <i>Protection of the Environment Operations Act (1997)</i> |
| Controls (means and resources) | – Concrete washout to be constructed with geo-fabric/plastic lining and bunded or utilise a fabricated steel container. – Location of washout to be at least 20m away (where practical) from any drainage line or stormwater system. – 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 in licensed landfill. Records to be retained – Where possible, excess waste concrete to be returned to the batch plant or waste concrete to recycling facility. – Concrete truck drivers are to be advised of the location of the washout area prior to works. – The requirements relating to concrete washout on site are to be provided to the supplier prior to the works. |
| Responsibilities | – The Site Supervisor 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. – The Site Supervisor is responsible for confirming these requirements with the concrete supplier prior to the works. |
| Timeframe | – Duration of site works. |
| Monitoring and Reporting | – Weekly inspections |

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ERAP 10 – Delivery and Storage of Chemicals; Fuels and Oils including Dangerous Goods Requirements

- Objective**
- 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

- Targets**
- 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**
- 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

- Site specific planning / approval conditions / licence conditions**
- CoA - E4

- Controls (means and resources)**
- 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.
- Minimise storage of fuel, oil, chemicals or other dangerous goods on site, though efficient and timely ordering.
 - The SDS and material risk assessment and including any specific control measures are to be submitted where required to the Client's Representative for each and every substance to be brought on to site.
 - 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 SDSs 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

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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, 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

- 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.
- 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:
 - Transport vehicle to have appropriate Dangerous Goods Placard
 - Transport documents including manifests
 - Emergency procedures and information in an appropriate holder
 - 30B fire extinguisher
 - Double-sided reflectors
 - Driver safety equipment and PPE

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- Goods must be secured and where required segregated from incompatible goods.
- Dangerous goods must be appropriately marked in accordance with the Australian Dangerous Goods Code

Typical dangerous goods associated with our operations include the following:

| Type of Goods | DG Class | Type of Goods | DG Class | Type of Goods | |
|-------------------------------|----------|--------------------------------|----------|----------------------------|-------|
| 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 | | |

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Dangerous Goods Storage

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

- Engineering personnel are responsible for identification of requirement to transport Dangerous Goods
- Relevant Project Leader or Site Manager is responsible for ensuring all vehicles carry appropriate placards, licenses, emergency equipment and procedures
- The Site Manager is required to ensure that sufficient bunds are available and that material is stored appropriately.
- Engineering personnel are responsible for ensure SDS and other relevant documentation are obtained and where required submitted to the Client'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

- Duration of operations. The requirements apply to goods transported by Laing O'Rourke and third parties.

Monitoring and Reporting

- Plant / project risk assessments
- Weekly inspections to be recorded on Form .
- Register of Chemicals, Fuels/Oils and Hazardous Materials
- Incidents or spills to be recorded on form Environmental Incident and Complaint Report ([E-T-8-1222 Environmental Incident and Complaint Report](#)).
- Storage areas are to be inspected by the Supervisory personnel on a weekly basis.

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ERAP 11 – Biodiversity

Objective To comply with contractual and legislative requirements and ensure that native fauna and flora are protected from construction activities.

Targets

- No death or injury to fauna
- No unapproved destruction of flora

Legal, Contractual & Other Requirements

- *Planning consent conditions – SSI 15_7400*

Site specific planning / approval conditions / licence conditions

- CoA – E6
- CoA - E7
- CoA – E101e
- Mitigation measures committed in the EIS & PIR

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Controls (means & resources)

Commitments & Mitigation Measures outlined in the EIS / PIR:

| <i>Mitigation Measure</i> | <i>Applicable to Central Station Locality</i> |
|--|---|
| An ecologist would be present during the removal of any hollow-bearing trees. | N/A |
| Potential bat roosting locations at Central Station, Waterloo Station and Marrickville dive sites would be checked by a qualified ecologist or wildlife handler prior to demolition. Any bats found would be relocated, unless in torpor, in which case the relocation would be delayed until the end of the torpor period. Refer below to site specific measures. | Applicable |
| The local WIRES group and / or veterinarian would be contacted if any fauna are injured on site or require capture and / or relocation. | Applicable |
| Procedures would be developed and implemented, in accordance with the National System for the Prevention and Management of Marine Pest Incursions, during Sydney Harbour ground improvement works to avoid transportation of marine pests from other locations, particularly the marine alga <i>Caulerpa taxifoli</i> . | N/A |

Site Specific Mitigation & Control Measures developed as part of this CEMP:

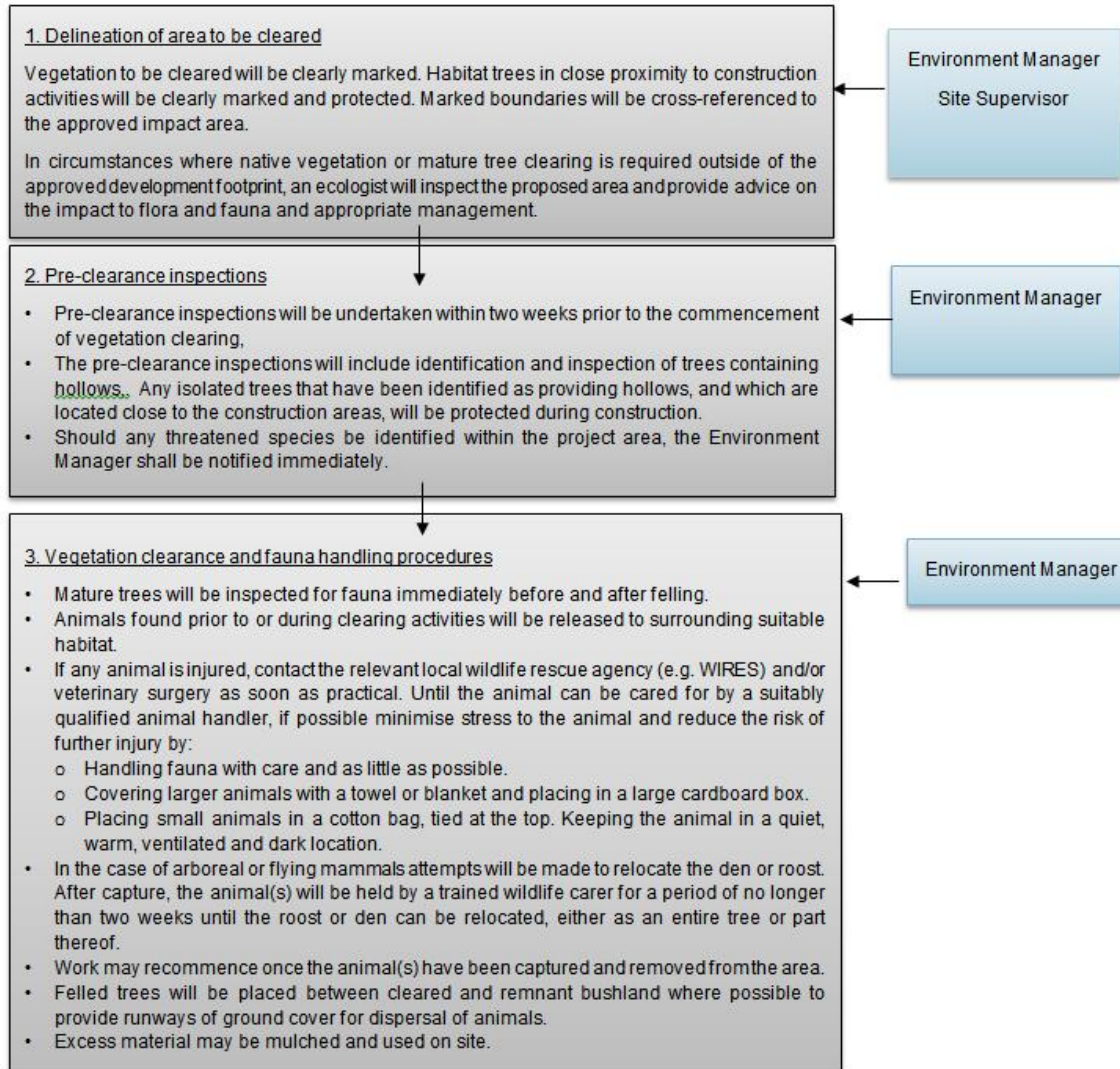
- Vegetation on the SYAB site is limited to two planted street trees in front of the Regent St Terraces (to be demolished as part of the SYAB works). These trees will be removed and offset in accordance with requirements of MCoA E6. It is not anticipated that any other vegetation will be removed or impacted as part of the SYAB works.
- There is limited fauna habitat within the SYAB site as most of this is very disturbed lands consisting hardstand, ballast, rail and the terrace buildings on Regent St.
- Potential bat roosting locations in the Regent St Terraces will be checked by a qualified ecologist or wildlife handler prior to demolition.
- If native fauna is identified within the disturbance footprint, the LOR environmental manager will be contacted immediately. All necessary steps to minimise harm and mortality to such animals is required.
- Open excavations and storage areas to be inspected regularly for the presence of fauna species.
- No clearing or vegetation removal to occur without approval.
- All vegetation to be retained shall be protected and demarcated. These areas will be highlighted on the SYAB Environmental Control Maps. The clearing limits and protected vegetation is to be clearly communicated to site personnel during site inductions and toolbox talks.
- Works will only be undertaken in designated areas.
- Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds.
- Construction plant, equipment and materials are not to be stored within the dripline of any trees or vegetation to be retained.
- Weed management is to be undertaken in areas affected by construction in accordance with the Noxious Weeds Act 1993.
- The following clearing procedure will be implemented should additional clearing be required.

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Responsibilities

All personnel are responsible for ensuring that the clearing limits are addressed and native flora and fauna species are protected.

All site personnel to undertake toolbox talks in relation to the reporting process for injury/ death to fauna or clearing of flora occurring beyond the required limits for construction.

Timeframe

Duration of the works.

Monitoring & Reporting

Weekly inspections

Pre-clearance inspections

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ERAP 12 – Archaeology and Heritage

Objective To comply with contractual and legislative requirements and ensure that existing and undiscovered heritage and archaeological items are protected from construction activities.

Legal, Contractual & Other Requirements *Heritage Act 1977*
National Parks and Wildlife Act 1974
Planning consent conditions – SSI 15_7400

Site Specific Planning Approval Conditions – CoA - E10 to E27

Targets

- No disturbance or damage to existing known heritage sites or items.
- Unknown or undocumented heritage sites are not knowingly destroyed, defaced or damaged.
- Identify and protect any new artefacts or heritage sites before any harm can take place.
- Any relics found on site will be kept safe for consideration of incorporation into site fixtures

Controls (means & resources)

- For detailed control measures, please refer to Construction Heritage Management Plan
- Awareness training on the heritage items, their preservation and heritage value;
- Awareness training on the need for the preservation of artefacts and items of heritage value to be provided during the site induction.
- Location of currently identified archaeological and heritage items are to be nominated on the Environmental Control Plan.
- Exclusion fencing will be provided around the perimeter of any identified heritage or archaeological items.
- Awareness training on the need to stop work and to report on new sites, artefacts or items of heritage value.
- Should any new items be discovered that are suspected of being of heritage significance, whether Indigenous or European, work in the specific area would cease and Laing O'Rourke is to be notified immediately.
- Should suspected heritage or archaeological items including human remains be found during the works, the following procedure will apply:
 - o Work is to cease in the area immediately
 - o Notify Sydney Metro
 - o The object is to be left in place
 - o Engage heritage specialist to determine significance of the find
 - o Do not recommence works until heritage specialist has given approval to do so.

Responsibilities All personnel on site are to ensure that archaeological and heritage items are protected from damage or disturbance
The Environmental Manager will ensure all site personnel undertake toolbox talks in relation to protection of nominated items that were previously unknown.

Timeframe Throughout construction activities

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Monitoring & Reporting Weekly inspections

Archaeological support during removal of Regent St Terrace ground slab and unexpected finds.

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ERAP 13 – Sustainability and Climate Change Requirements

Objective – To comply with contractual and legislative requirements and ensure that surrounding the Contractor’s responsibilities regarding Sustainability and Climate Change requirements are met in accordance with the Contract and SMR-E.

Legal, Contractual & Other Requirements

- *The National Greenhouse and Energy Reporting Act 2007*
- Planning consent conditions – SSI 15_7400
- *Waste Avoidance and Resource Recovery Act 2001*
- *Waste Avoidance and Resource Recovery Act 2001 (WARR Act)*

Targets The following high level objectives and targets are set for the Project:

- identify all greenhouse gas emission sources
- identify activities which contribute a large portion of greenhouse gas emissions
- promotion of Laing O’Rourke’s EPIC (Environment, People, Industry, Community) Sustainability Agenda

Controls (means & resources)

- Compliance with the ‘TfNSW NSW Sustainable Design Guidelines’ version 3.0 to meet a minimum Silver design rating.
- A Climate Change Impact Assessment Report will be prepared for the works and will:
 - Identify any project specific climate change risks;
 - Recommend risk mitigation measures to reduce the identified climate risks; and outline how risk mitigation measures will be addressed through the design process to reduce “extreme”, “high” and “medium” risks to “low” where practicable; and
 - Demonstrate how the recommended risk mitigation measures have been/could be applied to the construction and operational phases of the project.The risk mitigation measures to mitigate “extreme” and “high” risks will be implemented.
- A Greenhouse Gas Inventory Report using the “TfNSW Carbon Estimation and Reporting Tool (CERT)” will be prepared and will include emissions associated with electricity and fuel consumption, on-site process emissions and embodied emissions for all materials used, works and temporary works.
- A minimum Greenhouse Gas Reduction Target of 15% is set and this is to be demonstrated using the “TfNSW Carbon Estimating and Reporting Tool (CERT)”
- A minimum target of 25% of the electricity needs of the SYAB activities will be offset through either one or a combination of the following;
 - Purchase of Australian Carbon Offset Credits; and/or
 - Purchase of renewable energy from Accredited Renewable Energy Supplier.
- Refrigerants and any fire suppression systems used within temporary site facilities have low or zero global warming potential.
- The opportunities for using temporary or permanent onsite sources of renewable energy where practicable, such as application of integrated photovoltaic (PV) lighting, and PV on temporary site facilities, will be identified and implemented where practical.
- A target of 5% bio diesel mix is set for all diesel powered plant and equipment and a target of 10% blended ethanol mix for all petrol powered plant and equipment.
- Lighting design for temporary works and works will incorporate energy saving luminaires and switching control systems to minimise energy consumption.
- Potable water is not used as a substitute for non-potable water where on-site or local sources of non-potable water suitable for construction activities are

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available.

- A target of 80% for offsite and onsite batching plant concrete production operation water is recycled and incorporated into concrete production.
- It will be ensured that, where practicable:
 - Re-use demolition materials onsite,
 - Use recycled steel, including concrete reinforcing
- The works are to utilise low Volatile Organic Compounds paints, finishes, sealants and adhesives and low emission formaldehyde composite wood products.
- It will be ensured that all:
 - Concrete used in the construction of the Works and Temporary Works is supplied by members of the Cement Concrete and Aggregate Association of Australia (CCAA) or a similar international association or organisation.
 - Steel used in the construction of the Works and the Temporary Works is supplied by suppliers that are certified under the Australian Certification Authority for Reinforcing Steels (ACRS) or a similar international association or organisation.
 - Fabricated steel products are specified in accordance with AS 5131 Fabrication & Erection of Steelwork and certified through the National Structural Steelwork Compliance Scheme.
 - PVC used in the construction of the Works and Temporary Works is supplied by suppliers that meet the “Best Practice Guidelines for PVC in the Built Environment” <http://www.gbca.org.au/uploads/156/2716/Best%20Practice%20Guidelines%20-%20Verification%20Guidance.pdf>
 - the “Best Practice Guidelines for PVC” must be included in the manufacturer or supplier’s independently audited ISO 14001, Environment Management Systems, and audits must be conducted by a JAS-ANZ (or equivalent) accredited certification body; and
 - timber products used in the Works and Temporary Works are from either re-used timber, post-consumer recycled timber or from Forest Stewardship Council Australia, certified timber suppliers.
- It will be ensured that the percentage of steel sourced from Australian manufacturers is recorded and this information is made available to the Principal’s Representative.
- An inventory of non-road diesel vehicles to be used for the Contractor’s activities within 1 month of the date of the Contract and subsequently annually using TfNSW’s Air Emission Data Collection Workbook. 9TP-FT-439.
- A Monthly Sustainability Report will be provided to the Principal’s Representative using the Sydney Metro City & Southwest Sustainability Reporting Template SME-ES-FT-429.
- Prior to the commencement of construction, a Pre-Construction Sustainability Report will be prepared and submitted to the Principal’s Representative for review in accordance with the Contract, which will identify:
 - i. The sustainability initiatives which have been included in design; and
 - ii. The sustainability initiatives, which will be implemented during construction activities.

Responsibilities

- All personnel on site are to ensure that requirements of this ERAP are implemented onsite.

Timeframe

- Throughout construction activities

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- Monitoring & Reporting**
- Weekly inspections.
 - Pre-Construction Sustainability Report is submitted to Sydney Metro
 - Monthly sustainability reporting

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ERAP 14 – Visual Amenity Procedure

- Objective**
- Minimise impacts on existing landscape features as far as feasible and reasonable.
 - Ensure the successful implementation of the Landscape Design.
 - Reduce visual impact of construction to surrounding community.
-

- Legal, Contractual & Other Requirements**
- Sydney Metro Construction Environmental Management Framework.
 - Crime Prevention through Environmental Design (CPTED) principles
 - Sydney Metro Brand Style Guidelines
 - AS 4282-1997 Control of the obtrusive effects of outdoor lighting
-

- Targets**
- The following high level objectives and targets are set for the Project:
- Minimise impacts on existing landscape features as far as feasible and reasonable.
 - Ensure the successful implementation of the Landscape Design.
 - Reduce visual impact of construction to surrounding community.
-

- Controls (means & resources)**
- Visual mitigation measures will be implemented as soon as feasible and practical and remain in place during the construction period.
 - CPTED principals will be incorporated into each relevant design package
 - Temporary Works to be designed and constructed in accordance with the CPTED principles, including the use of Exterior surfaces and finishes with a high level of vandal resistance (graffiti shield)
 - Site sheds to be maintained in an appropriate condition.
 - Temporary site facilities must satisfy the sustainability requirements
 - Where outdoor lighting is required for security and safety reasons it will be installed and operated in accordance to the AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting.
 - Site hoarding and fencing banners including vinyl (on solid hoarding), shade cloth or other material on the external face of any hoarding or fence will be installed within 30 days of Site establishment.
 - Site hoarding and fencing banners must be replaced every 12 months to ensure they remain clean and appropriate for their intended use.
 - Hoarding will be maintained in an excellent condition with prompt removal of graffiti.
 - Fencing, walls, and hoarding will be designed and implemented to increase natural surveillance with straight runs.
 - Fencing, walls, and hoarding will be designed and implemented with set back from infrastructure to avoid being used as a climbing aid. Including investigation of pruning vegetation if limbs are close infrastructure
 - Signage will be utilised to clearly define and designate areas with respect to their intended use to the public and construction workers on access.
 - The Contractor must submit plans and details of all signage (other than signage containing safety advice or instruction only), advertising or branding on the external face of any hoarding, fence or structure to the Principal for review. The plans must be approved by the Principal's Representative prior to being used for their intended purpose.
 - Install way finding signage to direct pedestrians, commuters and vehicles around the Construction Site.
 - Monitor and remove graffiti within the following timeframes:
-

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- Offensive graffiti must be removed or covered within 24 hours
- Highly visible yet non-offensive graffiti must be cleaned or covered within one week;
- Graffiti that is neither offensive nor highly visible must be cleaned or covered during normal operations within one month; and
- Any advertising material including bill posters must be removed or covered within 24 hours.

Responsibilities

- All personnel on site are to ensure that requirements of this ERAP are implemented onsite.

Timeframe

- Throughout construction activities

Monitoring & Reporting

- Weekly inspections.

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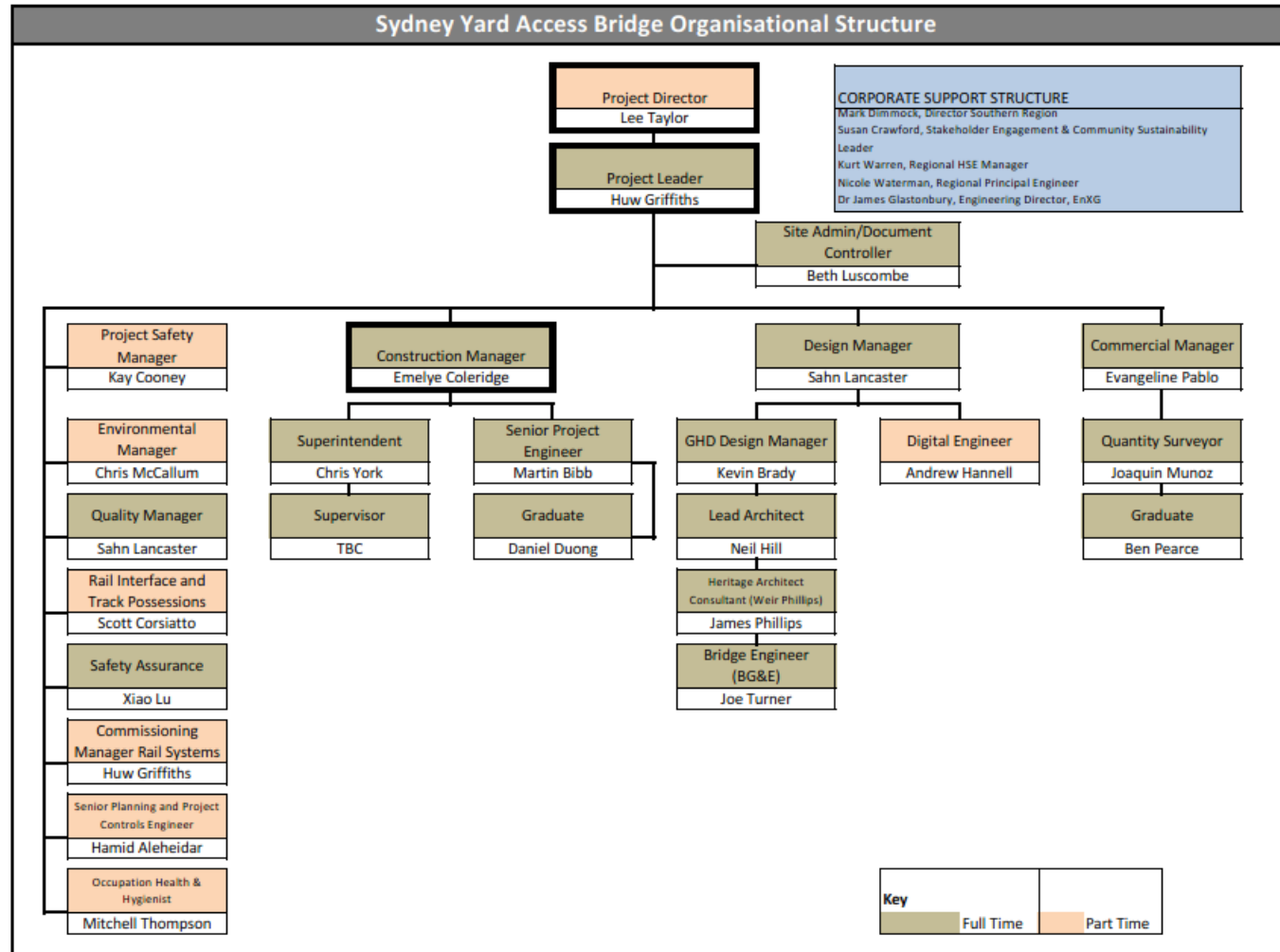
APPENDIX E – Organisation Chart

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APPENDIX G – Emergency Preparedness and Response

The types of environmental emergencies that could occur on this site are tabulated below.

Note: This plan is designed to supplement the Client's site emergency response plan/s where available. In case of conflict, the Client's plan will apply.

| Emergency | Preparation | Response | Responsibility |
|--|--|--|--|
| Significant adverse dust event due to weather conditions: High winds | <ul style="list-style-type: none"> – Monitor meteorological conditions for the area - develop contingency for wind speeds in excess of 16m/s (55km/hr) – High wind 'stop works' protocols in place – Establish contingency strategy for additional dust control measures, additional water carts, dust suppressants, stockpile covers etc. | <ul style="list-style-type: none"> – Dust generating activities will cease under direction of the Environment Manager or Site Supervisor until adverse conditions subside. – Deploy additional mitigation measures to exposed areas stockpiles and other dust generating items will be water sprayed or covered. | Site Supervisor PEM |
| Discovery of friable asbestos. | <ul style="list-style-type: none"> – Review previous land uses, environmental reports for potential for friable asbestos. – Include asbestos awareness in the site induction where the potential exists – Include contingency in relevant work procedures and SWMSs – Identify potential service providers for asbestos control and removal. | <ul style="list-style-type: none"> – Quarantine suspected area – Cover or provide dust mitigation strategy – Engage licensed/approved removal and disposal organisation – Complete post removal verification | Project Leader Site Supervisor PEM Safety Manager |
| Flooding | <ul style="list-style-type: none"> – Monitor meteorological conditions – develop contingency strategy for rainfall > 100mm in 24hours or potential for > 1in 5 ARI – All chemicals, fuels and other hazardous substances to be in secured containers and stored within a sealable shipping container – Remove plant and equipment from low lying areas – Secure plant that cannot be removed – Review site drainage flow paths: – Redirect site drainage to prevent flooding of residential/business premises – Ensure site drainage does not concentrate surface flow – Review and address the potential for excess water entering the site – Review and maintain erosion and sedimentation controls | <ul style="list-style-type: none"> – Recover materials washed from site including sediment and other waste. – Check effectiveness of erosion and sedimentation devices and other flood controls, maintain where required and safe to do so. | Site Supervisor PEM |

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| Emergency | Preparation | Response | Responsibility |
|---|--|--|--|
| Temporary erosion and sediment controls are damaged during rainfall. | <ul style="list-style-type: none"> Plan controls to be suitable for expected conditions Ensure sufficient materials, labour and plant are available for additional controls. | <ul style="list-style-type: none"> A review of the site to be undertaken by an Environmental Manager and Site Supervisor. Controls to be repaired or replaced within 24 hours of detection, immediately if inclement weather current. | Site Supervisor PEM |
| Spill of hazardous or toxic substance (< 20L) | <ul style="list-style-type: none"> Awareness training of appropriate response and procedures to be incorporated into Project Induction SDS on site for all materials and kept up to date Adequate supply of absorbent materials available in the site compound and on vehicles at work location | <ul style="list-style-type: none"> Report spills immediately to Site Manager and/or the Project Environment Representative Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material, temporary sealing of cracks or leaks in containers, use of geotextile or silt fencing to contain the spill. Site Manager and Supervisors to coordinate the response, clean up and disposal of the material Material to be disposed of in accordance with the manufacturers' recommendations and applicable legislation. | Site Supervisor PEM |
| Major spill of hazardous or toxic substance off site or to environmentally sensitive area (> 20L) | <ul style="list-style-type: none"> Awareness training of appropriate response and procedures to be incorporated into Environmental and Safety Induction SDS on site for all materials and kept up to date Adequate supply of absorbent materials available in the site compound and on vehicles in work location Emergency telephone numbers for Emergency Response organisations/fire brigade prominently displayed around office and issued to supervisors Initial contact to be made with relevant organisations at project commencement | <ul style="list-style-type: none"> Report spill immediately to Project Leader and/or Site Supervisor who will notify the client Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material, temporary sealing of cracks or leaks in containers, use of geotextile or silt fencing to contain the spill, transferring remaining material. Implement procedures to notify the relevant authorities. Site Manager to coordinate the response, clean up Fire brigade or emergency organisations should be called if spill cannot be controlled by site resources. Evacuation procedures are to be implemented to remove non-essential personnel from the affected area On site client personnel are informed of the incident, internal reporting as per potential Class 1 matter. Access and egress to the area is established to ensure the appropriate vehicles have effective access and congestion is minimised. Senior Officer from fire brigade /emergency organisation assumes control of the | Project Leader Site Supervisor PEM |

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| Emergency | Preparation | Response | Responsibility |
|---|---|---|------------------------|
| | | <p>operation with Laing O'Rourke personnel assisting as required.</p> <ul style="list-style-type: none"> – Commence data gathering and investigation once emergency is contained | |
| Fire | <ul style="list-style-type: none"> – Awareness training of appropriate response and procedures to be incorporated into Environmental and Safety Induction – Fire extinguishers maintained, clearly labelled and distributed around site compound and vehicles – Training in the use of fire extinguishers and which one to use for each type of fire – First Aid supplies are stocked and adequate – Emergency telephone numbers for Emergency Response organisations/fire brigade prominently displayed around office and issued to supervisors – Initial contact to be made with relevant organisations at project commencement | <ul style="list-style-type: none"> – For small fires, attempts to be made to extinguish the fire or limit its spread with available fire extinguishers or water hoses if appropriate. – Supervisor is to be informed immediately. – Supervisor to contact client and external services where necessary (fire, ambulance) as a precautionary measure. – All personnel in the vicinity to be assembled in the Evacuation Assembly Area and a head count performed – Any resulting fuel or chemical spill to be handled as detailed above – Supervisor to coordinate with emergency services and provide assistance as required. | Site Supervisor PEM |
| Vibration causing structural damage | <ul style="list-style-type: none"> – Choose correct plant when working near structures; minimise size and impact – Use safe working distances during planning phase – Implement vibration monitoring at commencement of vibration generating works to ensure compliance with standards | <ul style="list-style-type: none"> – Activities causing vibration would cease under direction of the Environment Manager or Site Supervisor. Any occupants of buildings may be evacuated with due consideration to safety, and the area secured to prevent unauthorised access. – A structural assessment to be undertaken; and if any damage is associated with construction, rectification work would be agreed. | PEM Project Leader |
| Unapproved clearing / damage to protected vegetation – threatened/ endangered species | <ul style="list-style-type: none"> – Clearly demarcate site boundaries – Clearly demarcate clearing areas and brief site personnel – Identify/mark vegetation to be retained or that is protected. – Identify species that may be impacted, include material within the project induction – Included requirements within construction planning documentation. | <ul style="list-style-type: none"> – Immediately cease activities – Engage consultant to assess damage to vegetation and presence of any endangered or threatened communities. | Site Supervisor PEM |
| Injury/death to protected/ endangered | <ul style="list-style-type: none"> – Identify potentially impacted species prior to commencement on site. | <ul style="list-style-type: none"> – Immediately cease activities upon discovery of injured fauna | Site Supervisor PEM |

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| Emergency | Preparation | Response | Responsibility |
|--|--|--|----------------|
| red/threatened fauna | <ul style="list-style-type: none"> – Identify species that may be impacted, include material within the project induction – Review/inspect vegetation to be cleared prior to clearing – utilise ecologist/spotter where there is the potential for endangered/threatened species – Engage with local vet/WIRES representative on the appropriate contact/procedure – Site procedure for the short term management of injured fauna | <ul style="list-style-type: none"> – Implement procedure for short-term stabilisation and transport to Vet or WIRES – Undertake additional vegetation inspection to identify any remaining fauna prior to recommencement. | |
| Damage / destruction of indigenous heritage item | <ul style="list-style-type: none"> – Ensure site investigations detail any heritage items on or in proximity to the site. – Include awareness material within the project induction – Develop a 'stop works' protocol for any heritage find on site. | <ul style="list-style-type: none"> – Cease works and stabilise the area, under the direction of the Environmental Manager or Site Supervisor. The Environmental Manager is to report the remnants to the client and regulatory authority. – Request an archaeologist to assess the significance and archaeological potential of the uncovered feature. | PEM |
| Damage / destruction of European heritage | <ul style="list-style-type: none"> – Ensure site investigations detail any heritage items on or in proximity to the site. – Ensure exclusion zones are implemented around Mortuary Station. – Work within Safe Working Distances as detailed in the SYAB CNVMP – Undertake vibration monitoring as detailed in the SYAB CNVMP – Develop a 'stop works' protocol for any heritage find on site. | <ul style="list-style-type: none"> – Cease works and stabilise the area, under the direction of the Environmental Manager or Site Supervisor. Contact an archaeologist to assess the significance and archaeological potential of the uncovered feature. | PEM |

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APPENDIX H – Environmental Incident Investigation Guidelines

Incident Investigation

Class 1 incidents shall be subject to an ICAM or Tap Root 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/client 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 - Undertake basic level incident analysis

List the elements involved including people, equipment and environment (weather conditions), procedures, organisational 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, procedures or processes
- Change or additional induction training
- Address organisational issues

Step 6 - Implement the corrective and preventative actions outlined above

- Outline responsibilities and accountabilities

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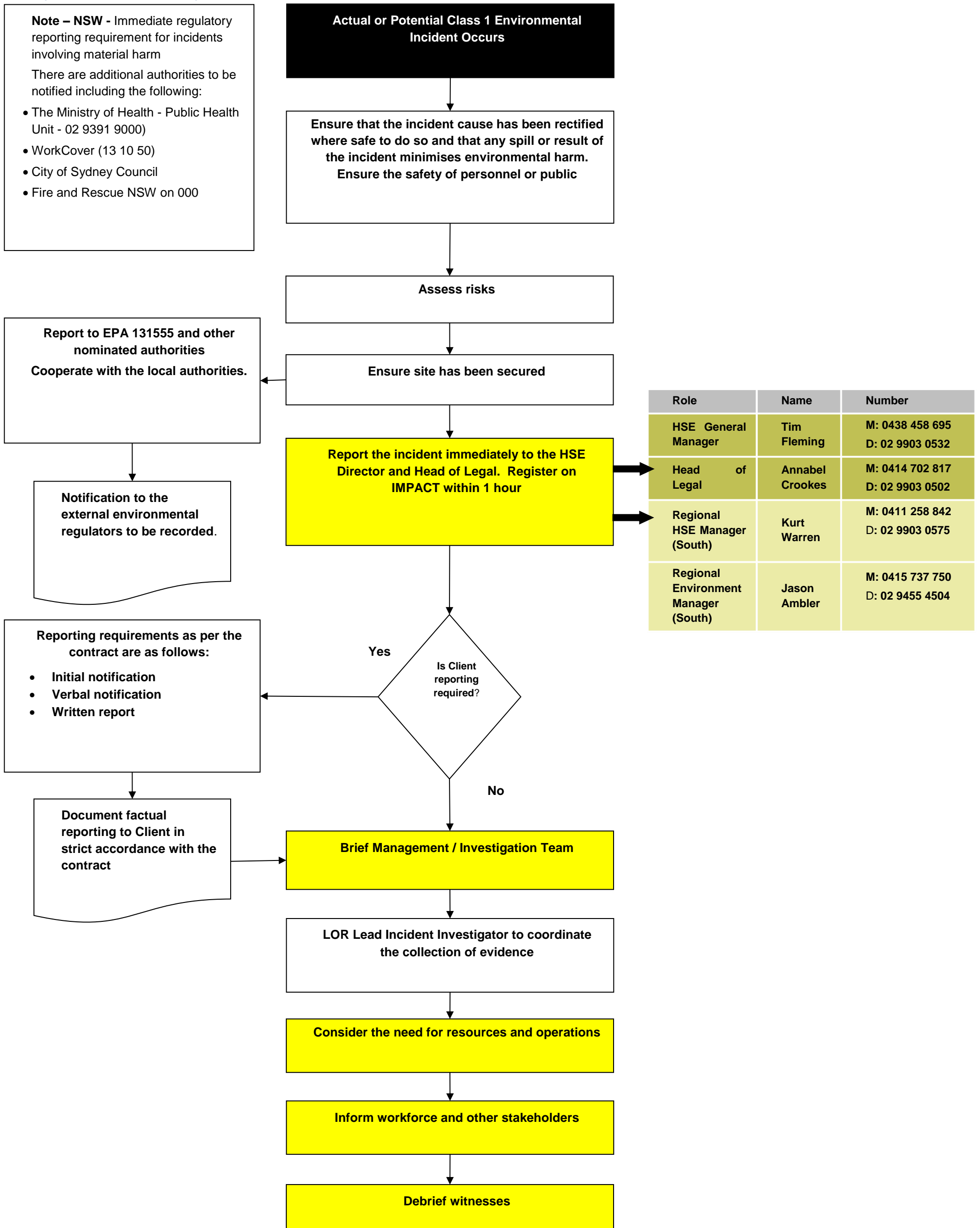
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- Obtain relevant approvals for the corrective and preventative actions (i.e. Regulatory Authority or Client requirement)
- Provide proposed completion dates for the approved actions
- Document actions implemented and close out

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

Figure 4: Class 1 Incident Management Flow Chart



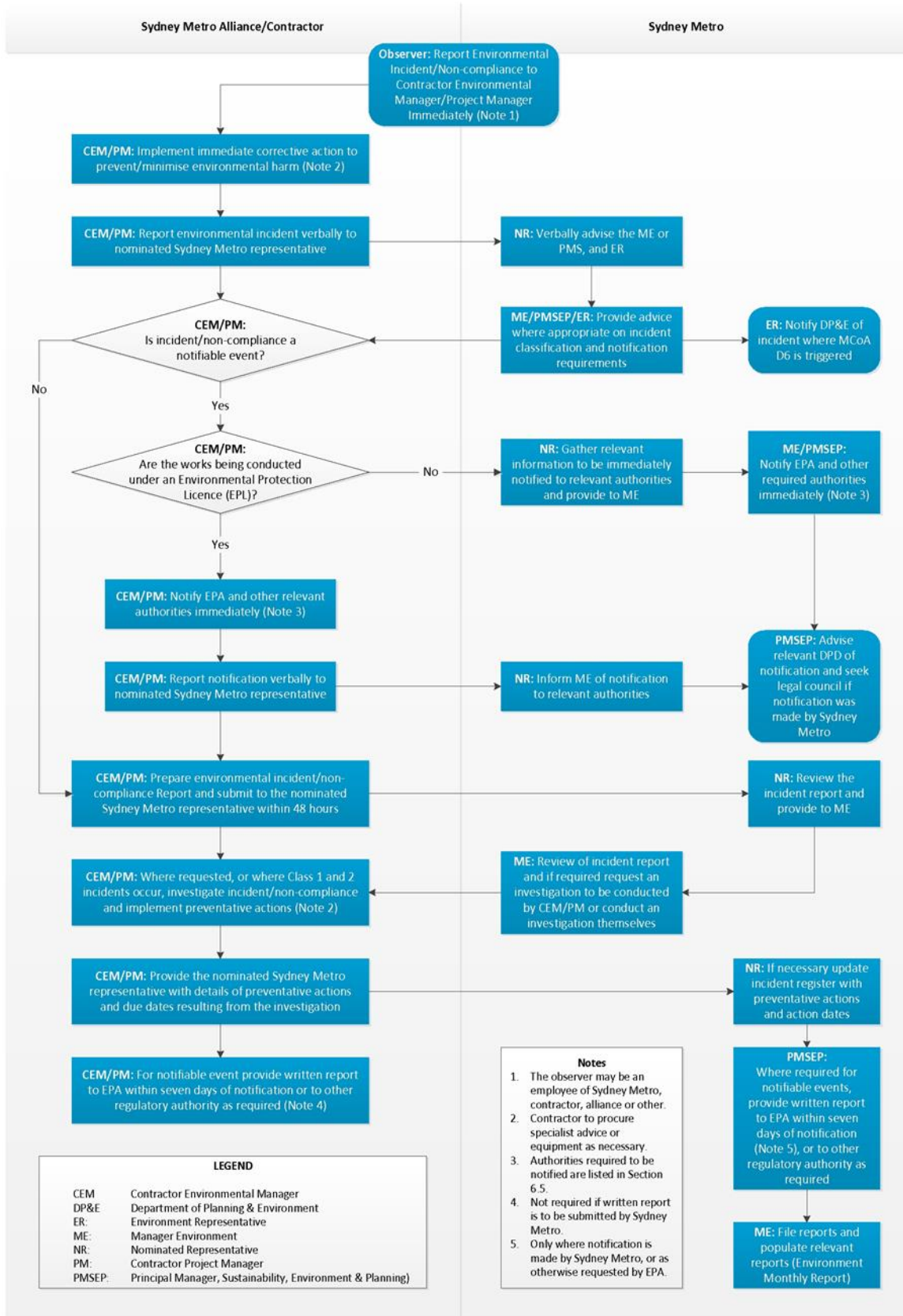
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Figure 5: TfNSW Environmental incident/non-compliance reporting procedure



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APPENDIX I – Environmental Inspection Report

| | | | | |
|-----------------------------|---|---|--------------|-------------------------------|
| Process Enabling Process | Document owner Project Team (Delivery) | Step 2257 – Environmental Compliance | Gateways | Document type Template (T) |
|-----------------------------|---|---|--------------|-------------------------------|

Environment Inspection

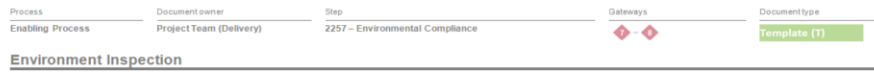
| E-T-8-1227 ENVIRONMENTAL INSPECTION REPORT | | | | | | | | | | | | | | |
|---|---|-------------|----|----|----------------------|--|----------------------------|-------------|-------------|--------------------|--|--|--|--|
| CONTRACT/PROJECT No.: | | | | | WORK LOCATION: | | | | | | | | | |
| DATE: | | | | | TIME: | | | | | | | | | |
| A = ACCEPTABLE | | | | | AR = ACTION REQUIRED | | | | | N/A = NOT ASSESSED | | | | |
| No. | ITEM | CONFORMANCE | | | RISK CLASS | DESCRIPTION OF NON-COMPLIANCE/ CORRECTIVE ACTION | CORRECTIVE ACTION REQUIRED | RESPONSIBLE | TARGET DATE | | | | | |
| | | A | AR | NA | | | | | | | | | | |
| GENERAL | | | | | | | | | | | | | | |
| 1 | Are good house-keeping practices in place in Work Areas? | | | | | | | | | | | | | |
| 2 | Vehicles parked in designated parking zones? | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| FIRE CONTROLS | | | | | | | | | | | | | | |
| 5 | Hot works conducted under Permit? | | | | | | | | | | | | | |
| 6 | Any evidence of unapproved fires onsite or offsite along Project boundaries? | | | | | | | | | | | | | |
| 7 | Fire extinguishers/equipment available and maintained? (vehicles/work areas) | | | | | | | | | | | | | |
| DUST | | | | | | | | | | | | | | |
| 8 | Are fugitive dust emissions travelling beyond Project boundaries? | | | | | | | | | | | | | |
| 9 | Are agreed dust control measures being implemented to minimise dust emissions (e.g. – sufficient number of watercarts, handling/transport of materials, application of dust suppressants etc.)? | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| AIR POLLUTION | | | | | | | | | | | | | | |
| 12 | Do excessive black smoke emissions from vehicles and equipment occur >20 seconds? | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | |
| MAINTENANCE / EQUIPMENT / REFUELLING | | | | | | | | | | | | | | |
| 14 | Are vehicles, equipment and plant being serviced on time and according to manufacturer specifications? Maintenance logs up to date & available to view? | | | | | | | | | | | | | |
| 15 | All gen-sets and diesel tanks are self contained or in 110% capacity bund with no evidence of water or litter pooling within? | | | | | | | | | | | | | |
| 16 | Are refuelling activities taking place at designated zones with spill kits, drip trays and fire extinguishers present? | | | | | | | | | | | | | |
| WASTE MANAGEMENT | | | | | | | | | | | | | | |
| 17 | Sufficient waste receptacles available to segregate waste streams (e.g. oily rags, plastics, wood, steel, 'butt out bins') & are they close to work areas? | | | | | | | | | | | | | |
| 18 | Are waste streams being segregated into clearly labelled receptacles? | | | | | | | | | | | | | |
| 19 | Do all waste receptacles have appropriate lids and/or coverings? | | | | | | | | | | | | | |
| 20 | Any evidence of unreported leaks/spills (e.g. – sewerage overflows/leaks, hydrocarbon spills and vehicle wash-down areas and chemical storage areas)? | | | | | | | | | | | | | |
| 21 | Are concrete washout areas installed in agreed locations and are they being maintained and emptied? | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | |
| CHEMICAL MANAGEMENT AND SPILLS | | | | | | | | | | | | | | |
| 24 | Are hazardous chemicals/liquids store inside a bund that satisfies the criteria - 110% of the max. storage or 10% of double skinned tank? | | | | | | | | | | | | | |
| 25 | Are spill kits (hydrocarbon and/or chemical) located within each Work Area and/or with major vehicles? Are they free from litter and water? | | | | | | | | | | | | | |
| 26 | Hazardous materials segregated (no incompatible materials together) and have correct signage, fire extinguishers, ventilation, correct containers & labels)? | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | |
| EROSION AND SEDIMENT CONTROL | | | | | | | | | | | | | | |
| 29 | Are Erosion Control Structures (ESCs) installed as per the current ESCP? | | | | | | | | | | | | | |
| 30 | Are all controls being installed correctly and maintained and have a minimum of 75% capacity? | | | | | | | | | | | | | |
| 31 | Is there evidence of erosion/sedimentation or surface water discharge occurring external to the Project Footprint? | | | | | | | | | | | | | |
| 32 | Are sediment basins of adequate size and constructed so that all water on-site is draining to them? | | | | | | | | | | | | | |
| 33 | Is there evidence of sediment tracking on external public roads? | | | | | | | | | | | | | |
| 34 | Is the ESCP up to date for the scope of works and catchment areas? | | | | | | | | | | | | | |
| 35 | Clean water diverted to approved locations and dirty/contaminated water contained? No evidence of contaminated water leaving site? | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | |
| WATER QUALITY AND MANAGEMENT | | | | | | | | | | | | | | |
| 37 | Collected water treated and tested prior to discharge offsite? | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | |

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Environment Inspection

| No. | ITEM | CONFORMANCE | | | RISK CLASS | DESCRIPTION OF NON-COMPLIANCE/ CORRECTIVE ACTION | CORRECTIVE ACTION REQUIRED | RESPONSIBLE | TARGET DATE |
|---|--|-------------|----|----|---|--|----------------------------|-------------|-------------|
| | | A | AR | NA | | | | | |
| 39 | | | | | | | | | |
| FLORA / VEGETATION / WEEDS | | | | | | | | | |
| 40 | Do vehicles have Weed-free Certificates and are Weed Inspection Logs up-to-date? | | | | | | | | |
| 41 | Are works being carried out within approved cleared boundaries with no unapproved ground disturbance? (i.e. tracks/turning circles etc.) | | | | | | | | |
| 42 | Is there evidence of adverse impacts to vegetation on-site and up to 5m around site, along Project roads or infrastructure footprints (e.g. - overspray from dust suppression activities, dust settlement, unauthorised clearing)? | | | | | | | | |
| 43 | Topsoll/ Vegetation/ Weeds are segregated and sign posted? | | | | | | | | |
| 44 | Physical vegetation protection measures (fencing, flagging tape etc) in place and maintained? | | | | | | | | |
| 45 | | | | | | | | | |
| FAUNA PROTECTION | | | | | | | | | |
| 46 | Are fauna egress points installed in sediment basins and other excavations/trenches? | | | | | | | | |
| 47 | Is there evidence of vehicular activity or unapproved activities in off-limit areas, known fauna habitats? | | | | | | | | |
| 48 | During night works is lighting facing downwards and illuminating work areas only? | | | | | | | | |
| 49 | | | | | | | | | |
| 50 | | | | | | | | | |
| NOISE / VIBRATION | | | | | | | | | |
| 51 | Equipment is located/directed away from sensitive areas and where suitable are fitted with sound insulation and/or vibration suppression devices? | | | | | | | | |
| 52 | | | | | | | | | |
| 53 | | | | | | | | | |
| Cultural Heritage | | | | | | | | | |
| 54 | Physical protection measures (fencing, flagging tape etc) in place and maintained? | | | | | | | | |
| 55 | Is there evidence of unapproved activities or damage to known cultural heritage areas? | | | | | | | | |
| 56 | | | | | | | | | |
| 57 | | | | | | | | | |
| Contaminated land/PASS/ASS | | | | | | | | | |
| 58 | Contamination remediation being undertaken in accordance with approved plan? | | | | | | | | |
| 59 | Physical controls for known contaminated areas in place and maintained? | | | | | | | | |
| 60 | All PASS/ASS treatment pads and sumps, maintained as per required specifications? | | | | | | | | |
| 61 | | | | | | | | | |
| VEHICLES AND TRAFFIC | | | | | | | | | |
| 62 | Are vehicles and equipment operating within the approved Project Footprint? | | | | | | | | |
| 63 | | | | | | | | | |
| ADDITIONAL COMMENTS / REQUIRED ACTIONS: | | | | | | | | | |
| | | | | | | | | | |
| INSPECTION TEAM: | | Risk Class | | | Environment | | | | |
| SIGNATURE(S): | | 0 | | | Requirement Complies with system or criteria. | | | | |
| Project Manager or Leader: | | 1 | | | Major Noncompliance eg: Nil evidence of implementation, departure from documented system requirement, potential or pending failure leading to long term defect or immediate requirement for rectification or change of work method or construction details. Potential prosecution | | | | |
| SIGNATURE: | | 2 | | | Minor Noncompliance. Eg: Issues with system or criteria requirement establishment or implementation, potential failure leading to possible long term defect or review of work method or construction details. | | | | |
| <i>Note: This form MUST be signed and scanned as electronic copy and saved in the projects Environmental system folder (1430). Hard copy to remain in project file for no less than 12 months. All non-compliances must be uploaded into the Corrective Action Register (E-T-8-</i> | | 3 | | | Opportunity for Improvement (minor omissions, oversights, identification of recommendations to improve, etc) | | | | |

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APPENDIX J – Management HSE Inspection Report

Process: Enabling Process | Document owner: Project Team (Delivery) | Step: 2257 – HSEQ Compliance | Gateways: 7-8 | Document type: Template (T)

Management Site Safety and Environment Inspection


| PROJECT / LOCATION / CONTRACT NO: | | | | | | | | | |
|-----------------------------------|---|------------------|------------|-------------|----------------|-------------------------------|--------------|-------------|-----------|
| No. | Item | Evidence Sighted | Risk Class | Responsible | Exact Location | Description of Non Compliance | Action Taken | Close Out** | |
| | | | | | | | | Immediate | Follow up |
| 1. | Access / Egress-Clear / Designated | | | | | | | | |
| 2. | Amenities – Clean / Adequate | | | | | | | | |
| 3. | Edge protection | | | | | | | | |
| 4. | Electrical Equipment – Tagged / Safeguards, leads | | | | | | | | |
| 5. | Excavation – Barricades, access | | | | | | | | |
| 6. | Fire Hose Reels / Fire Extinguishers (including on plant & contractor owned) Charged & In Test Date | | | | | | | | |
| 7. | Hazardous Substances – quantity storage, risk assessment | | | | | | | | |
| 8. | Housekeeping / Rubbish Removal | | | | | | | | |
| 9. | Ladders – Condition / Usage | | | | | | | | |
| 10. | Lighting / Levels acceptable | | | | | | | | |
| 11. | Manual Handling | | | | | | | | |
| 12. | Noise Management | | | | | | | | |
| 13. | Penetrations – Protected, marked | | | | | | | | |
| 14. | Plant / Equipment – | | | | | | | | |

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Process: Enabling Process | Document owner: Project Team (Delivery) | Step: 2257 – HSEQ Compliance | Gateways:  | Document type: **Template (T)**

Management Site Safety and Environment Inspection


| PROJECT / LOCATION / CONTRACT NO: | | | | | | | | | |
|-----------------------------------|---|------------------|------------|-------------|----------------|-------------------------------|--------------|-------------|-----------|
| No. | Item | Evidence Sighted | Risk Class | Responsible | Exact Location | Description of Non Compliance | Action Taken | Close Out** | |
| | | | | | | | | Immediate | Follow up |
| | daily pre-start, logbooks, OEM Manual, maintenance, operator quals. Damage, faults reported | | | | | | | | |
| 15. | PPE (Hard Hats / Boots / Hearing / Glasses, etc) | | | | | | | | |
| 16. | Public Protection – Fencing / intact / appropriate / Site Security | | | | | | | | |
| 17. | Scaffolding – Design documentation | | | | | | | | |
| 18. | Scaffolding (gaps, ties, braces, soleplates, mesh, signs, Handover Certificates) | | | | | | | | |
| 19. | Segregation – Vehicle / pedestrian / activity workforce | | | | | | | | |
| 20. | Signage | | | | | | | | |
| 21. | Traffic Control | | | | | | | | |
| 22. | Height work / Edge protection | | | | | | | | |
| Other issues / activities | | | | | | | | | |
| 23. | | | | | | | | | |
| 24. | | | | | | | | | |
| 25. | | | | | | | | | |
| 26. | | | | | | | | | |

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Process: Enabling Process | Document owner: Project Team (Delivery) | Step: 2257 – HSEQ Compliance | Gateways:  | Document type: **Template (T)**

Management Site Safety and Environment Inspection


| PROJECT / LOCATION / CONTRACT NO: | | | | | | | | | |
|---|-------------------|------------------|-------------------|----------------|----------------|-------------------------------|--------------------|-------------|-----------|
| No. | Item | Evidence Sighted | Risk Class | Responsible | Exact Location | Description of Non Compliance | Action Taken | Close Out** | |
| | | | | | | | | Immediate | Follow up |
| 27. | | | | | | | | | |
| ENVIRONMENTAL CONTROLS | | | | | | | | | |
| 28. | Sediment controls | | | | | | | | |
| 29. | Water Quality | | | | | | | | |
| 30. | Waste Management | | | | | | | | |
| 31. | Noise / Vibration | | | | | | | | |
| 32. | Air Quality | | | | | | | | |
| Other issues / activities | | | | | | | | | |
| 33. | | | | | | | | | |
| 34. | | | | | | | | | |
| 35. | | | | | | | | | |
| 36. | | | | | | | | | |
| 37. | | | | | | | | | |
| 38. | | | | | | | | | |
| Comment / Description or Additional Items: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| <p>NOTE: The checklist to be completed by the designated person in the H&S Plan and forwarded to the Project / Workplace Leader and H&S Advisor for review. CLOSE OUT** Items identified for "Follow up" are to be registered on the Project C-T-8-0116 Corrective Action Request Register</p> | | | | | | | | | |
| Personnel/Subcontractors Involved: | | | | | | | | | |
| | | | | | | | | | |
| | | | Risk Class | H&S | | | Environment | | |

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Process: Enabling Process Document owner: Project Team (Delivery) Step: 2257 – HSEQ Compliance Gateways:  Document type: **Template (T)**

Management Site Safety and Environment Inspection

| PROJECT / LOCATION / CONTRACT NO: | | | | | | | | | |
|-----------------------------------|---|------------------|------------|--|--|-------------------------------|---|-------------|-----------|
| No. | Item | Evidence Sighted | Risk Class | Responsible | Exact Location | Description of Non Compliance | Action Taken | Close Out** | |
| | | | | | | | | Immediate | Follow up |
| | Inspection undertaken by: | | | 0 | Complies | | Complies | | |
| | Signature: | | | 1 | Alters the future of an individual permanently, (risk of death or permanent disability.) | | Permanent or long term damage to the environment. Damage will take 12 months or more to return to pre-existing conditions | | |
| | Position: | | | 2 | Alters the future of an individual temporarily (risk of medical treatment.) | | Short to medium term damage to the environment. Damage will take up to 12 months to return to pre-existing conditions | | |
| | Date: | | | 3 | Does no more than inconvenience the person (1 st Aid treatment.) | | Easily rectified usually within one day. Class 3 incidents do not cause medium or long term damage. | | |
| | Project/ Workplace Leader's Signature:..... | | | DISTRIBUTION: Project/ Workplace Leader, Contract File | | | | Refer. Cl | |

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APPENDIX K – Sydney Metro City and Southwest Environmental and Sustainability Reporting Templates

Sydney Metro City & Southwest Environmental Reporting Template



| | | |
|---|-------------------------|---------|
| Contract: | | |
| Instructions: | | |
| Issues | This month | To date |
| Air quality issues raised | x | y |
| Community, stakeholder and business issues raised | x | y |
| Design issues raised | x | y |
| Flora and fauna issues raised | x | y |
| Heritage issues raised | x | y |
| Management systems issues raised | x | y |
| Noise and vibration issues raised | x | y |
| Soil and water issues raised | x | y |
| Traffic transport and access issues raised | x | y |
| Waste and spoil issues raised | x | y |
| <p>An Issue or Non-compliance with a CEMP requirement where the Issue or Non-compliance is relevant to multiple Sub-plans should be classified as Management Systems, for example:</p> <ul style="list-style-type: none"> • Failure to produce up to date Environmental Control Maps; • Failure to deliver topic specific environmental training or toolbox talks; or • Failure to maintain document control of environmental documentation. <p>An Issue or Non-compliance with a CEMP requirement where the Issue or Non-compliance is unique to the CEMP should be classified as Management Systems, for example:</p> <ul style="list-style-type: none"> • Failure to follow the incident management process; • Failure to conduct regular Management Reviews of the EMS; • Failure to communicate environmental issues internally; or • Failure to maintain ISO 14001 certification. <p>An Issue or Non-compliance with a Sub-plan requirement where the Issue or Non-compliance is unique to that sub-plan should always be classified using the corresponding sub-plan category regardless of whether it could also be seen as a CEMP requirement, for example:</p> <ul style="list-style-type: none"> • Failure to maintain waste management records should be classified as Waste and Spoil; • Failure to deliver topic specific Noise and Vibration training should be classified as Noise and Vibration; • Failure to seeking approval to conduct works out of hours should be classified as Noise and Vibration; or • clearing vegetation that is within a protected zone should be classified as Flora and Fauna. | | |
| Incidents | This month | To date |
| Number of Class 1 incident occurrences | x | y |
| Number of Class 2 incident occurrences | x | y |
| Number of Class 3 incident occurrences | x | y |
| Non-compliances | This month | To date |
| Number of non-compliances raised | x | y |
| Number of open non-compliances | x | y |
| Corrective and Preventative Actions (Incidents and Non-compliances only) | This month | To date |
| Number of open Corrective Actions | x | y |
| Percentage and number of closed Corrective Actions | x | y |
| Environmental Audit Findings | This month | To date |
| Number of audit findings on Environmental Requirements which since the audit date have been open | >120 days | x |
| | between 120 and 60 days | x |
| | <60 days | x |
| Number (and percentage) of open environmental audit findings closed in the month | [x(y%)] | |
| Environmental Protection Licence | This month | To date |
| Licence variations | x | y |
| Emergency out of hours work (OOHW) events | x | y |
| EPA Inspections | x | y |
| Environmental Approvals | This month | To date |
| Consistency Assessments Determined by Sydney Metro | x | y |
| Total ongoing Environmental Requirements | x | y |
| Total Completed Environmental Requirements | x | y |
| Environmental Training | This month | To date |
| Number of environmental training courses delivered | x | y |

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Sydney Metro City & Southwest (SYAB) Sustainability Reporting Template



| Contract: | Sydney Yard Access Bridge (SYAB) | | | |
|--|---|----------------------------------|--------------------------|---------------|
| Instructions: | The Contractor must provide the sustainability performance data specified below to TNSW on a monthly basis. | | | |
| Reporting month/year: | (Contractor to complete) | | | |
| Metric | Type | Unit | Cumulative total to date | Monthly total |
| Electricity consumed | - | KWh | | |
| Electricity Offsets purchased | Contractor to specify | Contractor to specify | | |
| Volume of fuel consumed | Petrol | kL | | |
| | Diesel | kL | | |
| | Other (Contractor to specify) | kL | | |
| Types and Quantity of waste generated | Hazardous waste | tonnes | | |
| | Construction and demolition waste | tonnes | | |
| | Other non-hazardous waste | tonnes | | |
| | Other (Contractor to specify) | tonnes | | |
| Types and Quantity of waste reused or recycled | Construction and demolition waste | tonnes | | |
| | Other non-hazardous waste | tonnes | | |
| | Other (Contractor to specify) | tonnes | | |
| Quantity of waste disposed to landfill | Hazardous waste | tonnes | | |
| | Construction and demolition waste | tonnes | | |
| | Other non-hazardous waste | tonnes | | |
| | Other (Contractor to specify) | tonnes | | |
| Quantity of spoil generated | Total | tonnes | | |
| | Disposed to landfill | tonnes | | |
| | Beneficially reused | tonnes | | |
| | Percentage beneficially reused | % | | |
| Greenhouse gas emissions | Scope 1 | tCO2-e | | |
| | Scope 2 | tCO2-e | | |
| | Scope 3 | tCO2-e | | |
| Quantities of materials used | Steel | tonnes | | |
| | Concrete | tonnes | | |
| Portland cement | Percentage replaced by supplementary cementitious materials | Percentage averaged across mixes | | |
| Quantity of water consumed | Quantity of mains (potable) water consumed | kL | | |
| | Quantity of water consumed from other sources | kL | | |
| | Total water consumed | kL | | |

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APPENDIX L – Project Waste Management Strategy

The following Project Specific Waste Management Strategy is developed to identify and state the type of waste that is intended to be controlled and recycled where practical. It will be updated to reflect actual project specific bin types and locations (once confirmed) on commencement of construction.

Objectives

The key objective of this project waste management strategy is to ensure that waste for disposal and resource use are minimised through waste generation avoidance and resource reuse and recycling are maximised. To ensure this objective is achieved successfully, LOR will undertake the following:

- It will be ensured that the measures are identified and implemented to minimise and manage waste and minimise resource consumption throughout the construction of the Project.
- It will be ensured that the preferred waste management hierarchy of avoidance, minimisation, reuse, recycling and disposal are followed.
- All construction personnel will be provided with an increased level of understanding and awareness of waste and resource management issues.
- Appropriate measures will be implemented to address the relevant CoA.
- Appropriate measures will be implemented to comply with all relevant legislation and other requirements.
- Unnecessary production of waste will be avoided where practical to do so, in accordance with the waste hierarchy as set out by the *Waste Avoidance and Resource Recovery Act 2001*.
- Waste materials will be disposed of in accordance with legislative requirements.
- Sustainability objectives and commitments outlined within the SMR-E will be met.

Environmental Requirements

Legislation and Guidelines

Legislation

Legislation and regulations relevant to waste and energy management includes:

- *Protection of the Environment Operations Act 1997* (POEO Act).
- *Protection of the Environment Operations (Waste) Regulation 2014*.
- *Waste Avoidance and Resource Recovery Act 2001* (WARR Act).
- *Contaminated Land Management Act 1997* (CLM Act).
- *National Greenhouse and Energy Reporting Act 2007* (NGER Act).
- *Environmentally Hazardous Chemicals Act 1985* (EHC Act).

Relevant provisions of the above legislation are detailed in the Appendix A of this document.

Guidelines and Standards

The main guidelines, specifications and policy documents relevant to this Plan include:

- Waste Classification Guidelines (DECCW, 2009c).
- Waste Reduction and Purchasing Policy (RTA, 2009).
- NSW Waste Avoidance and Resource Recovery Strategy (2007).
- Roads and Maritime Specification D&C G36 – Environmental Protection.
- Best Practice Waste Reduction Guidelines for the Construction and Demolition Industry (tools for Practice), Natural Heritage Trust, 2000.
- AS2601:1991 Demolition of Structures.

Aspects and Impacts

Construction Waste Streams

The following construction related waste streams have been identified for the Project:

- Wastes from demolition of existing structures that require removal (including asbestos), pipe work, pavements, asphalt and concrete hardstand areas.
- Spoil generated during excavation and piling works.
- Wastewater from other sources such plant wash down, sewage/greywater from construction compounds.
- Wastes produced from operation and maintenance of various construction machinery and equipment on-site including fuels, oils and liquid waste from cleaning, repairing and maintenance.

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- Vegetation from removal of shrubs and trees.
- Packaging materials associated with items delivered to site such as timber frames, pallets, crates, cartons and plastics.
- General waste including recyclables scrap materials, biodegradable material and office waste.

Construction Resource Consumption

The following sources of construction related resource consumption have been identified for the Project:

- Procurement and delivery of materials to site.
- Demolition of structures and pavements.
- Removal of vegetation.
- Site establishment, including compound set up.
- Relocation and protection of services.
- Earthworks including excavation.
- Removal, relocation, compaction remediation of excavated material.
- Construction of bridge/pavements.
- Use of construction plant and machinery.

Impacts

The following environmental impacts related to the generation and use of waste and resources have been identified to potentially occur during construction:

- Generation of waste in excessive amounts due to inappropriate waste classification, waste handling, storage and transport
- Inappropriate disposal of waste, such as concrete, timber, asphalt, excavated soil and rock.
- Excessive volumes of spoil directed to landfill due to inadequate recycling and reuse.
- Inappropriate disposal of vegetation waste from clearing activities.
- Inappropriate disposal of waste from site compound facilities.
- Inappropriate disposal of hazardous waste Excessive volumes of waste directed to landfill due to excessive resource consumption and inadequate collection, classification and disposal of waste.
- Contamination including cross-contamination of soil, surface and / or groundwater from the inappropriate storage, transport and disposal of liquid and solid waste.

Waste and Resource Classification and Proposed Reuse/Recycling/Disposal Methods

| Construction Phase | Waste Type | Waste Classification | Reuse/Recycling/Disposal Method |
|------------------------------------|-----------------------------------|---------------------------------------|--|
| Demolition and vegetation clearing | Vegetation (mulch, weed, logs) | General solid waste (non-putrescible) | Logs can be reused for timber products Mulch can be reused on-site or off-site Weeds to be disposed off-site or deep burial on-site |
| | Asphalt, concrete, bricks, gravel | General solid waste (non-putrescible) | Asphalt to be milled on-site and if suitable for reuse then will be reused on-site as pavement material Concrete will be crushed on-site and will be stockpiled in the stockpile area for future reuse on MPE stages Bricks/gravel to be reused on-site. |

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| Construction Phase | Waste Type | Waste Classification | Reuse/Recycling/Disposal Method |
|---|--|---|---|
| | Timber | General solid waste (non-putrescible) | Timber other than heritage related fabric from building 11 will be sent off-site for recycling. Tracking documentation will be maintained. |
| | Scrap metal | General solid waste (non-putrescible) | Scrap metal will be sent off-site for recycling. Tracking documentation will be maintained. |
| | Asbestos | Special waste | Asbestos containing material will be separated where practical and safe to do so, and sent off-site to an appropriately licenced facility. Tracking documentation will be maintained. |
| | Lead | Special waste | Lead based paint will be disposed off-site to an appropriately licenced facility. Tracking documentation will be maintained. |
| Spoil Management | Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) | Waste classification will be carried out based on site investigation results and in accordance with EPA Waste Classification Guidelines: Parts 1 & 2 (DECC, 2009) | If material is deemed to be suitable for reuse on-site then it will be beneficially reused where possible. |
| | Potentially contaminated materials | | Potentially contaminated material reuse on-site or off-site disposal options will be developed in consultation with contamination/validation consultant and EPA approved site auditor through development of Remediation Action Plan (RAP). |
| Construction (Concrete pavement, utilities, rail sidings) | Steel reinforcing | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Conduits/pipes | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Asphalt | General solid waste (non-putrescible) | Reused on-site if deemed suitable or recycled off-site |
| | Concrete washout waste | General solid waste (non-putrescible) | Crushed and reused on-site on future stages of MPE |
| | Formwork | General solid waste (non-putrescible) | Reused on-site if deemed suitable or recycled off-site. |
| | Packaging | General solid waste (non-putrescible) | Return to supplier or recycled off-site. |
| | Empty drums/oil drums | General solid waste (non-putrescible) | Return to supplier or recycled off-site. |

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| Construction Phase | Waste Type | Waste Classification | Reuse/Recycling/Disposal Method |
|----------------------------------|---|--|--|
| | Waste from spill clean-up, paints/other chemical waste | Hazardous waste/liquid waste/general solid waste (non-putrescible) | Return to supplier or disposal off-site at an appropriately licenced facility. |
| | Scrap metal | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Aerosols | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Sediment pond waste/liquid waste | General solid waste (non-putrescible)/Liquid waste | Reuse on-site after treatment for dust suppression |
| | Oils/grease/fuels/chemicals | Liquid waste | Will be disposed off-site at an appropriately licenced facility |
| | Hydraulic and radiator fluids | Hazardous waste | Will be disposed off-site at an appropriately licenced facility |
| | Equipment/plant maintenance related waste (filters/rags etc.) | General solid waste (non-putrescible) | Will be disposed off-site at an appropriately licenced facility |
| | Batteries | Hazardous waste | Will be disposed off-site at an appropriately licenced facility |
| Site offices/compounds/amenities | Paper, cardboard and plastic | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Printer cartridges | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Glass, plastic bottles, aluminium cans | General solid waste (non-putrescible) | Will be sent off-site for recycling |
| | Food waste | General solid waste (putrescible) | Will be disposed off-site at an appropriately licenced facility |
| | Sewage | General solid waste (putrescible) | Will be disposed off-site at an appropriately licenced facility |
| | Domestic waste | General solid waste (putrescible) | Will be disposed off-site at an appropriately licenced facility |

Waste hierarchy

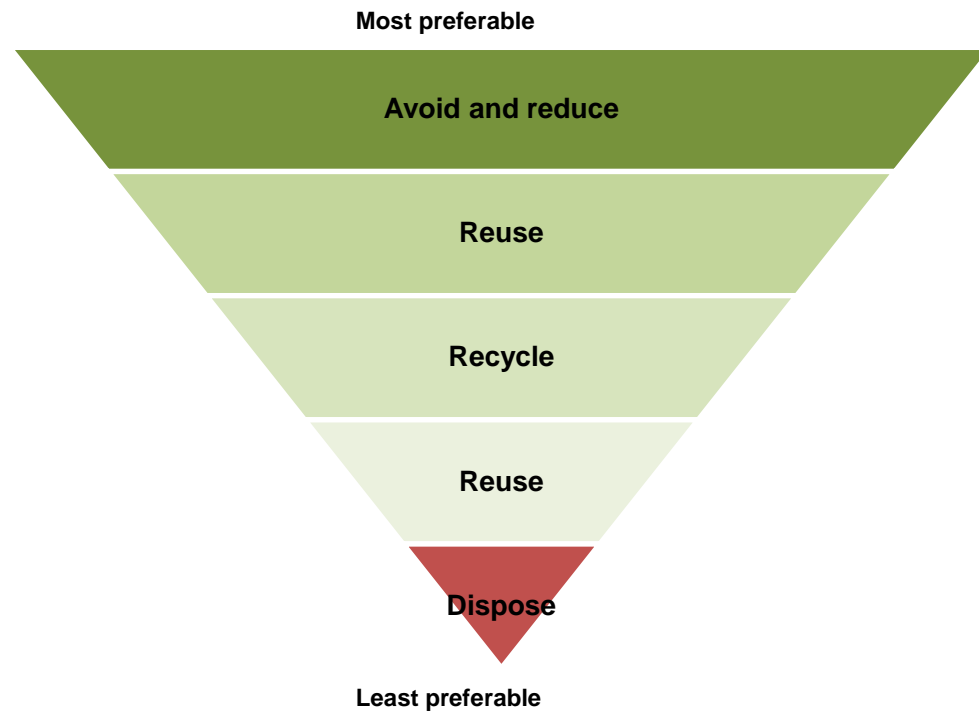


Figure 6: Waste hierarchy [Source: NSW EPA]

The waste hierarchy nominates avoidance of waste as the most preferable option. During the pre-construction, demolition and construction phases, the following measures will be implemented:

| Avoidance/Reduction | Reuse/Recycling | Handling/Storage | Disposal |
|---|--|---|--|
| <p>According to waste hierarchy, avoidance is the most important priority. To avoid the creation of waste during construction, the following measures will be employed:</p> <p>Necessary planning will be undertaken to ensure efficient delivery and storage of materials.</p> <p>During procurement process, packaging minimisation will be highlighted as an important element. Agreements will be established with suppliers to take back their own packaging where possible. It will also be ensured that correct types and quantities of materials are ordered to avoid excess waste. Site activities will be coordinated to maximise efficient use of materials. All material storage areas will be protected from weather.</p> <p>Appropriately qualified and trained personnel will be employed to operator plant and equipment.</p> | <p>Waste separation and segregation will be managed on-site to facilitate reuse and recycling as a priority of the waste management program as follows:</p> <p>Waste segregation onsite- waste materials, including spoil and demolition waste, will be separated on-site into dedicated bins/areas for either reuse on-site or collection by a waste contractor and transport to off-site facilities.</p> <p>Waste separation off-site- wastes will be deposited into one bin where no space is available for placement of multiple bins, and the waste will be sorted off-site by a licenced waste contractor.</p> | <p>Where waste is required to be handled and stored onsite prior to onsite reuse or off-site recycling/disposal, it will be stored in accordance with Waste Storage (Clause 42) limits within schedule 1 of the POEO Act. The following measures will be applied:</p> <p>Spoil, topsoil and mulch will be stockpiled onsite in allocated areas where appropriate, and mitigation measures for dust control and surface water management will be implemented as per the CAQMP and the CSWMP. Stockpiles will be clearly signposted.</p> <p>Liquid wastes will to be stored in appropriate containers in bunded areas until transported off-site. Bunded areas will have the capacity to hold 110% of the liquid waste volume for bulk storage.</p> <p>Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the <i>Environmentally Hazardous Chemicals Act 1985</i> and the EPA waste disposal guidelines.</p> <p>All other recyclables or non-recyclables wastes will to be stored in appropriate receptacles in appropriate locations on-site accessible to waste contractors who will regularly remove/empty the bins to approved disposal or recycling facilities.</p> | <p>Waste disposal will be undertaken in accordance with the <i>POEO Act</i> and the <i>Waste Avoidance and Resources Recovery Act 2001</i>. Wastes that are unable to be reused or recycled will be disposed of off-site to an EPA approved waste management facility following classification.</p> <p>The locations of waste management/disposal facilities will be finalised prior to construction and this waste management strategy will be updated accordingly.</p> |

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Compliance Management

Training

All employees, contractors and utility staff working on site will undergo site induction training relating to waste and energy management issues. The induction training will address elements including:

- Existence and requirements of this strategy
- Existence and requirements of other management plans and guidelines
- Relevant legislation
- Incident response, management and reporting
- Waste reporting requirements
- Requirements of the waste hierarchy
- Waste/ recycle storage requirements
- Energy and resource efficient best practices
- Expectations for ISCA targets relevant to waste and resource management.
- Other specific responsibilities for waste and reuse management

Further details of staff induction and training are outlined in Section 9 of CEMP.

Monitoring and Inspection

Monitoring and inspection with regards to this Waste Management Strategy will be undertaken in accordance with the requirements mentioned under Section 15 of CEMP.

Licences and Permits

All relevant licences and approvals will be obtained in accordance with the requirements of Section 4, Appendix A and Appendix B of CEMP.

Environmental Management System Audit

LOR Project wide EMS Audit will assess the effectiveness of mitigation measures and compliance with this strategy. Auditing requirements are set out in Section 16 of CEMP.

Reporting of Waste

Waste and resource reporting required by PIR, CoA, CEMF and SMR-E will be undertaken in accordance with the following:

Waste Tracking Registers

Site Waste and Resources will be tracked using LOR's IMPACT online reporting tool. Waste docketts and relevant documentation will be obtained from waste subcontractors as well as various subcontractors every month and reports will be compiled on IMPACT. The following will be included in the waste tracking:

- Types and quantities of waste
- Reuse/Recycling/Disposal of waste
- Trackable waste related information
- Waste transporter information
- Purchasing data
- Initiatives and barriers
- Diesel usage
- Electricity usage from generators
- Materials usage data as per GHG reports

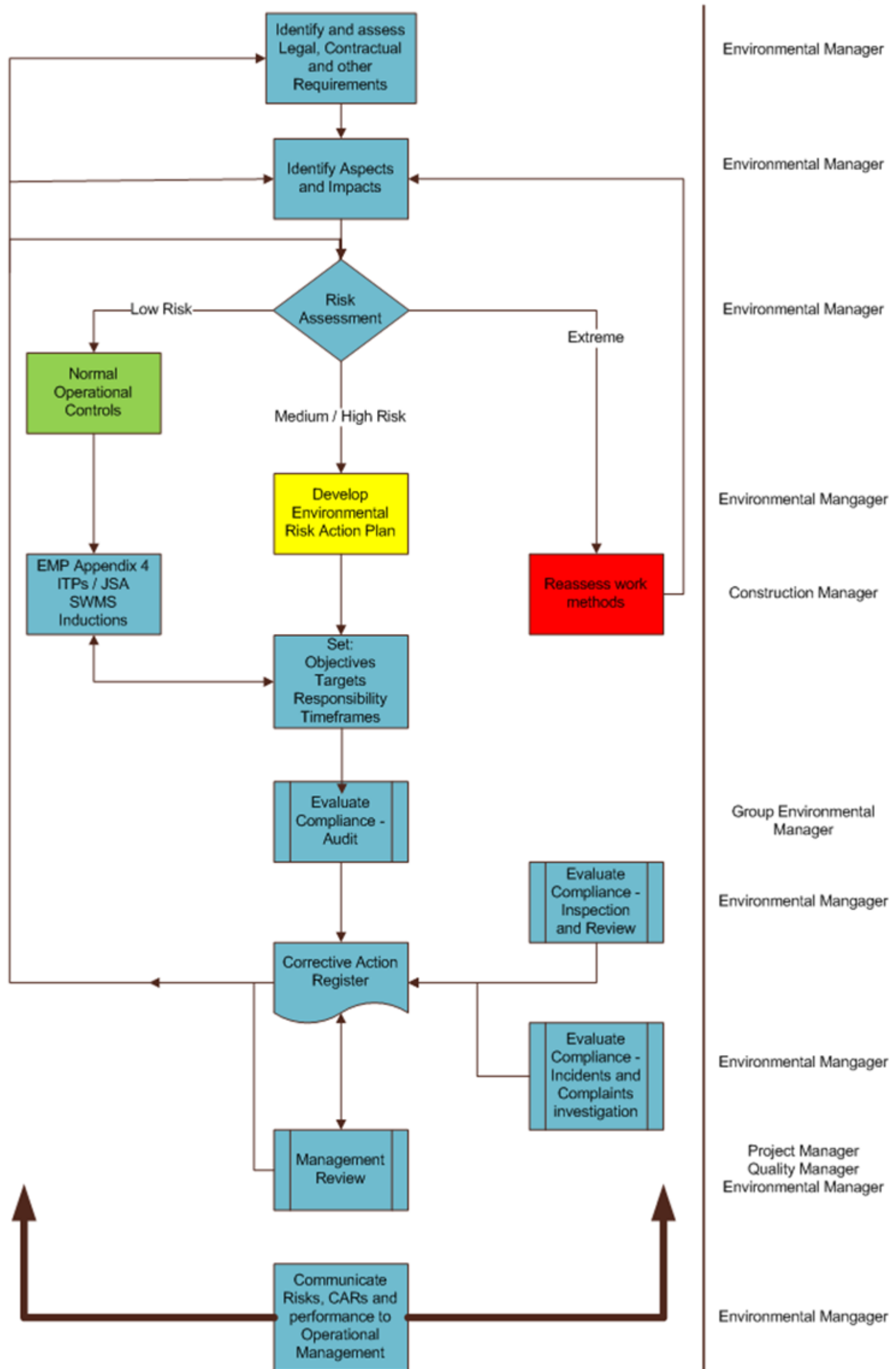
Review and Improvement

Areas of opportunity for improvement of environmental management and performance will be identified in-line with the requirements set out in Section 17 of the CEMP. This strategy will also be reviewed and updated in accordance with Section 17 of the CEMP.

APPENDIX M – CEMP Flowchart



EMP Flow Chart



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APPENDIX N – Water Discharge and Reuse Procedure (SM ES-PW-309)

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Water Discharge or Reuse Approval Form

| Location, quantity of water and proposed action | | | | | | | | |
|--|------|------|--------------------|----------------------------|----------------------|--|--------------------|--------------------------------------|
| Location of water to be removed: | | | | | | Reference No: | | |
| Approval requested by: | | | | | | Date: | | |
| Proposed discharge/reuse: | | | | | | Quantity (L): | | |
| <input type="checkbox"/> Discharge to waters <input type="checkbox"/> Discharge to land <input type="checkbox"/> Reuse on site | | | | | | | | |
| Details of discharge/reuse: (method, location, controls, etc) | | | | | | | | |
| Test method | | | | | | | | |
| <input type="checkbox"/> Probe/meter: | | | | | | Test record/Laboratory report No: | | |
| <input type="checkbox"/> Grab sample: | | | | | | Equipment calibration prior to test: Yes <input type="checkbox"/> No <input type="checkbox"/> (if no state why below): | | |
| Test performed/sample collected by: | | | | | | | | |
| Test results | | | | | | | | |
| Location (specific descriptor) | Date | Time | Is this a re-test? | Oil & grease visible (Y/N) | pH 6.5 – 8.5 Reading | TSS/Turbidity <50mg/L / ___ NTU1 Reading | Option 2 A,B,C,D,E | Notes, actions or treatment required |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1. Criteria for turbidity must be determined from site specific correlation between TSS and turbidity – refer to SM ES-PW-309 Water Discharge and Reuse Procedure for details. | | | | | | | | |
| 2. Select one: A = Remove to licensed facility B = Reuse on site C = Discharge to land D = Discharge to waters E = Treat and re-test | | | | | | | | |

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| Option A: Remove to licensed facility | | | | |
|--|--|------------------------|--|-------|
| Water to be collected and removed from site by: | | | | |
| Water to be transported to (name & location of the licensed facility): | | | | |
| Option B: Re-use on site (including into holding pits/tanks, dust suppression) | | | | |
| Re-use will be applied to an area that is effectively secured with appropriate downstream sediment controls and will not generate off-site runoff: | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Option C: Discharge to land | | | | |
| Discharge location has complete ground cover, such that erosion will not occur and sufficient infiltration capacity to receive quantity of water: | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Will discharge generate any runoff or create the potential for runoff to reach any watercourse (on or offsite)? | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Option D: Discharge to waters | | | | |
| From visual inspection the quality of the water to be discharged is equally good or better than the quality of the receiving water? | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Flow from outlet can be directed onto a non-erodible surface and will not cause scouring or erosion: Could the water come into contact with any exposed soil or potential contaminants before it reaches the water course or discharge point? | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Option E: Treat the water then re-test | | | | |
| Location to be treated (if not in situ): | | | | |
| Parameter(s) to be treated: | | | | |
| Detail the treatment to be used including products, quantities and methodology: | | | | |
| Discharge authorised by: | | Position/Organisation: | Signature | Date: |
| By signing this form the signatory confirms water to be discharged meets the relevant criteria as specified in accordance with the SM ES-PW-309 Water Discharge & Reuse Procedure | | | | |

Copy to Manager Environment and Environmental Representative and any others as required. Attach site dewatering plan where applicable.

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APPENDIX O – Sydney Metro Environment & Sustainability Policy (SM SE MM 102)



Environment
& Sustainability
Policy



This Policy reflects a commitment in our delivery of the Sydney Metro program to:

- Align with, and support, Transport for NSW (TfNSW) Environment & Sustainability Policy.
- Optimise sustainability outcomes, transport service quality, and cost effectiveness.
- Develop effective and appropriate responses to the challenges of climate change, carbon management, resource and waste management, land use integration, customer and community expectation, and heritage and biodiversity conservation.
- Be environmentally responsible, by avoiding pollution, enhancing the natural environment and reducing the project ecological footprint, while complying with all applicable environmental laws, regulations and statutory obligations.
- Be socially responsible by delivering a workforce legacy which benefits individuals, communities, the project and industry, and is achieved through collaboration and partnerships.

To deliver on these commitments, the Sydney Metro team will:

Industry leadership

- Implement coordinated and transparent decision making, by engaging with stakeholders and suppliers, encouraging innovation and demonstrating sustainability leadership.
- Explore new benchmarks for the transport infrastructure sector by requiring high standards from our designers, contractors and suppliers, building on experience gained through development of Sydney Metro Northwest.

Community and customer

- Provide accessible, safe, pleasurable, and convenient access and transport service for all customers.
- Establish positive relationships with community and stakeholders to maximise opportunities to add value to local communities.

Land use integration and place making

- Create desirable places, promote liveability, cultural heritage, and optimise both community and economic benefit.
- Balance transit oriented development opportunities with stakeholder expectations.

Embedding environmental and social sustainability

- Establish robust sustainability objectives and targets.
- Maintain an environmental management system that is integrated into all our project activities.
- Ensure thorough and open environmental assessment processes are developed and maintained.
- Develop and maintain an environmental management framework to embed best practice pollution management and sustainable outcomes during construction.
- Apply effective assurance processes to monitor performance against the project environment and sustainability objectives and identify appropriate reward or corrective action, as required.
- Apply environment and sustainability specific processes to the procurement of delivery activities.

Accountability

- Undertake public sustainability reporting.
- Hold employees and contractors accountable for proactively meeting their environmental and social sustainability responsibilities.
- Provide appropriate training and resources necessary to meet our responsibilities.

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Sydney Metro City & Southwest Sustainability Objectives

| Theme | Objective |
|-------------------------------|--|
| Governance | Demonstrate a high level of performance against objectives and appropriate benchmarks. |
| | Demonstrate leadership by embedding sustainability objectives into decision making. |
| | Be accountable and report publicly on performance |
| Carbon & Energy Management | Improve the shift toward lower carbon transport. |
| | Reduce energy use and carbon emissions during construction |
| | Reduce energy use and carbon emissions during operations |
| | Support innovative and cost effective approaches to energy efficiency, low-carbon / renewable energy sources and energy procurement. |
| Pollution Control | Reduce sources of pollution and optimise control at source to avoid environmental harm |
| Climate change resilience | Infrastructure and operations will be resilient to the impacts of climate change |
| Resources – Water Efficiency | Minimise use of potable water. |
| | Maximise opportunities for reuse of rainwater, stormwater, wastewater and groundwater. |
| Resources – Waste & Materials | Minimise waste through the project lifecycle. |
| | Reduce materials consumption. |
| | Consider embodied impacts in materials selection |
| | Maximise beneficial reuse of spoil |
| Biodiversity Conservation | Protect and create biodiversity through appropriate planning, management and financial controls |
| Heritage Conservation | Protect and promote heritage through appropriate design, planning, and management controls. |
| Liveability | Promote improved public transport patronage by maximising connectivity and interchange capabilities. |
| | Provide well designed stations and precincts that are comfortable, accessible, safe and attractive. |
| Community Benefit | Make a positive contribution to community health and well-being. |
| | Ensure community and local stakeholder engagement and involvement in the development of the project. |
| | Contribute to the delivery of legacy projects to benefit local communities. |
| | Create opportunities for local business involvement during the delivery and operations phases. |
| | Consider community benefit of residual land development. |
| | Minimise negative impacts on the community and local businesses during construction and operation. |
| Supply Chain | Influence contractors, subcontractors and materials suppliers to adopt sustainability objectives in their works and procurement. |
| Workforce development | Increase opportunities for employment of local people, participation of local businesses, and participation of SME's. |

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| Theme | Objective |
|----------|--|
| | Enable targeted and transferable skills development which resolves local and national skills shortages, supports industry to compete in home and global markets, and embeds a health and safety culture within all induction and training activities, promoting continuous improvement. |
| | Increased workforce diversity and inclusion, targeting indigenous workers and businesses, female representation in non-traditional trades, and long term unemployed. |
| | Inspire future talent and develop capacity in the sector, engaging young people via education and work experience, collaborating with higher education institutions to provide programs responding to rapid transit and other infrastructure requirement, and supporting vocational career development through apprenticeships and traineeships. |
| Economic | Consider adopting a Whole of Life Costing model to maximise sustainability benefits. |
| | Optimise development opportunities for residual land. |
| | Capture sustainability benefits in the business case for the project. |

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APPENDIX P – Construction Spoil Management

This Spoil Management Plan (CEMP sub-plan) is required in accordance with the Sydney Metro CEMF Clause 3.4a. The SYAB Project is anticipated to generate approximately 1843.422 tonnes of spoil during excavation works.

Purpose

The purpose of this sub-plan is to;

- Minimise spoil removal and associated impacts on stakeholders, community and the environment; Maximise the beneficial reuse of spoil material from the Project; and
- Address the Project wide objective to provide certainty of delivery by managing spoil in a manner that avoids impacts on construction activities and timing.

Scope

This sub-plan addresses and details the following issues;

- Excavation, handling, haulage, disposal and reuse methodology, including on-site storage and stockpiling arrangements;
- Processes and procedures that will be used for the management of spoil, including those for Virgin Excavated Natural Material (VENM), Excavated Natural Material (ENM), contaminated and unsuitable material;
- Measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil that will be generated during the performance of the works;
- Nominated quantities for reuse of spoil within the construction site, for beneficial reuse of spoil off site and for spoil disposal; and
- Processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse.

Consistency with other plans

This plan has been prepared in accordance with the requirements of Sydney Metro CEMF, the Contract, and Construction Traffic Management plan (CTMP) with the following points outlining the consistency;

- Spoil haulage trucks will utilise the routes as per the CTMP
- Heavy vehicle haulage routes generally follow arterial roads as per the CTMP
- Disposal and reuse locations are consistent with the EIS

Spoil Production

It is envisaged that the project will generate approximately 1843.422 tonnes of surplus spoil. During excavation works The majority of spoil will be generated from excavation works. The table below gives an estimated spoil generation from each activity (actual quantities will be confirmed after waste classification onsite and all records will be maintained).

Table 15: Spoil Production Estimation

| | Piles | | | | Pile Cap / Footing | | | |
|-----------------|----------|----------|-------|----------------|--------------------|--------|-------|-----------------|
| | No Piles | Diameter | Depth | Tonnes | Width | Length | Depth | Tonnes |
| Abutment A | 3 | 0.75 | 20 | 59.66 | 1.1 | 12 | 0.6 | 58.59 |
| Pier 1 | 5 | 0.75 | 15 | 74.58 | 1.3 | 17 | 0.6 | 84.645 |
| Pier 2 | 5 | 0.75 | 15 | 74.58 | 1.3 | 16 | 0.6 | 80.19 |
| Abutment B | 3 | 0.75 | 15 | 44.74 | 1.1 | 12 | 0.6 | 58.59 |
| RE Wall Footing | | | | | 12 | 50 | 0.5 | 189 |
| Drainage | | | | | 1 | 50 | 2 | 681.75 |
| Track Recon | | | | | 5 | 60 | 0.5 | 337.5 |
| Miscellaneous | | | | | | | | 100 |
| Total | | | | 253.577 | | | | 1590.265 |

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Material Types

Topsoil occurs between approximately 50-300mm of natural ground surface. Topsoil reuse shall be maximised on site to minimise the import of external topsoil for revegetation and landscaping purposes wherever practicable.

The material below the topsoil is considered to be spoil and is defined as any earthen material that is surplus to requirements or unsuitable for reuse within the Project works.

Classification

Waste classification will be carried out as per the relevant NSW legislation.

Topsoil and spoil, other than virgin excavated natural material (VENM), will be sampled, analysed and characterised in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014) (the Guidelines) as required by the Construction Waste and Resource Management Plan (WRMP). Further information regarding the classification of VENM and ENM and other resource recovery exemptions are provided below.

Virgin Excavated Natural Material (VENM)

The majority of spoil excavated is expected to be classified as VENM and will be classified in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014):

Virgin excavated natural material means natural material (such as clay, gravel, sand, soil or rock fines):

That has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities

That does not contain sulfidic ores or soils, or any other waste, and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a public notice published in the NSW Government Gazette.

The Project, the generator of the VENM, will consider the following four questions when classifying material as VENM:

- 1 Are manufactured chemicals or process residues present?
- 2 Are sulfidic ores or soil present?
- 3 Are naturally occurring asbestos soils present?
- 4 Is there any other waste present?

If material meets the definition of VENM it can be reused on or offsite without prior testing. However, if there is any doubt as to whether the material is VENM, the Project will sample and test the material as per the excavated natural material resource recovery exemption to confirm that the material is free of contaminants.

Excavated Natural Material (ENM)

If spoil is unable to be classified as VENM it will be sampled, and tested to determine whether it meets the excavated natural material (ENM) classification criteria in accordance with the Protection of the Environment Operations (Waste) Regulation 2014 (the Regulation) current general resource recovery exemption, the excavated natural material exemption 2014:

Excavated natural material (ENM) means naturally occurring rock or soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

- a) Been excavated from the ground, and
- b) Contains at least 98% by weight natural material, and
- c) Does not meet the definition of Virgin Excavated Natural Material in the Act

ENM does not include material that has been processed or contains acid sulphate soils or potentially acid sulphate soils.

General solid waste or other classifications

Spoil not classified as either VENM or ENM due to contamination from either construction material or other sources shall be characterised in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014) as required by the WRMP. This may include classification as General Solid Waste (Non-putrescible), Hazardous Waste or Special Waste.

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Special Waste

Special Waste is a class of waste that has unique regulatory requirements. The potential environmental impacts of special waste need to be managed to minimise the risk or harm to the environment or human health.

- Special waste means any of the following:
- Clinical and related waste
- Asbestos waste
- Waste tyres
- Anything classified as special waste under an EPA gazettal notice

Hazardous Waste

The following waste types (other than special waste or liquid waste) have been pre-classified by the EPA as 'hazardous waste':

- Containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing or vacuuming,
- Coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste,
- Lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes),
- Lead paint waste arising otherwise than from residential premises or educational or child care institutions, and
- Any mixture of the wastes referred to above.

General Solid Waste (Non-putrescible)

General Solid Waste (Non-putrescible) is any waste that is not classified as special waste, liquid waste, hazardous waste, restricted solid waste or general solid waste (putrescible).

Resource recovery exemptions

The Protection of the Environment Operations (Waste) Regulation 2014 enables the EPA to issue 'resource recovery exemptions' which allow for the beneficial reuse of wastes via land application or for use as a fuel. These exemptions enable a project to comply with the principle of 'wastes to resources for beneficial reuse' (where the wastes are fit for beneficial reuse). During the project, materials may be encountered that do not meet the VENM or ENM classification but are also not contaminated material. In these circumstances, the Project will check for existing resource recovery exemptions such as:

- The excavated public road material exemption 2014 (EPA);
- The reclaimed asphalt pavement exemption 2014 (EPA);
- The recovered aggregate exemption 2014 (EPA); and
- Raw mulch material exemption 2014 (EPA).

Should the existing resource recovery exemptions not be appropriate, the Project will consider application for a site-specific exemption established through consultation with the EPA.

Spoil Reduction, Reuse and Disposal

The Spoil Management Hierarchy has been developed to meet the objectives and principles of the NSW Waste Avoidance and Resource Recovery Act 2001 and the NSW Waste Avoidance and Resource Recovery Strategy 2007.

Table 16: Spoil Management Hierarchy

| Rank | Options | Example of Options | Potential for option to be used on the Project |
|------|-----------------------------------|---|--|
| 1 | Avoid and reduce spoil generation | Reduce the amount of spoil being generated through design and construction methodology. | Limited |

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| Rank | Options | Example of Options | Potential for option to be used on the Project |
|------|-------------------------------------|--|--|
| 2 | Reuse within the Project | Reuse in the Project. Restoration of any pre-existing contaminated sites within the Project boundaries. Reuse as a feed product in construction materials (e.g. concrete). | Preferred |
| 3 | Reuse for environmental works | Reuse in native vegetation rehabilitation projects. Coastal systems conservation projects. Rising water table/salinity remediation projects. Reuse in flood mitigation works. | Limited |
| 4 | Reuse on other development projects | Reuse for fill embankments and mounds on projects within an economic transport distance from site. Reuse sand for manufacturing concrete and reuse shale for manufacturing bricks/ tiles. | Preferred |
| 5 | Reuse for land restoration | Reuse for land reclamation or remediation works Reuse to fill disused facilities, e.g. mines and quarries, to enable ecological rehabilitation or other ecologically beneficial end use. | Preferred |
| 6 | Reuse for landfill management | Reuse to cap completed landfill cells. Reuse in daily covering of landfill waste. | Limited |
| 7 | Dispose offsite as waste | Disposal of excess spoil as waste at an approved facility licenced to receive the material. | Potential but not preferred |

Spoil and Stockpiles On-Site Management

Spoil from the works will be temporarily stockpiled on-site with environmental controls in place.

Ongoing stockpile management practices for temporary stockpile sites related to construction works will be in accordance with the CSWMP and will take into account the following general principles:

- Materials will not be stockpiled within the tree protection zone (in accordance with AS 4970) of trees or native vegetation to be retained, and never pushed up around the base of trees. Trees are not to be flooded or soils caused to be waterlogged as a result of stockpile development.
- Contaminated materials will be stockpiled separately to other materials and identified with signage.
- Erosion and Sediment Control Plans (ESCP) will be prepared and implemented in advance of stockpiling.
- The ESCP will detail soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.
- Erosion and sedimentation controls will be erected between the site and any drainage lines or down-slope areas.
- A diversion bund will be installed on the uphill side of the stockpile to divert water around the site, unless run on water is 'dirty' construction water. Where this occurs 'dirty' run on water shall be diverted to erosion and sediment controls.
- Erosion and sediment control structures shall remain installed and maintained until sufficient stabilisation is achieved as per the Blue Book.
- Separating 'clean' run-on water from 'dirty' (e.g. turbid) construction area run-off.
- Construction of temporary sediment basins. It is noted that some small and/or flat sites might not warrant construction of a sediment basin. This includes sites with <2,500 square metres of disturbed area, or those with an average annual soil loss from the total area of land disturbance that is less than 150 cubic metres per year.
- Maximising the diversion of turbid construction runoff into detention/sediment basins.
- Controlling run-off during the construction of stockpiles (e.g. fill shaping and the construction of temporary dykes and batter drains).
- Diverting stockpile run-off through sediment traps and into pits and the stormwater drainage system as soon as practical to reduce surface flow lengths and velocities.

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- Controls will be installed around all stockpiles that are in place for more than 10 days in order to prevent wind and water erosion. These controls will be in accordance with the Erosion and Sediment control plan and may include stabilisation with cover crop or similar appropriate controls as per the site ESCP.
- Dust management measures (including for vehicle movements associated with stockpiling activities) will be implemented in accordance with the requirements of the Construction Air Quality Management Plan (AQMP).

Spoil Disposal and Reuse Locations

Approval of Spoil Offsite Reuse Locations

Potential spoil offsite reuse locations will be identified by the project Spoil Manager and construction teams. If the location is not identified in the Spoil Offsite Reuse Locations Register, the Project will:

- Check that appropriate approvals are in place for the receiving site,
- Check that a s143 Notice has been completed by the reuse location owner and / or site operator,
- Agree to commercial terms with the site operator and / or owner, and
- Ensure that relevant CoA, environmental, community and traffic impacts are managed under the approved CEMP and sub plans, and the Construction Traffic Management Plan (CTMP) including approved haulage routes.

Where spoil offsite reuse locations have the potential to receive a significant volume of material, the Site Manager will generally complete a site inspection of the reuse location to confirm:

- The site has suitable access, e.g. wet weather access with exit controls if the site is proposed to be used during or following periods of rain,
- The site has capacity to receive the volume of spoil indicated by the site owner or manager,
- The type and number of spoil trucks which can access the site hourly / daily, and
- Appropriate management measures are in place.

Spoil disposal and reuse sites are required to have an appropriate planning approval in place to lawfully receive the material from the project. Such planning approvals (issued under the relevant part of the *Environmental Planning and Assessment Act 1979*) will be obtained by the operators of the sites, and be in place prior to spoil being deposited at a specific location.

Where the development application for a spoil disposal and reuse site is pending, the Project will not place spoil at the location until evidence of an approved development application has been provided to the Project Environment and Sustainability Manager. The Project will ensure that relevant requirements of the receiving site approval are communicated to construction teams and spoil haulage drivers, including hours of operation and roads to be used to access the site.

Once these checks have been completed and it has been confirmed that approved haulage routes (refer to CTMP)) can be used to access the reuse location, approval will be sought from the Project Environmental Representative for the project to use this reuse location.

If the proposed reuse location cannot be accessed using the approved haulage routes (refer to CTMP), the project will update the CTMP and haulage routes and seek approval, either from Secretary or the project Environmental Representative in accordance with the Construction Environmental Management Plan. The Project environmental Representative will not provide approval for the project to the reuse location until the revised haulage routes have been approved.

If the checks have been completed and the reuse does not have appropriate approvals or an s143 Notice, this reuse location would not be used by the project.

Disposal of material to licensed facilities is costly due to the waste disposal levy. The Project will seek to reuse as much material as possible, both onsite and offsite, to limit the amount of material that is disposed of at licensed facilities.

Spoil reuse as opposed to spoil disposal is not only positive from an environmental perspective it is also positive commercially and saves the public money.

Spoil Haulage Routes

Spoil will be transported by registered road trucks. Spoil haulage routes are identified in the CTMP, and have been selected to minimise impacts to sensitive receivers, the travelling public, and the local community whilst meeting compliance with road traffic rules in relation to vehicle length and weight limits.

The spoil will be weighed by either calibrated loader scales, weighbridge or axle weigh in motion devices depending on available space and site logistics. For those sites having an axle weigh in motion device trucks will be fitted with automatic sensors which will log the weight of the material and the truck details. This information will be fed into spoil tracking system.

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The Environment and Sustainability Manager will ensure that a spoil tracking system will be developed as a component of the waste register required as part of the WRMP. This will document all spoil leaving site in terms of when, truck registration, characterisation and location of disposal. Fields that will be included in the system are as follows:

- Date:
- Docket Number
- Haulage Company
- Material Classification
- Quantity in Tonnes
- Truck Identification Number
- Location of Spoil Generation Site
- Location of Spoil Reveal Site

The tracking system will be implemented when spoil disposal commences

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APPENDIX Q – SYAB CEMP Sub-plans

The below list outlines the CEMP sub-plans utilised for the SYAB project. These sub-plans are standalone documents that will be used during the construction stage of the SYAB project.

- Construction Noise and Vibration Management Plan (as referred to in CoA C8 & C13)
- Construction Heritage Management Plan (as referred to in CoA C8)
- Construction Traffic Management Plan (as referred to in CoA E82)

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APPENDIX R – Stakeholder Consultation Details

Stakeholder consultation details will accompany the specific documents that are to be reviewed.

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APPENDIX S – Environmental Control Map

Sydney Yard Access Bridge - Environmental Control Plan

| CONTACT INFORMATION | |
|--|----------------------|
| Environmental Manager - Chris McCallum | 0408 264 164 |
| Project Leader - Huw Griffiths | 0477 385 262 |
| Independent Environmental Representative - Annabelle Reyes | 0416 170 480 |
| TNSW Construction Response Line | 1800 775 465 |
| TNSW Info Line | 1800 684 490 |
| Environmental Line / Pollution Incident Response Line | 131 555 |
| Office of Environment & Heritage Pollution Line | 131 555 |
| Emergency | 000 or 112 (mobiles) |
| WIRES | 1300 094 737 |

| SITE SET UP | |
|---|--|
| <ul style="list-style-type: none"> Compound installation commencing 01/05/17 No excavation for connection of services Power connection via Sydney Trains Mortuary Station power supply Non-potable water connection via rainwater tanks for toilets; potable water via Sydney Trains Mortuary Station Ground works: placement of geotextile over existing tracks and place DGB as hardstand Bingo waste skips adjacent to the compound at Mortuary Station. Construction waste to be removed by the subcontractors No vegetation to be trimmed. Grass to be whipper snipped at buffer stops only | |

| NOISE AND VIBRATION | |
|--|--|
| <ul style="list-style-type: none"> Construction activities shall be restricted to 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. No work will be undertaken outside of the agreed hours without prior approval. See the Environmental Manager. High Noise Activities such as rock breaking, rock hammering, jack hammering shall be scheduled between: <ul style="list-style-type: none"> 8:00 am and 12:00 pm Monday to Friday; 2:00 pm and 5:00 pm Monday to Friday; and 8:00 am and 12:00 pm Saturdays Or scheduled for less sensitive period considering the nearby receptors Delivery operations must be undertaken during the construction hours, unless specifically required by Police or RMS requirements. Avoiding where practical the use of noisy plant simultaneously close together or adjacent to sensitive receptors. Construction activities shall be restricted to 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. 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. Noise generating equipment to be orientated away from sensitive areas The safe working distances are defined for both cosmetic damage (BS 7385) and human comfort (the NSW Vibration Guideline) as follows. See the Environmental Manager if you need to work within these distances. | |

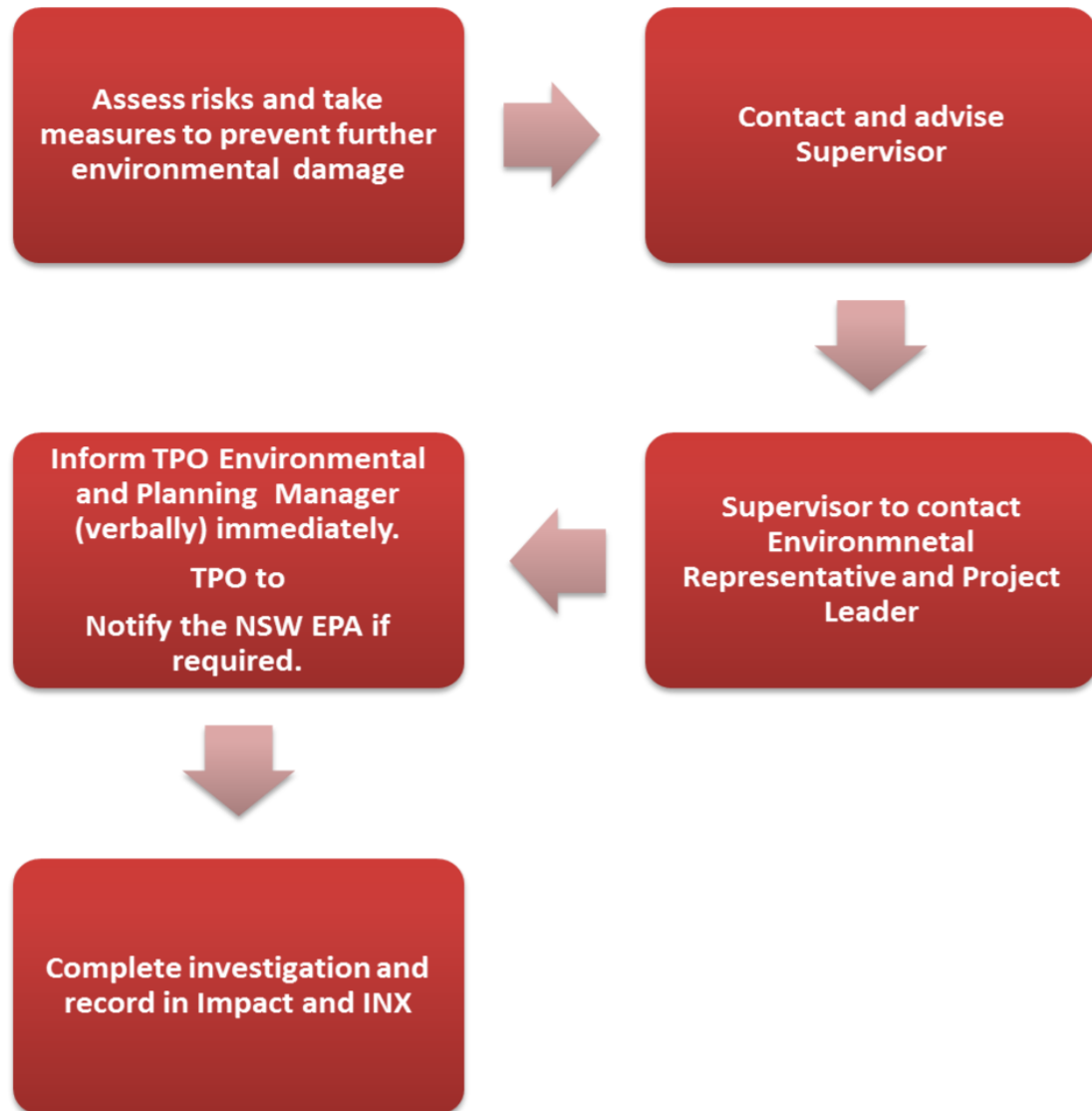
| Plant Item | Rating/Description | Safe Working Distance - metres (m) | |
|-------------------------|-----------------------------------|------------------------------------|---|
| | | Cosmetic Damage (BS 7385) | Human Comfort (the NSW Vibration Guideline) |
| Vibratory Roller | < 50 kN (Typically 1-2 tonnes) | 5 m | 15 m to 20 m |
| | < 100 kN (Typically 2-4 tonnes) | 6 m | 20 m |
| | < 200 kN (Typically 4-6 tonnes) | 12 m | 40 m |
| | < 300 kN (Typically 7-13 tonnes) | 15 m | 100 m |
| | > 300 kN (Typically 13-18 tonnes) | 20 m | 100 m |
| Small Hydraulic Hammer | (300 kg - 5 to 12t excavator) | 2 m | 7 m |
| Medium Hydraulic Hammer | (900 kg - 12 to 18t excavator) | 7 m | 23 m |
| Large Hydraulic Hammer | (1600 kg - 18 to 34t excavator) | 22 m | 73 m |
| Vibratory Pile Driver | Sheet piles | 2 m to 20 m | 20 m |
| Pile Boring | ≤ 800 mm | 2 m (nominal) | n/a |
| Jackhammer | Hand held | 1 m (nominal) | Avoid contact with structure |

| WATER QUALITY | |
|--|--|
| <ul style="list-style-type: none"> Water discharges must be approved by the Environmental Manager. Discharge quality must comply with: <ul style="list-style-type: none"> TSS: ≤ 50mg/L (~Turbidity 30NTU). pH: Between 6.5 and 8.5. Erosion and Sediment Control devices are to be maintained when their capacity has been reduced by 25%. | |

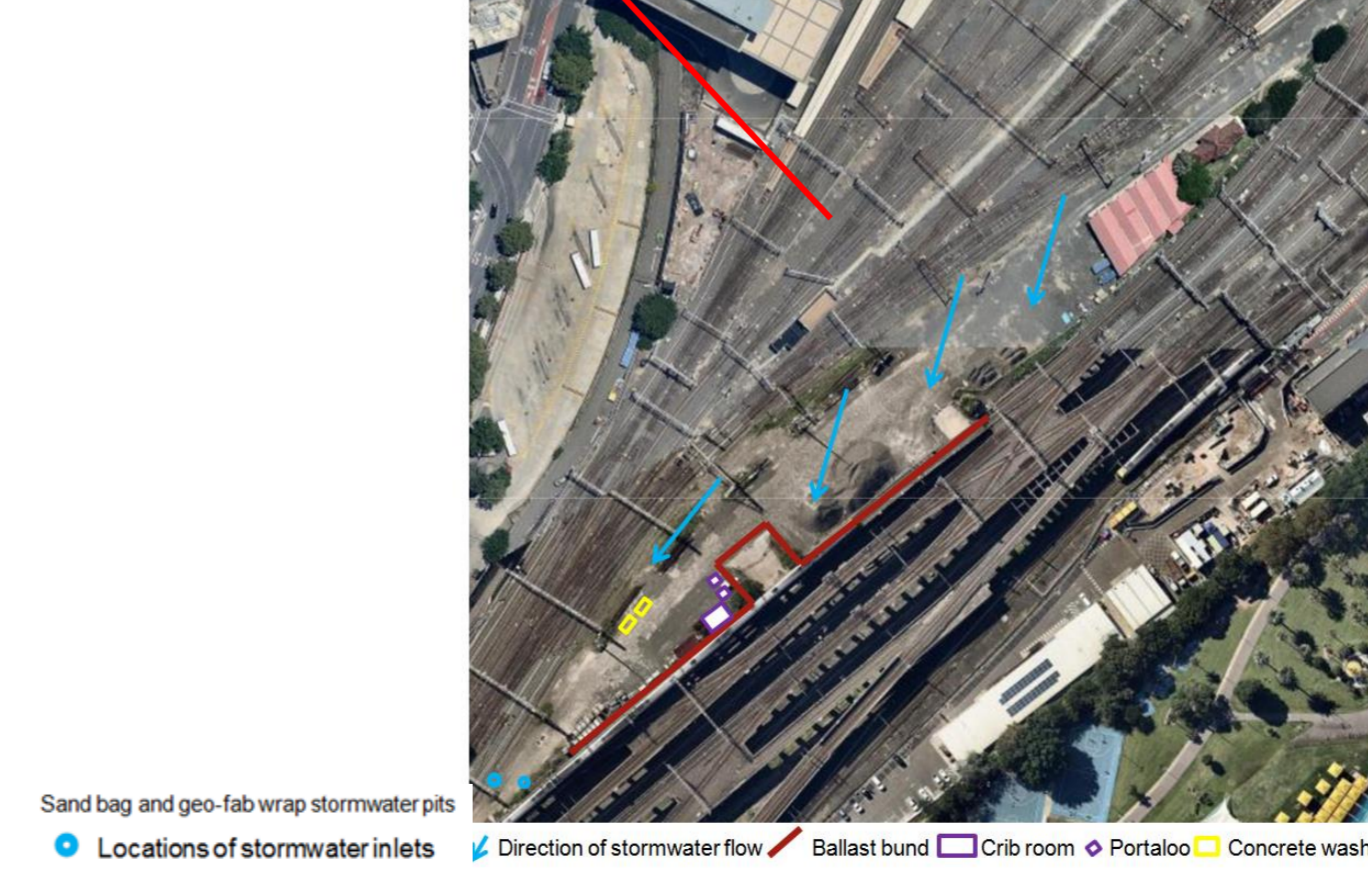
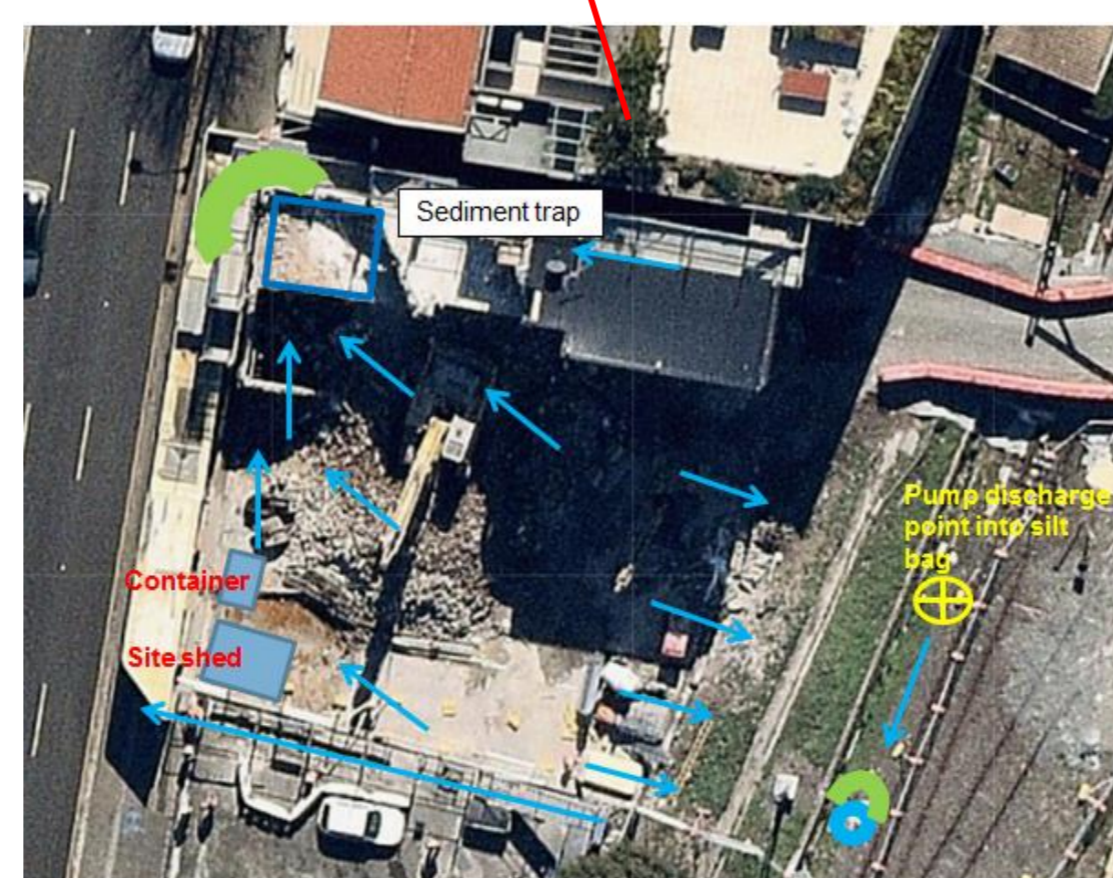
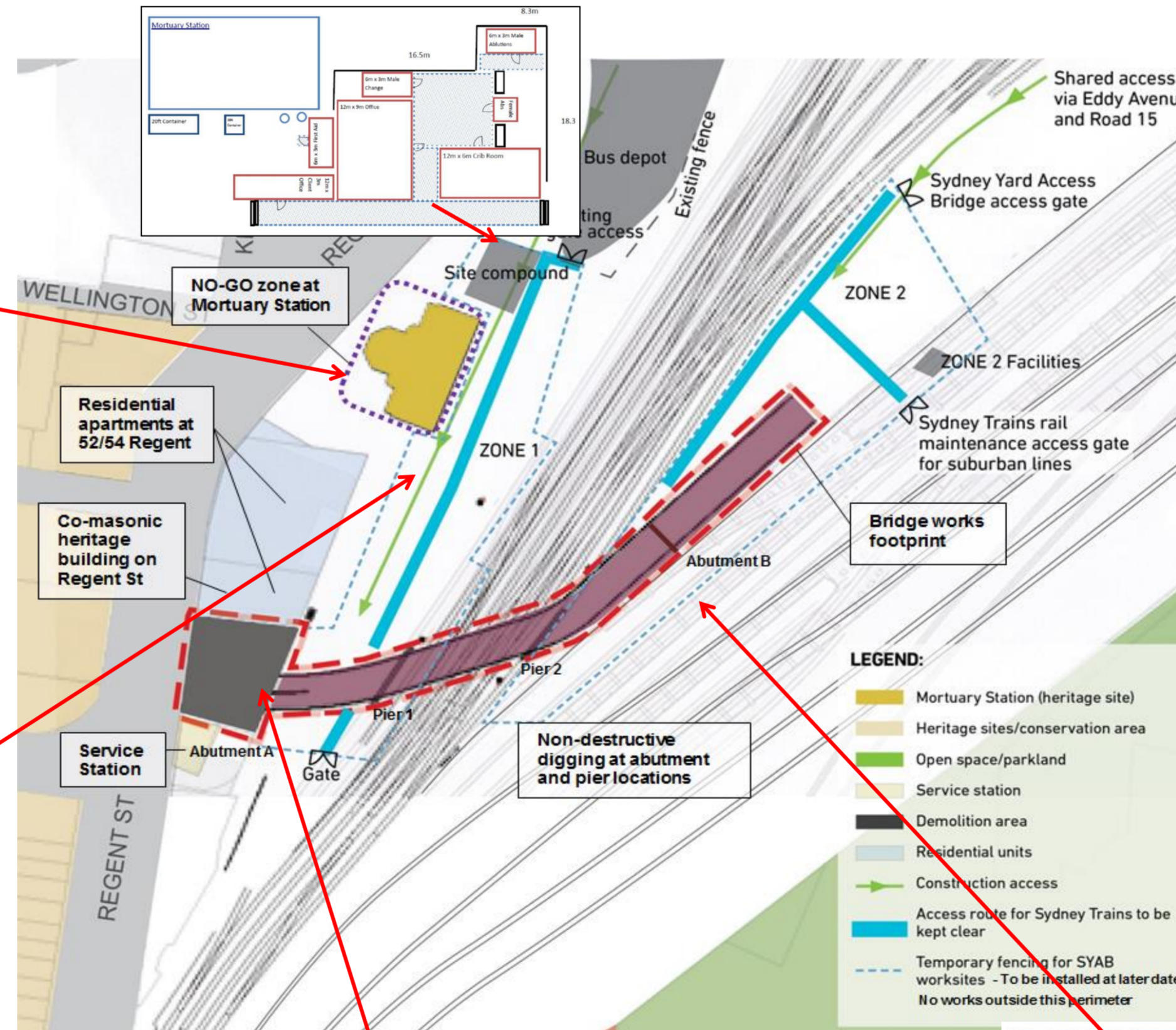
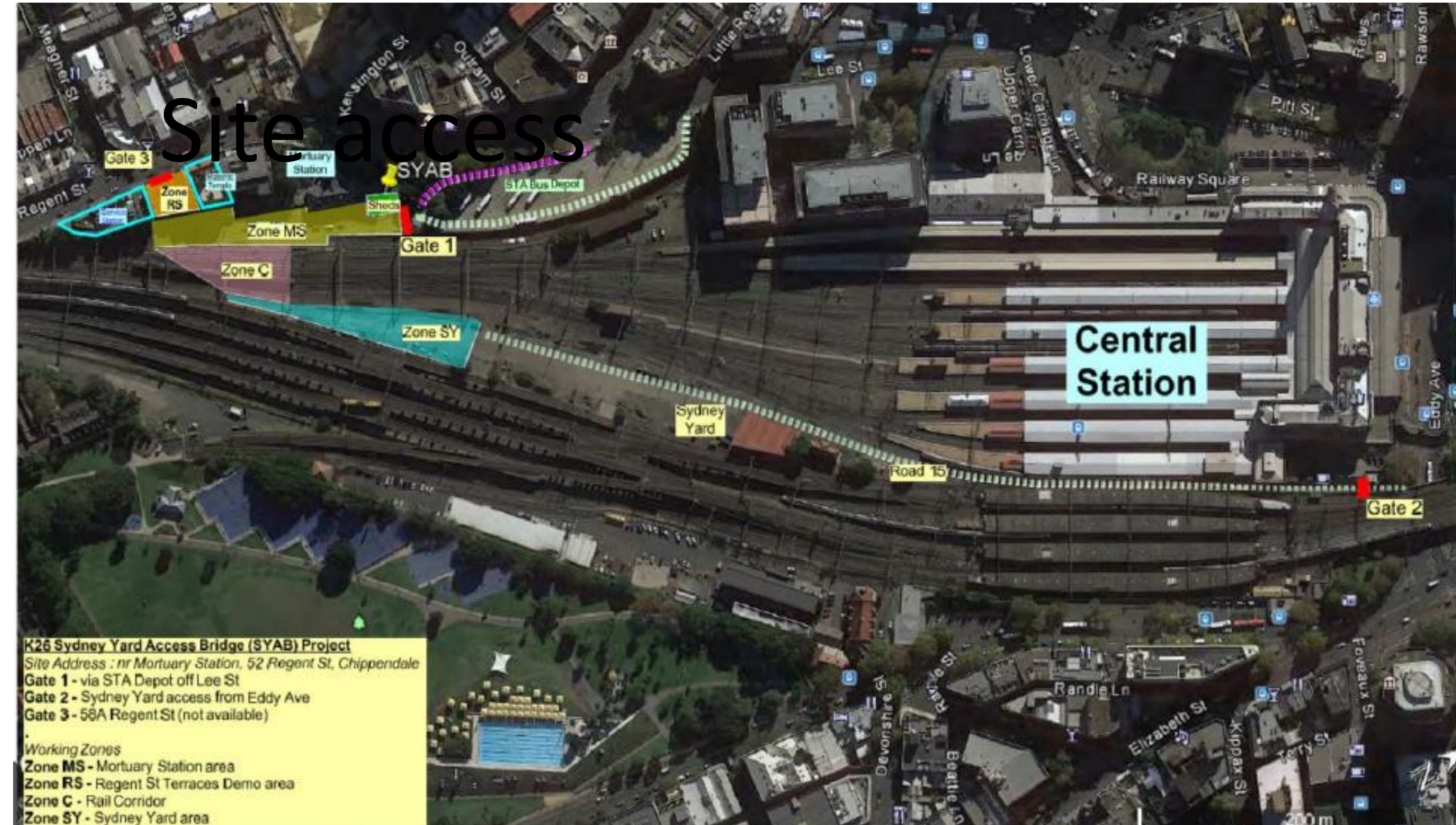
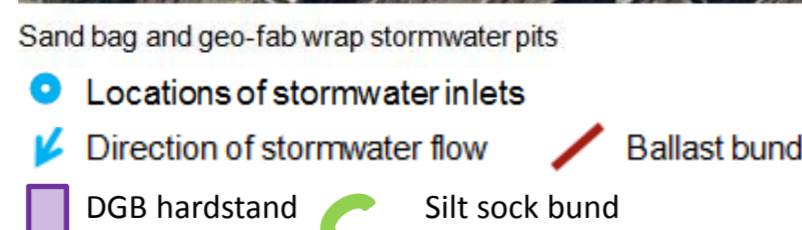
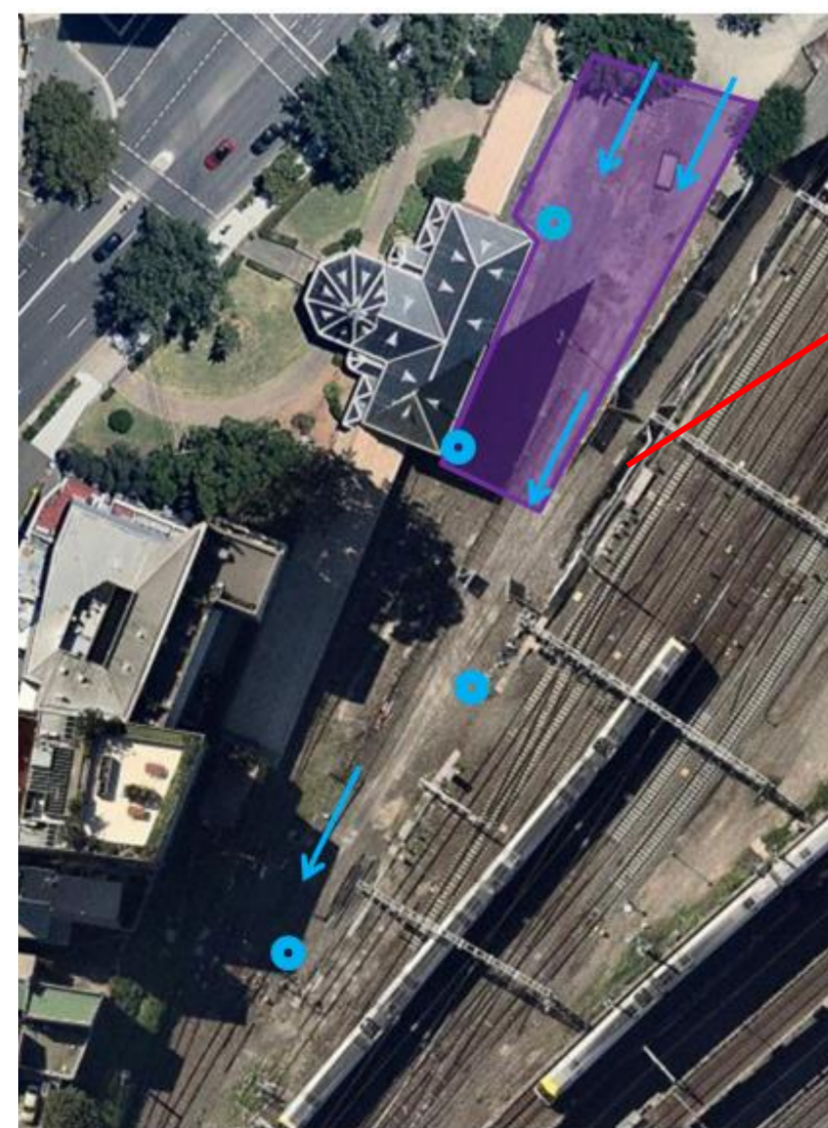
Water to be pumped into storage containers or storage bunds

Don't discharge water without Environmental Manager approval !!

Incident procedure



No Go zone at Mortuary Station



TRAFFIC MANAGEMENT

- Refer to the SYAB Construction Traffic Management Plan, detailing the route to the site, signage, and traffic control measures.
- There will be no queuing due to construction related traffic on any roads adjacent to the site
- There will be no construction parking in non-approved zones or parking areas
- Ensure pedestrian access ways are clearly defined and maintained

BIODIVERSITY

- No access to the Mortuary Station gardens is permitted
- The local WIRES group and/or veterinarian would be contacted if any fauna are injured on site or require capture and/or relocation.
- Vegetation on the SYAB site is limited to two planted street trees in front of the Regent St Terraces (to be demolished as part of the SYAB works). These trees will be removed and offset.
- Potential bat roosting locations in the Regent St Terraces will be checked by a qualified ecologist or wildlife handler prior to demolition
- Plant and equipment brought on site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds.

ARCHAEOLOGY AND HERITAGE

- For detailed control measures, please refer to Construction Heritage Management Plan
- Should suspected heritage or archaeological items including human remains be found during the works, the following procedure will apply:
 - Work is to cease in the area immediately
 - Notify Sydney Metro
 - The objects to be left in place
 - Engage heritage specialist to determine significance of the find
 - Do not recommence works until heritage specialist has given approval to do so.

SUSTAINABILITY AND CLIMATE CHANGE REQUIREMENTS

- A target of 5% bio diesel mix is set for all diesel powered plant and equipment and a target of 10% blended ethanol mix for all petrol powered plant and equipment.
- The works are to utilise low Volatile Organic Compounds paints, finishes, sealants and adhesives and low emission formaldehyde composite wood products.
- Concrete used in the construction of the Works and the Temporary Works must be supplied by members of the Cement Concrete and Aggregate Association of Australia (CCAA) or a similar international association or organisation.
- Steel used in the construction of the Works and the Temporary Works must be supplied by suppliers that are certified under the Australian Certification Authority for Reinforcing Steels (ACRS) or a similar international association or organisation.
- Fabricated steel products are specified in accordance with AS 5131 Fabrication & Erection of Steelwork and certified through the National Structural Steelwork Compliance Scheme.
- PVC used in the construction of the Works and Temporary Works is supplied by suppliers that meet the "Best Practice Guidelines for PVC in the Built Environment"
- Timber products used in the Works and Temporary Works are from either re-used timber, post-consumer recycled timber or from Forest Stewardship Council Australia, certified timber suppliers.

DELIVERY AND STORAGE OF CHEMICALS

- Ensure Safety Data Sheets (SDS) are available on site for all fuels, oils, chemicals and dangerous goods.
- The SDS and material risk assessment including any specific control measures are to be submitted where required to the Safety Manager for each and every substance to be brought on site.
- 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.
- Driver 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
- Spill kits & absorbent material to be located adjacent to storage bunds.
- Absorbent material used to clean up spills to be disposed of in accordance with the EPA Waste Classification Guidelines.

HAZARDOUS / CONTAMINATED MATERIAL

- Suspected material may include that which is visibly different to surrounding material, fibrous in nature, exhibits hydrocarbon odours or other unexpected characteristics, unknown containers, piping, underground storage tanks, or similar structures. If discovered:
 - Immediately cease work and contact the Site Supervisor
 - Demarcate the 'unexpected find' to prevent access and install appropriate environmental and safety controls.
 - Project Leader to contact the client representative
 - Protect the environment by implementing control measures to divert surface runoff away from the potentially contaminated ground.
 - Capture and manage any surface runoff contaminated by exposure to contaminated ground.
- If substance is assessed as not presenting an unacceptable risk to human health, Site Supervisor to remove controls and continue work.

WASTE

- Use skip bins and ensure there are an adequate number of bins on site to hold all waste generated. E.g. Paper, Concrete, Steel, Cardboard, Timber.
- Waste must be classified prior to disposal - refer to NSW EPA Waste Classification Guidelines
- Licensed waste contractors will be utilised to remove waste.
- Retain waste disposal permits and figures on the amount of waste that has been removed from site.

TRADE WASTE

- Effluent disposal into STA Bus sewer (to be approved)
- Washout not permitted on site. Brushes and empty paint tins are to be dried and disposed in the general waste skip.
- Trade waste or other prohibited substances will not be discharged into storm water drains or sewerage system without approval of the Environmental Manager.

Prepared by Chris McCallum, Environmental Manager

Endorsed by Annabelle Reyes, Environmental Representative

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APPENDIX T – Environmental Compliance Matrix

Sydney Metro City and Southwest Sydney Yard Access Bridge Environmental Compliance Matrix

The below table has been set out to outline the compliance of the SYAB Construction Environmental Management Plan (CEMP) with the Ministers Conditions of Approval for determination of SSI 15_7400.

Table 1: CEMP Compliance Matrix – The Minister's Conditions of Approval (CoA)

| CoA | Requirement | Document Reference |
|--|--|--|
| C1 | A Construction Environmental Management Plan (CEMP) must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the PIR and the Department's Guideline for the Preparation of Environmental Management Plans to detail how the performance outcomes, commitments and mitigation measures specified in Chapter 11 of the PIR will be implemented and achieved during construction. | SYAB CEMP document SYAB Compliance Matrix |
| C2 | The CEMP must provide: | Section 2.2 |
| | (a) a description of activities to be undertaken during construction (including the scheduling of construction); | Section 2.4 |
| | (b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI; | Section 4 Section 5 |
| | (c) a schedule for compliance auditing; | Section 17 |
| | (d) a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of the CSSI; | Appendix C Section 18 |
| | (e) details of how the activities described in subsection (a) of this condition will be carried out to: <ul style="list-style-type: none"> i. meet the performance outcomes stated in the EIS as amended by the PIR; and ii. manage the risks identified in the risk analysis undertaken in subsection (d) of this condition; | Appendix D |
| | (f) an inspection program detailing the activities to be inspected and frequency of inspections; | Section 13 Appendix D |
| | (g) a protocol for managing and reporting any: <ul style="list-style-type: none"> i. incidents; and ii. non-compliances with this approval and with statutory requirements; | Section 16 |
| | (h) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction; | Sections 15 |
| | (i) a list of all the CEMP sub-plans required in respect of construction, as set out in Condition C3. Where staged construction of the CSSI is proposed, the CEMP must also identify which CEMP sub-plan applies to each of the proposed stages of construction; | Section 1 |
| | (j) a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER; | Section 7 |
| (k) for training and induction for employees, including contractors and sub-contractors, in relation to environmental and compliance obligations under the terms of this approval; | Section 9 | |



| CoA | Requirement | Document Reference | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|------------------------|--|----|---------------------|---------------------|----|--------------|-----------------------------|----|-------------|-----|----|----------------|---|----|-------------|-----------|----|----------|-----|----|----------|--|----|----------------------|--|-----------|
| | (l) for periodic review and update of the CEMP and all associated plans and programs. | Section 2.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C3 | <p>The following CEMP sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP sub-plan and be consistent with the CEMF and CEMP referred to in Condition C1. The Construction Traffic Management Plan must also be prepared in accordance with the Construction Traffic Management Framework as required by Condition E81.</p> <table border="1"> <thead> <tr> <th>ID</th> <th>Required CEMP Subplans</th> <th>Relevant Government Agencies to be consulted for each CEMP Subplan</th> </tr> </thead> <tbody> <tr> <td>a)</td> <td>Noise and Vibration</td> <td>Relevant Council(s)</td> </tr> <tr> <td>b)</td> <td>Biodiversity</td> <td>OEH and Relevant Council(s)</td> </tr> <tr> <td>c)</td> <td>Air Quality</td> <td>N/A</td> </tr> <tr> <td>d)</td> <td>Soil and Water</td> <td>DPI Water, Relevant council(s), OEH, SES, NSW Fire and Rescue</td> </tr> <tr> <td>e)</td> <td>Groundwater</td> <td>DPI Water</td> </tr> <tr> <td>f)</td> <td>Blasting</td> <td>N/A</td> </tr> <tr> <td>g)</td> <td>Heritage</td> <td>Heritage Council (or its delegate) and Relevant Council(s)</td> </tr> <tr> <td>h)</td> <td>Construction Traffic</td> <td>Relevant road Authorities, RMS, Sydney Coordination Office</td> </tr> </tbody> </table> | ID | Required CEMP Subplans | Relevant Government Agencies to be consulted for each CEMP Subplan | a) | Noise and Vibration | Relevant Council(s) | b) | Biodiversity | OEH and Relevant Council(s) | c) | Air Quality | N/A | d) | Soil and Water | DPI Water, Relevant council(s), OEH, SES, NSW Fire and Rescue | e) | Groundwater | DPI Water | f) | Blasting | N/A | g) | Heritage | Heritage Council (or its delegate) and Relevant Council(s) | h) | Construction Traffic | Relevant road Authorities, RMS, Sydney Coordination Office | Section 1 |
| ID | Required CEMP Subplans | Relevant Government Agencies to be consulted for each CEMP Subplan | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) | Noise and Vibration | Relevant Council(s) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b) | Biodiversity | OEH and Relevant Council(s) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) | Air Quality | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) | Soil and Water | DPI Water, Relevant council(s), OEH, SES, NSW Fire and Rescue | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e) | Groundwater | DPI Water | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f) | Blasting | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| g) | Heritage | Heritage Council (or its delegate) and Relevant Council(s) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h) | Construction Traffic | Relevant road Authorities, RMS, Sydney Coordination Office | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C4 | <p>The CEMP sub-plans must state how:</p> <ol style="list-style-type: none"> the environmental performance outcomes identified in the EIS as amended by the PIR as modified by these conditions will be achieved; the mitigation measures identified in the EIS as amended by the PIR as modified by these conditions will be implemented; the relevant terms of this approval will be complied with; and issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed. | Refer to individual sub-plans | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C5 | <p>The CEMP sub-plans must be developed in consultation with relevant government agencies. Where an agency(ies) request(s) is not included, the Proponent must provide the Secretary justification as to why. Details of all information requested by an agency to be included in a CEMP sub-plan as a result of consultation and copies of all correspondence from those agencies must be provided with the relevant CEMP sub-plan.</p> | The CEMP subplans have been developed in consultation with the relevant agencies. Feedback received on each plan will be incorporated in Appendix R of the CEMP. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C6 | <p>Any of the CEMP sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before commencement of construction.</p> | Relevant CEMP sub-plans will be submitted to the Secretary no later than one (1) month before the commencement of construction. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C7 | <p>The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of construction or within another timeframe agreed with the Secretary.</p> | <p>Section 1</p> <p>The CEMP will be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of construction or within another timeframe agreed with the Secretary.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| CoA | Requirement | Document Reference |
|-----|--|---|
| C8 | <p>Construction must not commence until the CEMP and all CEMP sub-plans have been approved by the Secretary. The CEMP and CEMP sub-plans, as approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction.</p> <p>Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been approved by the Secretary.</p> | <p>Section 1</p> <p>The CEMP and subplans will be approved by the Secretary prior to the commencement of Construction Activities.</p> |