AW EDWARDS

Construction Environmental Management Plan

DOCUMENT INFORMATION

PROJECT	Sydney City & Southwest Metro – Crows Nest Station	**REVISION**	07
DOCUMENT NUMBER	SMCSWSCN-AWE-SCN-EM-PLN-000017	**DATE**	19.01.2024
CLIENT	Sydney Metro	**STATUS**	For Construction

DOCUMENT APPROVAL

	PREPARED BY	REVIEWED BY	APPROVED BY
Name	[redacted]		
Company	Element Environment	Element Environment	A W Edwards Pty Ltd
Project Role	Lead Author	Technical Reviewer	Project Director
Signature	[redacted]		
Date	19 January 2024	19 January 2024	19 January 2024

REVISION

REVISION	DATE	STATUS	AUTHOR	APPROVED BY	COMMENTS
A	30-Oct-20	Draft	Element Environment	[redacted]	
B	30-Nov-20	For Review	Element Environment	[redacted]	Revision and status updated
C	18-Dec-20	For Approval	Element Environment	[redacted]	Updated to include comments received from Sydney Metro
D	16-Feb-21	For Approval	Element Environment	[redacted]	Update to address DPE review comments
00	02-Jun-21	For Construction	Element Environment	[redacted]	Approved for Construction
01	26-Aug-21	For Construction	Element Environment	[redacted]	Approved for Construction
02	19-Oct-21	For Construction	Element Environment	[redacted]	Approved for Construction
03	19-Jul-22	For Review	Element Environment	[redacted]	Approved for Construction
04	31-Oct-22	For Review	Element Environment	[redacted]	Approved for Construction
05	2-Dec-22	For Review	Element Environment	[redacted]	Approved for Construction
06	23-Dec-22	For Review	Element Environment	[redacted]	Updated to address ER comments
07	19-Jan-24	For Review	Element Environment	[redacted]	Approved for Construction

AW EDWARDS acknowledges the Traditional Owners of Country throughout Australia and recognises the continuing connection to lands, waters and communities.
We pay our respect to Aboriginal and Torres Strait Islander people and culture, and to their Elders past and present.

"COMMUNITY"
Artwork by Raechel Saunders

CONTACTS

STAKEHOLDER	NAME	CONTACT DETAILS
Project Director	[redacted]	
Health and Safety Manager		
Completions Manager		
Construction Manager		
Project Manager		
Senior Site Manager		
Community Engagement Manager		
Training & Competency Coordinator		
Planning & Environment Manager		
Environment Coordinator		
Sydney Metro Delivery Director		
Sydney Metro Environment Manager		
Sydney Metro Senior H&S Manager		
Sydney Metro Senior Communications Manager		
Independent Environmental Representative		
Sydney Metro Engineering Assurance Manager		
Sydney Metro Safety Assurance Manager		
ISA Coordinator		
ISA Lead		
North Sydney Council		(02) 9936 8100
EPA Environment Line		131 555
SafeWork NSW		131 050
NSW Health		(02) 9391 9939 (office hours) or 0491 227 423 (after hours)
Fire and Rescue NSW		1300 729 579
(or 000 if an emergency)		
WIRES Wildlife Rescue		1300 094 737

ABBREVIATIONS

Term/acronym	Definition
Ancillary facility	Temporary facility for construction, including for example an office and amenities compound, construction compound, materials storage compound, maintenance workshop or material stockpile area.
Certifier	A person who is authorised by or under section 6.17 of the EP&A Act to issue Part 6 certificates.
CoA	Conditions of approval
CSSI Approval	The Sydney Metro City and Southwest Chatswood to Sydney critical state infrastructure approval (CSSI 7400)
DPE	NSW Department of Planning and Environment (formerly Department of Planning, Industry and Environment DPIE, now Department of Planning, Housing and Infrastructure - DPHI)
ECM	Environmental control map
EIS	Environmental impact statement
EMP	Environmental management plan
EMS	Environmental management system
Environmental assessment	The environmental impact assessment for a project, typically in the format of a review of environmental factors or environmental impact statement.
Environmental aspect	Defined by AS/NZS ISO 14001 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An unexpected event that has, or has the potential to, cause material harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental objective	Defined by AS/NZS ISO 14001 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental target	Defined by AS/NZS ISO 14001 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
EPA	NSW Environment Protection Authority
EP&A ACT	NSW Environmental Planning and Assessment Act 1979
EPBC ACT	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EPL	Environment protection licence
EWMS	Environmental work method statement
Feasible	Means what is possible and practical in the circumstances
KPI	Key performance indicator
Material harm	Is harm that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or

Term/acronym	Definition
	• results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
N/A	Not applicable
Non-compliance	Failure to comply with the requirements of the Project Approval or any applicable license, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of project system documentation including this CEMP or supporting documentation.
Program environmental requirements	Includes the contractual and technical specifications provided by Sydney Metro.
Project Approval	The planning approval for the Project under the NSW Environmental Planning and Assessment Act 1979, typically in the form of an environmental assessment.
Proponent	Transport for NSW
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
SSD Approval	Crows Nest Over Station Development – Site C, SSD13852803

CONTENTS

1 INTRODUCTION

1.1 BACKGROUND

The Sydney Metro City & Southwest is a 30 kilometre metro rail between Chatswood and Bankstown, including; 17 kilometres of new tunnel from Chatswood, under the harbour to Sydenham connecting seven new underground stations at Crows Nest, Victoria Cross (North Sydney), Barangaroo, Pitt Street, Martin Place, Central and Waterloo. Upgrading 13 kilometres of the Bankstown line, including 11 existing stations; Sydenham, Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Wiley Park, Punchbowl and Bankstown plus southern service facilities.

1.1.1 Sydney Metro City & Southwest – Chatswood to Sydenham

The application for Sydney Metro City & Southwest – Chatswood to Sydenham was lodged by Sydney Metro as a Critical State Significant Infrastructure project (reference CSSI-7400) and was approved by the Minister in January 2017. The project is described in the approval (hereafter referred to as the CSSI Approval) as:

Construction and operation of a metro rail line, approximately 16.5 kilometres long (of which approximately 15.5 kilometres is located in underground rail tunnels) between Chatswood and Sydenham.

The new metro stations identified in the CSSI Approval are at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Gadigal and Waterloo. In addition to this, new metro platforms are proposed at Central Station and Sydenham Station.

Several separate environmental impact assessments of the project were progressed by Transport for NSW (TfNSW). In May 2016, an environmental impact statement (EIS) for the Chatswood to Sydenham section of the project (the EIS) was placed on public exhibition for 48 days. A preferred infrastructure report on the Chatswood to Sydenham component (the PIR) was prepared and publicly released in October 2016. The project was approved on 9 January 2017 (SSI 15_7400) (project planning approval). Following approval,ninemodifications have been approved by NSW Department of Planning, Infrastructure and Environment (DPIE). A W Edwards has been awarded the tender to construct Crows Nest Metro Integrated Station Development (the ISD project).

1.1.2 Sydney Metro Crows Nest Over Station Development – Site C

The application for the Sydney Metro Crows Nest Over Station Development for Site C, on the north-western corner of Hume Street and Clarke Street, was lodged by Sydney Metro as a State Significant Development on 10 June 2021 (reference SSD- 13852803) and was approved by the Minister in December 2021. The project is described in the approval (hereafter referred to as the SSD Approval) as:

Construction of an eight (8) storey commercial office building above the metro station.

A W Edwards has been awarded the tender to construct Crows Nest Metro Over Station Development Site C (the OSD project).

1.2 PROJECT OVERVIEW

Crows Nest Station and the Over Station Developments for sites A, B and C will be between the Pacific Highway and Clarke Lane (eastern side of the Pacific Highway) and between Oxley Street and south of Hume Street. They are strategically located to the south of the

existing train station at St Leonards, and close to the leisure and retail strip along Willoughby Road.

The ISD project will support the St Leonards specialised centre as a southern gateway to commercial and mixed-use activities. The station will also improve access to the restaurants and specialist shops in the Crows Nest village. Crows Nest Station will:

- Create a new transport focus on the southern side of the St Leonards specialised centre.
- Maximise legibility and connectivity with the local urban structure.
- Integrate the station with local improvement plans and make a positive contribution to the sense of place.

The OSD project capitalises on the existing mixed-use activities and the immediate access to the transport network of the Crows Nest Station.

The vertical extent of the CSSI approval for the ISD project is defined by the “transfer slab” level, which for Site C is RL 98.5, above which will sit the OSD project and the SSD approval is applicable.

1.3 PURPOSE

This construction environment management plan (CEMP) was prepared in accordance with:

- The relevant planning approvals for the ISD project and the OSD project (refer to **Chapter 3**);
- Applicable legislation and regulatory requirements;
- Sydney Metro Construction Environmental Management Framework – Chatswood to Sydenham (CEMF).
- Sydney Metro Environment and Sustainability Policy.
- Sydney Metro Chatswood to Sydenham Sustainability Strategy.
- Revised Environmental Mitigation Measures (REMMs);
- Sydney Metro contractual requirements, including the Project Deed and Scope of Work and Technical Criteria; and
- Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004).

This CEMP explains how A W Edwards will meet the environmental outcomes for the design and construction of the projects. The CEMP comprises of a main CEMP document, issue specific sub plans, activity specific procedures and site-based environmental control maps (ECMs).

The CEMP describes the relationship between other plans required by the contract and includes the requirements of the A W Edwards environmental management system (EMS) (which is certified to ISO AS/NZS14001:2015).

Implementation of this plan will:

- Identify the environmental obligations and the hazards and risks associated with the project.
- Help prevent unauthorised environmental harm.
- Fulfil Sydney Metros environmental requirements as detailed in the station delivery deed and scope of works and technical criteria.
- Ensure A W Edwards complies with the project planning approvals.

- Ensure A W Edwards obtains and complies with relevant licences and approvals.
- Comply with all relevant environmental legislation.
- Minimise negative impacts on the community that relate to the environmental impacts of the project.
- Identify and implement feasible opportunities to reduce the potential and actual environmental impacts that are beyond contractual and compliance requirements.

The basis for the A W Edwards EMS (and this CEMP) is the concept of plan-do-check-act model. The CEMP provides a 'roadmap' that links the relevant legislative and client requirements to the project EMS and describes the document structure that is used to manage and address environmental requirements.

1.4 ENVIRONMENTAL POLICY

The Environmental Policy and Environmental Sustainability Policy included in **Appendix A** describe A W Edwards' commitment to continual improvement in environmental performance and compliance with applicable legal requirements.

These policies will be displayed in the project office, and communicated to staff, sub-contractors and other interested parties via inductions and ongoing awareness programs.

A W Edwards is also committed to the implementation of the Sydney Metro Environment and Sustainability Policy.

1.5 OBJECTIVES AND TARGETS

This CEMP has been developed to achieve the following objectives:

- To provide a single document (including required sub-plans) for managing all environmental issues related to the project;
- Identify measures to protect the environment, and ensure compliance with environmental legislation drawing from the environmental assessment commitments;
- Encourage best practice environmental management through planning, commitment and continuous improvement;
- Recognise and protect any special environmental characteristics of the work site;
- Identify and control potential environmental hazards associated with the respective work locations;
- Identify the potential for, and respond to, environmental incidents, accidents and emergency situations and take corrective action;
- Define roles and responsibilities for personnel;
- Ensure subcontractors implement the CEMP and supporting documentation;
- Facilitate consultation and communication with external stakeholders such as the local community and government agencies;
- Identify the need for, and facilitate obtaining additional approvals;
- Define environmental reporting requirements and evaluation of performance;
- Describe all monitoring procedures required to identify impacts on the environment as a result of the works and activities;
- Implement complaint reporting procedures and maintain records of complaints and response to complaints; and
- Establish and maintain programs and procedures for periodic CEMP audits to be carried out.

Environmental objectives and targets have been established as a means of assessing environmental performance during the delivery of the projects. The objectives and targets are consistent with A W Edwards Environmental Policy and have been developed with

consideration of the key issues identified through the environmental assessment and risk assessment process. The performance of the projects against the objectives and targets will be documented in the project construction compliance reports and as part of the periodic management review.

Environmental objectives and targets for the project are provided in **Table 1.1**.

Table 1.1: Environmental objectives and targets

OBJECTIVE	TARGET	MEASUREMENT TOOL
Deliver the projects in accordance with environmental approvals.	Full compliance with statutory approvals.	Audits, construction compliance reporting, management review.
Compliance with all legal requirements.	No regulatory infringements penalty infringement notices (PINs) or prosecutions.	Compliance with all legal requirements.
Implement an EMS that meets the requirements of AS/NZS ISO 14001 and is subject to continuous improvement	Address non-conformances and corrective actions within specific timeframes.	Audits, management reviews.
Promote senior leadership in environmental management	Senior A W Edwards management take ownership for environmental performance.	Management reviews, senior leadership environmental inspections.
Engage with the affected community, minimise complaints and respond to any complaints within an agreed timeframe.	Provide regular project updates and other information through the project website and other tools identified in the A W Edwards Community Communication Strategy (CCS).	Engage with the affected community, minimise complaints and respond to any complaints within an agreed timeframe.
Continuously improve environmental performance.	Develop and maintain a program of ongoing environmental training. Capture lessons learnt from environmental incidents to minimise repeat issues. Encourage and reward innovation and effort throughout the workforce.	Construction compliance report, management review, audits.
Ensure all environmental management measures are effectively implemented	Nil non-conformances in relation to implementation of the CEMP.	Results of external and internal audits and site inspections.

Performance against environmental targets shall be reported monthly by the Site Manager in the form of Monthly Project Managers Report.

1.6 CONSULTATION

In accordance with C3 of the CSSI Approval, the respective sub plans to this CEMP must be prepared in consultation with relevant stakeholders. The respective stakeholders consulted during the preparation of each sub plan are listed within each individual sub plan.

In accordance with C9 of the CSSI Approval and A10 of the SSD Approval, where consultation is required with identified parties, details of the consultation undertaken, matters raised by the parties, and how the matters were considered will accompany the strategies, plans, programs, reviews audits, protocols and the like submitted to the Secretary.

1.7 APPROVAL

In accordance with C7 of the CSSI Approval, the CEMP (revision D) was endorsed by the Environmental Representative (ER) and approved by Secretary of DPE on 24 February 2021, prior to construction of the ISD project commencing on 26 February 2021.

In accordance with B41(a), the CEMP has been amended to apply to the OSD project and was submitted to the Certifier and Secretary of DPE by Sydney Metro.

2 PROJECT DESCRIPTION

2.1 SUMMARY

The Crows Nest Station construction site comprises approximately 6,000 m^2 beside the Pacific Highway, to the south of Oxley Street. Buildings on the site have been demolished and the site has been excavated to tunnel depth (the box). A temporary acoustic shed that was installed for the tunnelling and station excavation work was removed prior to construction of the ISD project.

The ISD project is summarised in **Table 2.1** below and described in **Section 2.4**.

Table 2.1: Summary of ISD project scope of work

COMPONENT	DESCRIPTION OF WORK ACTIVITIES
Station works	• Detailed excavation of sumps, on-site detention tanks and foundations to support the structural works; • All structural works including station box, station entrance, concourse, platform and over-track exhaust; • All station fit-out, including cladding, façade and external skin up to the over station development (OSD) Transfer Level; • Structure drainage system and waterproofing; • Permanent road deck reinstatement on Hume Street; • Track invert slab including underline crossings, earthing mats and drainage; • Plant and equipment rooms; • Public and staff toilets; • Architectural fit-out; • Low-voltage electrical, earthing, fire, hydraulics, lighting and mechanical systems; • Building management control system; • Provisions for works by Interface Contractors; • Provisions for advertising, ATMs and vending machines; • Lifts and escalators; • Signage and wayfinding; • External façade to the OSD Transfer Level including over street awnings; • Landscaping (hard and soft), public plaza and precinct activation works; • Bicycle parking facilities; • Public art; and • Loading dock and waste collection facility.
Electrical and communication systems	• Signalling and train control systems; • Traction power system; • Track and tunnel services; • Platform screen doors; • Sydney Metro central control system; • Sydney Metro communications system; • Passenger information display systems; • Public address systems; • Audio frequency induction loop system;

COMPONENT	DESCRIPTION OF WORK ACTIVITIES
	• Sound system and intercom system for emergency purposes; • Closed circuit television systems; • Help Point systems; • Electronic access control systems; • Local area networks; • UHF radio systems; • UHF distributed antenna system; • Train radio communication systems; • Precise clocks system; • Electronic access system; • Fibre and copper backbone; • High voltage power supply and distribution system; • Tunnel ventilation system; • Tunnel ventilation nozzles; and • Electronic ticketing system (ETS).
OSD enabling works	• Foundations and structures to support the OSDs for Sites A, B & C; • The OSD lobbies; • The OSD Site A loading dock, OSD Sites A & B vehicular and pedestrian access enabling; • Space allocation for OSD plant rooms; • The required structures, including columns, slabs, penetrations, set downs, retaining wall and deflection structures space; • Temporary structures and waterproofing; • Storm water and drainage requirements (including temporary connections and diversions); • Utilities connections, services ducts and risers (including temporary connections and diversions); • Activation or hoarding of unoccupied facades; and • Egress and any other Building Code of Australia compliance required to support the OSD Works
Local area works (conducted by third parties)	• Resurfacing or reconstruction of affected roads, footpaths, cycle ways or other public amenities, signage; and • Traffic control signals, street lighting and traffic and transport management adjacent to the station site.
Utility works (conducted by third parties)	• Identification, protection, diversion, reconstruction or repair of affected utility services and new utility service connections.
Property works (conducted by third parties)	• Protection and adjustments to affected existing buildings and property, including demolition of built features.

The OSD project is located at 14 Clarke Street and is bound by Clarke Lane to the west, Hume Street to the south, Clarke Street to the east and 20 Clarke Street to the north. Site C has a total area of 608 m^2 and consists of airspace located above the eastern entrance of

the Crows Nest Station. The site does not contain any local or State Heritage items. All previous structures, including any vegetation on the site have been cleared. Construction of Crows Nest Station and the OSD is underway at the site.

The main components of the OSD project are summarised in **Table 2.2** and described in **Section 2.4**.

Table 2.2: Main components of the OSD project

COMPONENT	DESCRIPTION
Built form	• Construction of an 8 storey commercial building above the station (total 9 storey). • Integration with the ISD project.
Gross floor area	• A total gross floor area of 3,097m^2, excluding floor space approved by the ISD project.
Land uses	• Commercial premises
Vehicular parking	• None
Bicycle parking	• 21 spaces for tenants • 7 spaces for visitors
Loading arrangements	• Lay-by space on Clarke Lane • Site C service vehicles and deliveries will have access to the Site A loading dock on its completion

2.2 LOCATION

Crows Nest Station (the site) will be on the western edge of the Crows Nest village, between the Pacific Highway and Clarke Lane (on the eastern side of the Pacific Highway).

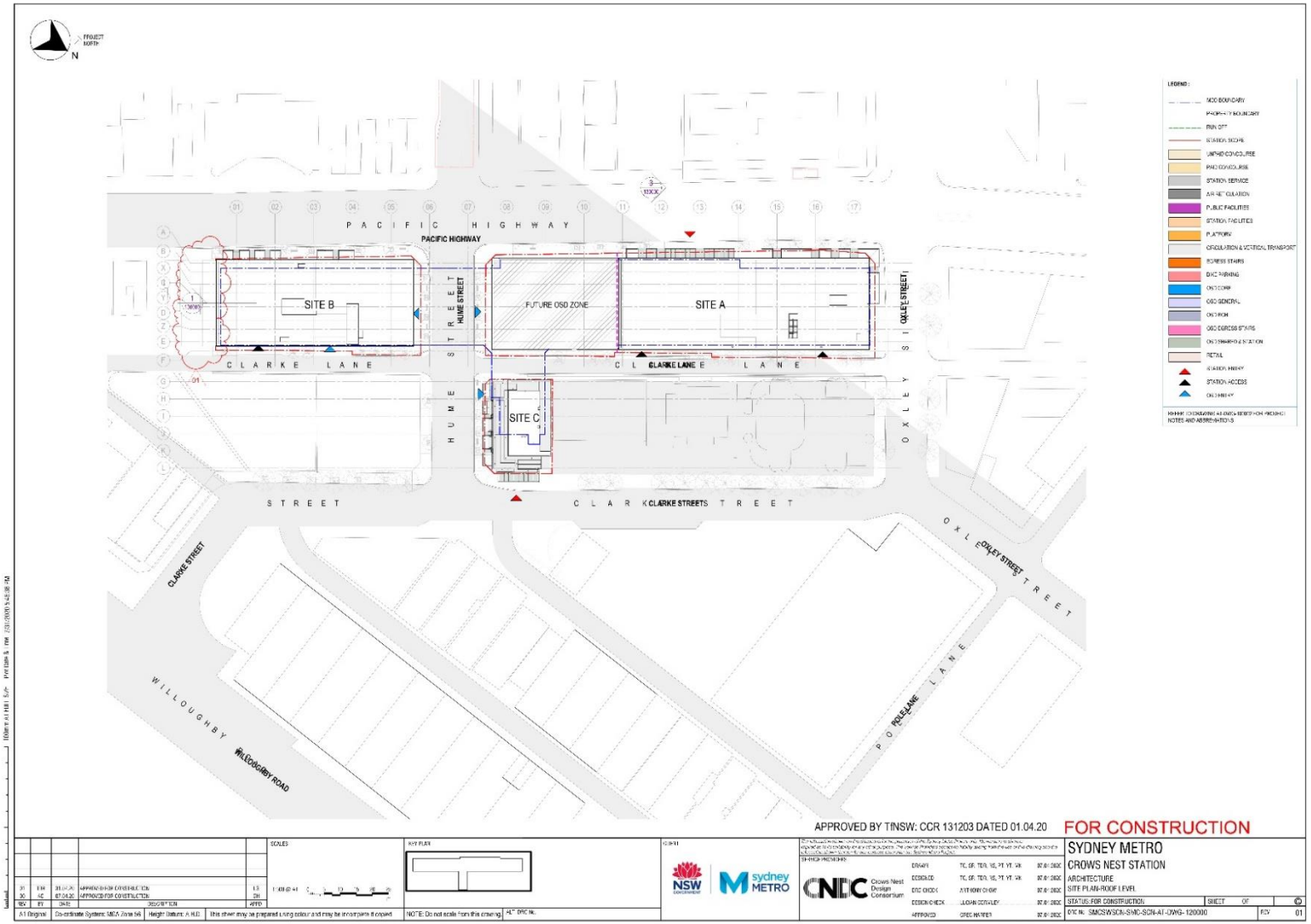
The site will comprise three areas (A, B and C). There will be separate station and future over station development (OSD) entrances:

- Western station entry on the Pacific Highway between Hume and Oxley Streets in Area A.
- Eastern station entry on Clarke Street at the corner of Hume Street, opposite Hume Street Park in Area C.

Crows Nest Station will be a cut and cover station, with the main box approximately 220 m long and 25 m below street level, with a shallower rectangular box at Area C.

Figure 2.1 illustrates the location of the projects**.** Commercial and residential receivers surround the site, with other sensitive receivers such as places of worship and education facilities further afield.

Figure 2.1 Project location



2.3 CONSTRUCTION ACTIVITIES

Table 2.3 describes the broad construction schedule for both projects.

Table 2.3: Crows Nest indicative schedule of construction phases

PHASE	ACTIVITIES	DURATION
Pre-construction minor works for the ISD project	• CEMP preparation, review, endorsement and approval • Site establishment and other activities that are not defined as "construction" by the Project Approval	November 2020 – January 2021
Construction of ISD project	• Construction of the station including: 1. Structure 2. Fit out 3. Services 4. External works 5. Landscaping 6. OSD Enabling Works 7. Testing and commissioning	January 2021 – April 2024
Construction of OSD project	• Construction of the building including: 1. Structure 2. Fit out 3. Services 4. External works	July 2023 – July 2024
Operational readiness and handover of ISD project	-	February 2024 – June 2024
Construction completion of OSD project	-	July 2024

2.4 CONSTRUCTION METHODOLOGY

2.4.1 The ISD project

2.4.1.1 Structural work

- Platforms – platform slabs will be constructed by placing formwork panels, followed by pouring of concrete into the panels using concrete pumps located aboveground. During this work, allowance will be made for the location of the vertical transportation elements (escalators and lifts).
- Vertical supports – these will generally be constructed by installing either pre-fabricated or cast in-situ concrete columns at the base slab level followed by a cast in-situ concrete edge beam connecting the column heads.

- Intermediate floors – these will likely be constructed by installing pre-cast structural beams to span the full width of the station excavation or vertical transport shaft, followed by secondary pre-cast planks between the main beams. A concrete slab will then be poured in sections supported by the beams. Where large voids are required through the intermediate floors (for lifts and escalators), longitudinal beams would be provided at the edge of the voids to support the slabs. This process would be repeated for each of the intermediate floors.
- Roof slabs (for cut-and-cover stations) – roof slabs will likely comprise a cast in-situ concrete slab spanning the full width of the station excavation, placed on the piled wall capping beam (installed as part of the excavation). A concrete topping slab will be poured on the girders, followed by a waterproof membrane and a concrete protection layer. The area will then be backfilled (as required) to the surface level.

The stations will also include structural elements to enable the construction of the future over station development and reduce the impact on the operational station during the construction of the over station development. These elements are incorporated, as relevant, into the design of the stations.

2.4.1.2 Above ground structures

Aboveground buildings associated with station entry and exit points, services and emergency egress will generally be constructed following the station structural works. Buildings will be constructed using conventional steel frame or reinforced concrete methods.

2.4.1.3 Station fit out

Mechanical and electrical fit-out will comprise the tunnel rail systems at the stations and the services required for the function of the stations. The initial fit-out of mechanical and electrical services will likely occur concurrently with the structural work via openings left in the floors and roof structure (for cut-and-cover stations) or through the vertical transport shaft (for mined stations). This would include the installation of large equipment such as fresh air ventilation fans. The final fit-out of services would occur after the completion of structural work.

Architectural fit-out would occur after completion of the station structural works. It would include elements such as glazing, wall and ceiling cladding, and floor finishes.

2.4.2 The OSD project

2.4.2.1 Site establishment

A tower crane will be assembled near the intersection of Hume Street and Clarke Street to enable construction of the OSD structure. The tower crane will be located external to the property boundary (but within the project boundary) to ensure it can be used during all construction stages and is easily dismantled after use. A concrete pumping zone will be designated adjacent to the OSD on Hume Street, underneath a B-class gantry. B-class hoarding will be installed on Clarke Street adjacent to the OSD for footpath protection. A hoist will be installed on Clarke Lane, near the intersection with Hume Street, to provide direct access to the site.

2.4.2.2 Structural work

The structure of the OSD will use conventional reinforced concrete slabs with the main stair cores progressing with the structure. Precast columns will be used to accelerate the cycle times between floors and reduce the overall duration of the structure phase. The use of prefabricated metal stairs will also be used to reduce the stair constructer cycle and ensure emergency access during construction.

As the structure progresses, scaffolding will be erected on the eastern, southern and western facades, with the northern facade being built of needles above the adjoining property (20 Clarke Street).
Mobile concrete pumps will pump concrete from the pumping zones via fixed static lines up through the building to the leading deck. This will minimise disruption to public roadways and footpaths.

Once the structure reaches level 6, back propping will commence to enable construction of the internal in-situ blockwork walls along with the initial services rough. Upon structural topping, façade framing for pre-cast panels will commence on the north elevation and progress in an anti-clockwise direction around each elevation from level 1 to level 8, removing the scaffolding as works progress.

A curtain wall will be installed as the scaffold is progressively removed, with façade works progressing once the curtain wall is installed. Works for the rooftop plantroom, equipment, membranes, parapets and cladding will be undertaken concurrently with the façade works.

2.4.2.3 Services

Services fit-off and internal fit out will commence on level 2 and progress up through the building following the installation of the curtain wall.

2.4.2.4 External works

External works and pavements will start once the internal fit out and services fit-off is nearing completion. Final cleaning of the building will be undertaken in two stages. An initial clean will be completed prior to testing and commissioning, final cleaning will be completed prior to client defect inspections.

2.5 PLANT AND EQUIPMENT

Typical plant and equipment to be utilised include:

- Franna/mobile crane;
- 10 and 20 tonne excavators;
- Vacuum truck;
- Concrete agitator trucks;
- Trucks;
- Powered hand tools;
- Handheld concrete vibrators;
- Circular saw;
- Road saw;
- Tile and brick saw;
- Generator;
- Water cart;
- Lighting towers;
- Mobile crane;
- Tower crane;
- Piling rig;
- Drilling jumbo;
- Front end loader;
- Bobcat;
- Materials hoist;
- Truck mounted crane;
- Concrete pump / placing boom;
- Water pump;
- Elevated work platform;
- Ventilation fans;
- Drum roller;
- Rammer compactor;
- Plate compactor;
- Water treatment plant; and
- Wacker packer.

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2.6 DURATION AND WORKING HOURS

2.6.1 The ISD project

Construction of the ISD project is anticipated to be completed in April 2024, followed by six months of operational readiness and handover tasks which conclude in October 2024.

Works are proposed to be carried out during both standard working hours and outside standard working hours.

Standard working hours are:

- 7 am to 6 pm Monday to Friday;
- 8 am to 6 pm Saturdays; and
- No work on Sunday or public holidays.

In addition to the above standard construction hours, in accordance with CoA E48, the following activities may be undertaken 24 hours per day, seven days per week:

- Station and tunnel fit out; and
- Haulage and delivery of spoil and materials.

In accordance with CoA E44, construction associated with the project may be undertaken outside the hours specified above in the following circumstances:

- for the delivery of materials required by the NSW Police Force or other authority for safety reasons.
- where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm
- where different construction hours are permitted or required under an EPL in force in respect of the construction
- construction that causes LAeq(15 minute) noise levels:
    - no more than 5 dB(A) above the rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009)
    - no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses.
    - continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of *Assessing Vibration: a technical guideline* (DEC, 2006).
    - intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of *Assessing Vibration: a technical guideline* (DEC, 2006).
- where a negotiated agreement has been reached with a substantial majority of sensitive receivers who are within the vicinity of and may be potentially affected by the particular construction, and the noise management levels and/or limits for ground-borne noise and vibration (human comfort) cannot be achieved. All agreements must be in writing and a copy forwarded to the Secretary at least one (1) week before the works commencing; or
- construction approved through an Out of Hours Work Protocol referred to in Condition E47, provided the relevant council, local residents and other affected

stakeholders and sensitive receivers are informed of the timing and duration at least five (5) days and no more than 14 days before the commencement of the works.

Works outside standard working hours must be consistent with the requirements of the Sydney Metro City & Southwest Out of Hours Strategy Protocol, via a Sydney Metro Out of Hours Work Application Form, with approval required from the Sydney Metro Communications Manager, independent ER and independent AA prior to any out of hour works commencing. Where work is deemed to be 'high risk' approval is required from the Secretary.

2.6.2 The OSD project

Construction of the OSD project is anticipated to be completed in June 2024.

Construction works are proposed to be carried out during standard working hours.

Standard working hours are:

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

If required by the NSW Police or another public authority, deliveries of vehicles, plant or materials may be required outside standard working hours. In these instances, affected residents will be notified before undertaking the deliveries, or as soon as is practical afterwards.

2.6.3 Rock breaking and high noise emitting activities

Rock breaking, rock hammering, sheet piling, pile driving, and similar high noise and/or annoying activities as defined in the *Interim Construction Noise Guideline* (DECC, 2009), must be carried out for in accordance with the hours agreed to per CoA E38 of the CSSI Approval.

Despite the application of CoA E44 and E48 of the CSSI Approval, rock breaking and other particularly annoying activities are not permitted outside of the standard construction hours, except:

- Where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or
- Construction that causes LAeq(15 min) noise levels:
    - No more than 5 dB(A) above the rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
    - No more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses; and
    - Continuous or impulsive vibration values, measures at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of *Assessing Vibration: a technical guideline* (DEC, 2006); and
    - Intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of *Assessing Vibration: a technical guideline* (DEC, 2006).

These works require a Sydney Metro Out of Hours Work Application Form to be endorsed by the Sydney Metro Communications Manager, independent ER and independent AA prior to

any out of hour works commencing. Where work is deemed to be 'high risk' approval is required from the Secretary.

2.7 REINSTATEMENT

The site will be reinstated in accordance with Section 5.3 of the CEMF at the conclusion of construction as follows:

- A W Edwards will clear and clean all working areas and accesses at project completion.
- At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site.
- All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better.
- Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.

3 PLANNING AND COMPLIANCE

3.1 PLANNING APPROVALS

The application for Sydney Metro City & Southwest – Chatswood to Sydenham was lodged by Sydney Metro as a Critical State Significant Infrastructure project (CSSI-7400) and was approved by the Minister in January 2017. The project is described in the CSSI Approval as:

Construction and operation of a metro rail line, approximately 16.5 kilometres long (of which approximately 15.5 kilometres is located in underground rail tunnels) between Chatswood and Sydenham.

The new metro stations identified in the CSSI Approval are at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Gadigal (formerly Pitt Street) and Waterloo, and new metro platforms are proposed at Central Station and Sydenham Station. Several modifications to the CSSI Approval have since been approved. A W Edwards will be required to comply with the CSSI Approval and all subsequent modifications.

3.1.1 Sydney Metro Crows Nest Over Station Development – Site C

The application for the Sydney Metro Crows Nest Over Station Development for Site C, on the north-western corner of Hume Street and Clarke Street, was lodged by Sydney Metro as a State Significant Development on 10 June 2021 (SSD- 13852803) and was approved by the Minister in December 2021. The project is described in the SSD Approval as:

Construction of an eight (8) storey commercial office building above the metro station.

The SSD Approval only applies to Site C Over Station Development, from the transfer slab (RL 98.5) and above. All associated works at Site C below RL 98.5 is considered part of the CSSI Approval.

3.2 LEGISLATION AND REGULATORY REQUIREMENTS

A register of legal requirements for the project is in **Appendix B**. The Planning & Environment Manager will review Appendix B at regular intervals during construction, and at least annually as part of the management review of this CEMP and updated with any applicable changes. Any changes made to the legal and other requirements registers will be communicated to the wider project team where necessary through toolbox talks, specific training and other methods detailed in **Chapter 6**.

3.3 APPROVAL AND LICENSING REQUIREMENTS

The regulatory authority and approval requirements for the project are outlined in **Table 3.1**. The Planning & Environment Manager will maintain the register of licences and permits which will be reviewed at regular intervals during construction, and at least annually as part of the management review.

A number of internal and Sydney Metro approvals and permits will be required during construction. Internal permits system will be maintained for all high-risk activities to ensure all required approvals are in place and all notification and consultation obligations are met prior to activities commencing.

Table 3.1: Regulatory authority and approval requirements

AUTHORITY	APPROVAL/LICENCE REQUIREMENT
DPHI	Project planning approval granted under the EP&A Act. Approval of reports, studies and plans as required by the project planning approval.
DCCEEW	The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas. Under the EPBC Act, matters of national environmental significance include world and national heritage properties and listed biodiversity impacts. Neither project would not have a significant impact in relation to these matters and therefore do not require assessment and approval under the EPBC Act.
NSW Environment Protection Authority (EPA)	The NSW *Protection of the Environment Operations Act 1997* (POEO Act) details in Schedule 1 the activities for which a licence is required for the premises at which it is carried out. Neither project trigger a scheduled activity under the POEO Act.
Transport for NSW (TfNSW) and other road authorities	In accordance with the NSW *Roads Act 1993*, A W Edwards will obtain the consent of the appropriate roads authority to erect a structure, carry out work in, on or over a public road, or dig up or disturb the surface of a public road. If the applicant is a public authority, the roads authority must consult with the applicant before deciding whether to grant consent or concurrence. As required, road occupancy permits will be sought in accordance with the construction traffic management plans.
Sydney Water	In accordance with the NSW *Sydney Water Act 1994*, A W Edwards will obtain prior approval to connect to the sewer.

Legislation relevant to the project is summarised in **Table 3.2**.

Table 3.2: Summary of legislation

LEGISLATION	PROJECT OBLIGATIONS
EP&A Act 1979	Approval of reports, studies and plans as required by the project planning approval.
NSW Contaminated Land Management Act 1997	If contaminated land is uncovered it must be assessed and managed in accordance with this Act. The Construction Soil and Water Management Procedure identifies areas of potential contamination and mitigation measures.
NSW Heritage Act 1977	Potential heritage impacts in accordance with the NSW *Heritage Act 1977* was assessed per the EP&A Act, and it was concluded that permits are not required. The Construction Heritage Management Plan identifies areas of potential impact and mitigation measures. The Heritage Council will be notified if a relic is uncovered during construction and if it is reasonable to believe that the Heritage Council is unaware of the location of the relic.
Commonwealth National Greenhouse and Energy Reporting Act 2007 (NGER Act)	This Act provides data and accounting in relation to greenhouse gas emissions and energy consumption and production and: • Inform policy-making and the Australian public. • Meet Australia's international reporting obligations. • Provide a single national reporting framework for energy and emissions reporting. A W Edwards will report the greenhouse gas emission and energy production and consumption under the NGER Act, inclusive of material subcontractors.
NSW Transport Administration Act 1988	This Act created TfNSW and defines its principal role. TfNSW is the proponent of both Projects under the EP&A Act.
NSW Waste Avoidance and Resource Recovery Act 2001	This Act establishes the waste hierarchy. Promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies. Provides requirements for waste avoidance and resource recovery which are addressed in the waste and recycling management sub plan.
NSW Water Management Act 2000	The objective of this Act is to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. There is no plan to actively dewater an excavation or the tunnel as part of the works. Groundwater will be withdrawn from sumps within the tunnel and other excavations where groundwater has naturally seeped in. This has been assessed under Division 5.2 of the EP&A Act, therefore approvals are not required under Section 89 for water use, Section 90 for water management work. In addition, activities generally requiring permits under the *Water Management Act 2000* are exempt from aquifer interference approval under Section 91 as no proclamation under Section 88A had been made

LEGISLATION	PROJECT OBLIGATIONS
	declaring that the Act applies in relation to aquifer interference approvals.
NSW Protection of the Environment Operations Act 1997	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.
NSW Dangerous Goods (Road and Rail Transport) Act 2008	The purpose of this Act is to regulate the transport of dangerous goods by road and rail 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, personal protective equipment, manifest documentation and fire extinguishers.
NSW Roads Act 1993 – Roads (General) Regulation	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.
NSW Biosecurity Act 2015	The purpose of this act is to outline the management of diseases and pests that may cause harm to human, animal or plant health or the environment.
NSW Biodiversity Conservation Act 2016	The purpose of this Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainability development.

3.4 STANDARDS

The following Australian standards relating to environmental management apply to the project:

- AS/NZS ISO 14001:2015 Environmental Management Systems – Requirements with Guidance for Use.
- AS1940-2017 The Storage and Handling of Flammable & Combustible Liquids.
- AS4326-2008 The Storage and Handling of Oxidising Agents.
- AS 3780-2008 The Storage and Handling of Corrosive Substances (similar standards exist for other classes of dangerous goods).
- AS 2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites.
- AS/NZS 3833:2007 The Storage and Handling of Mixed Classes of Dangerous Goods, in Packages and Intermediate Bulk Containers.
- AS4282:2019 Control of the Obtrusive Effect of Outdoor Lighting.
- AS1055:2018 Description and Measurement of Environmental Noise.

The following standards from international organisations relating to environmental management apply to the project:

- British Standard BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings. Guide to Damage Levels from Ground borne Vibration (1 Hz to 80 Hz).

- German Standard DIN 4150: Part 3 – 1999 Structural Vibration in Buildings: Effects on Structures and British Standard BS 7385-2:1993 Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz).

3.5 GUIDELINES

The following guidelines relating to environmental management apply to the project:

- ANZECC 2000: Australian Water Quality Guidelines for Fresh and Marine Water Quality.
- Department of Environment and Climate Change NSW 2009: Interim Construction Noise Guidelines.
- DPIE 2020: Environmental Management Plan Guideline, Guideline for Infrastructure Projects.
- EPA 2014: Waste Classification Guidelines.
- RMS Traffic Control at Worksites Manual.
- Landcom 2004: Managing Urban Stormwater - Soils and Construction (Blue Book), Version 4.
- SafeWork Australia 2018: Code of Practice for the Safe Removal of Asbestos.
- SafeWork Australia 2018: Code of Practice for the Management and Control of Asbestos in Workplaces.
- NSW EPA, 2014: Waste Locate Asbestos Waste Transporter User Guides.
- Sydney Metro Environment and Sustainability Policy.

The following Sydney Metro and TfNSW guidelines relating to environmental management apply to the project:

- Sydney Metro Unexpected Heritage Finds Procedure.
- Sydney Metro Unexpected Finds Procedure for Contamination.
- Sydney Metro Pre-construction Minor Works Approval.
- Sydney Metro City & Southwest Out of Hours Strategy Protocol (SM-ES-PW-317).
- Sydney Metro City & Southwest Construction Noise and Vibration Strategy (SM-ES-ST-210).
- Sydney Metro Water Discharge and Reuse Procedure (SM-17-00000098).
- TfNSW Chemical Storage and Spill Response Guidelines (9TP-SD-066)
- TfNSW Concrete Washout Guideline (4TP-SD-112).
- TfNSW Construction Air Quality Guideline (4TP-SD-107).
- Sydney Metro Environmental Incident and Non-compliance Notification Report (SM-17-00000105).
- Sydney Metro Environmental Incident Classification and Reporting Procedure (SM-17-00000096).
- TfNSW Guide to Environmental Controls Map (3TP-SD-015).

3.6 CONTRACTUAL REQUIREMENTS

This document has been produced to demonstrate compliance with the CEMF. In addition, special attention has been made to the conditions of approval stipulated in the CSSI Approval and SSD Approval that pertain to the CEMP, as outlined in Table 3.3 and Table 3.4 respectively.

Table 3.3: Requirements for CSSI-7400

ITEM	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, as amended by the documents listed in A1, will be implemented and achieved during construction.	This CEMP Section 3.5 Appendix C.3
C2	The CEMP must provide:	
	(a) a description of activities to be undertaken during construction (including the scheduling of construction);	Chapter 2
	(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Section 1.4 Chapter 3
	(c) a schedule for compliance auditing;	Section 9.3
	(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;	Section 5.2 Appendix D
	(e) details of how the activities described in subsection (a) of this condition will be carried out to: i. meet the performance outcomes stated in the EIS as amended by the documents listed in A1; and ii. manage the risks identified in the risk analysis undertaken in subsection (d) of this condition;	This CEMP Appendices A-L
	(f) an inspection program detailing the activities to be inspected and frequency of inspections;	Section 9.2
	(g) a protocol for managing and reporting any: i. incidents; and ii. non-compliances with this approval and with statutory requirements;	Chapter 8 Chapter 9
	(h) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	Section 9.4
	(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 5.1.1
	(j) a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER;	Section 4.2
	(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;	Chapter 6
	(l) for periodic review and update of the CEMP and all associated plans and programs.	Chapter 10

Table 3.4: Requirements for SSD-13852803

ITEM	REQUIREMENT	DOCUMENT REFERENCE
B41	(a) amend, or prepare an addendum to, the Construction Environmental Management Plan (CEMP) applicable to the CSSI approval (CSSI 7400) to apply to the development.	This CEMP Section 1.7

ITEM	REQUIREMENT	DOCUMENT REFERENCE
	The amended CEMP must be submitted to the Planning Secretary and Certifier, or	
	(b) Prepare a Construction Framework Environmental Management Plan (CFEMP) for the development, independent of the CEMP approved with the CSSI station works. A copy of the final CFEMP must be submitted to the Planning Secretary and Certifier. The CFEMP must: (i) describe the relevant stages and phases of construction including work program outlining relevant timeframes for each stage/phase (ii) describe all activities to be undertaken on the site during site establishment and construction of the development (iii) clearly outline the stages/phases of construction that require ongoing environmental management monitoring and reporting (iv) detail statutory and other obligations that the Applicant is required to fulfil during site establishment and construction, including approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies (v) include specific consideration of measures to address any requirements of the EPA during site establishment and construction (vi) describe the roles and responsibilities for all relevant employees involved in the site establishment and construction of the works (vii) detail how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified potential environmental impacts (viii) document and incorporate all sub environmental management plans (Sub-Plans), studies and monitoring programs required under this consent; and (ix) include arrangements for community consultation and complaints handling procedures during construction.	Not applicable as the CEMP applicable to the CSSI Approval has been amended per B41(a).

Appendix C outlines how this CEMP has addressed the relevant conditions, REMMs and CEMF requirements.

3.7 CONSISTENCY ASSESSMENTS FOR THE ISD PROJECT

A W Edwards will assess the consistency of design and or construction method changes it instigates for the ISD project in accordance with Section 115ZI of the EP&A Act in consultation with Sydney Metro and the ER. Consistency assessments will be prepared for the ISD project in accordance with Sydney Metro Planning Approval Consistency Assessment (SM- ES-PW-314). Once consistency assessments are complete, they will be submitted to Sydney Metro for independent ER review under project planning approval Condition A24(i) and determination in accordance with Section 115ZI of the EP&A Act.

Sydney Metro will provide copies of approved assessments to the independent ER and A W Edwards. If required, this CEMP or other relevant environmental and planning documents will be revised to incorporate additional commitments or mitigation measures and the ER will review and endorse these changes in accordance with project planning approval Condition A24 (j).

If the design change is found by Sydney Metro to be inconsistent with the planning approval, Sydney Metro will notify A W Edwards of this determination. A W Edwards will be required to comply with any Secretary's requirements in completing further environmental assessment of the design change and submit this assessment to Sydney Metro. Sydney Metro will then submit the proposed modification to DPHI for assessment.

A register of all design changes approved for implementation on the project will be maintained by Sydney Metro with input from A W Edwards. Sydney Metro is responsible for assessing and obtaining any necessary approvals for changes it instigates unless otherwise specified.

3.8 ANCILLARY FACILITIES FOR THE ISD PROJECT

If A W Edwards is required to establish an ancillary facility to enable the construction of the ISD project, the Planning & Environment Manager will prepare an ancillary facilities management plan (AFMP) which will outline the environmental management practices and procedures to be implemented for the establishment and operation of the ancillary facility.

The AFMP will be prepared in consultation with the relevant Council (where applicable) and submitted to the Secretary and EPA for information one month before installation of the relevant ancillary facilities. The AFMP will be developed in accordance with project planning approval CoA A17 of the CSSI Approval.

Minor ancillary facilities that have not been assessed in the EIS or meet the criteria set out in CoA A16 of the CSSI Approval, will be subjected to an environmental review which will be provided to the independent ER for approval.

Ancillary facilities that are not identified by description and location in the EIS will meet the following criteria as per CoA A16 of the CSSI Approval, unless otherwise approved by the Secretary:

- the facility is a development of a type that would, if it were not for the purpose of the CSSI, otherwise be exempt or complying development; or
- the facility is located as follows:
    - at least 50 metres from any waterway unless an erosion and sediment control plan is prepared and implemented so as not to adversely affect water quality in the waterway in accordance with Managing Urban Stormwater series;
    - within or adjacent to land upon which the CSSI is being carried out unless it can be demonstrated that performance criteria established in this approval

can be met and that there will be a reduction in impact at other sites and a reduction in the construction program;
- with ready access to a road network;
- to prevent heavy vehicles travelling on local streets or through residential areas in order to access the facility, except as identified in the EIS and amended by the documents listed in A1;
- on level land;
- so as to be in accordance with the Interim Construction Noise Guideline (DECC 2009) or as otherwise agreed in writing with affected landowners and occupiers;
- so as not to require vegetation clearing beyond the extent of clearing approved under other terms of this approval except as approved by the independent ER as minor clearing;
- so as not to have any impact on heritage items (including areas of archaeological sensitivity) beyond the impacts identified, assessed and approved under other terms of this approval;
- so as not to unreasonably interfere with lawful uses of adjacent properties that are being carried out at the date upon which construction or establishment of the facility is to commence;
- to enable operation of the ancillary facility during flood events and to avoid or minimise, to the greatest extent practicable, adverse flood impacts on the surrounding environment and other properties and infrastructure;
- so as to have sufficient area for the storage of raw materials to minimise, to the greatest extent practicable, the number of deliveries required outside standard construction hours.

3.9 PROJECT MODIFICATIONS AND REFINEMENTS

Any modification to the project as approved in the environmental assessment would be subject to further assessment. Such modifications may arise during detailed design of the project, or during construction.

A W Edwards would undertake a preliminary environmental constraints analysis for any proposed modification to determine environmental risks and measures to minimise potential impact to the environment. Should a proposed modification be deemed to potentially result in unfavourable environmental outcomes (e.g. impact to heritage structures etc), alternatives should be investigated and if required a re-design of the modification would occur.

A W Edwards would undertake an environmental impact assessment compliance review to determine if the proposed change is consistent with the approved environmental assessment, or if it would require subsequent additional approval from DPHI.

A W Edwards will comply with any additional requirements from project modifications.

4 IMPLEMENTATION AND OPERATION

4.1 PROJECT ENVIRONMENTAL OBLIGATIONS

All construction personnel will have the following environmental obligations:

- Avoid or minimise the potential for pollution of land, air and water.
- Immediately notify Sydney Metro and relevant authorities of environmental incidents and report environmental hazards with potential to contribute to an environmental incident to the Planning & Environment Manager.
- Use pollution control equipment and keep it in proper working order.
- Preserve the natural and cultural heritage environment.
- Immediately notify Sydney Metro and relevant authorities of a non-Aboriginal or Aboriginal heritage discovery and stop work immediately.
- Minimise the occurrence of offensive noise.
- Be a good neighbour to surrounding land users.
- Use equipment with noise control features where available and ensure that it is properly maintained.
- Attend environmental training, toolbox talks and pre-start meetings.
- Conduct their work in compliance with the CEMP and all planning approvals.

All A W Edwards personnel and appointed contractors will be required to comply with the project planning approval and all licences and permits for the project, along with the relevant environment management documents (including this CEMP).

4.2 PROJECT TEAM

The key environmental management roles and responsibilities for the project are described below.

4.2.1 Project Director

The environmental responsibilities of the Project Director are:

- Ensure all works comply with relevant regulatory and project requirements.
- Ensure the requirements of this CEMP are fully implemented, and that environmental requirements are not secondary to other construction requirements.
- Endorse and support the environmental policy and environmental sustainability policy in **Appendix A**.
- Liaise with Sydney Metro and other government authorities as required.
- Participate and provide guidance in the regular review of this CEMP and supporting documentation.
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP.
- Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements.
- Ensure that complaints are investigated and issues are resolved in accordance with the community and stakeholder engagement plan.
- Direct that works be stopped immediately where there is an actual or potential risk of harm to the environment, property and/or human health.

4.2.2 Construction Manager

The environmental responsibilities of the Construction Manager are:

- Plan construction works in a manner that avoids or minimises impact to environment.
- Ensure the requirements of this CEMP are fully implemented.
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements.
- Ensure environmental management procedures and safeguards are implemented.
- Ensure all project personnel attend an induction prior to commencing works.
- Liaise with Sydney Metro and other government authorities as required.
- Direct that works be stopped immediately where there is an actual or potential risk of harm to the environment, property and/or human health.

4.2.3 Site Manager

The environmental responsibilities of the Site Manager include:

- Plan construction works in a manner that avoids or minimises impact to environment.
- Ensure the requirements of this CEMP are fully implemented.
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements.
- Ensure environmental management procedures and protection measures are implemented.
- Ensure all project personnel attend an induction prior to commencing works.
- Liaise with Sydney Metro and other government authorities as required.
- Direct that works be stopped immediately where there is an actual or potential risk of harm to the environment, property and/or human health.

4.2.4 Project / Site Engineer

The environmental responsibilities of the Project/Site Engineers are:

- Provide input into the preparation of environmental planning documents as required.
- Ensure instructions and information relating to project environmental risks are provided to staff.
- Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls.
- Identify environmental risks and communicate them to the Planning & Environment Manager.
- Identify resource needs for implementation of CEMP requirements and related documents.
- Ensure that environment related complaints are investigated to ensure effective resolution.
- Take action in the event of an environmental incident or potential environmental incident and allocate the required resources to minimise environmental impact.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Site Manager and Planning & Environment Manager.

4.2.5 Foreman

The environmental responsibilities of the Foreman are:

- Communicate with all personnel and subcontractors regarding compliance with the CEMP and site-specific environmental issues.
- Ensure all site workers attend an environmental induction prior to the commencement of works.

- Co-ordinate the implementation of the CEMP.
- Co-ordinate the implementation and maintenance of pollution control measures.
- Identify resources required for implementation of the CEMP.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Planning & Environment Manager.
- Co-ordinate action in emergency situations and allocate required resources.
- Stop activities where there is an actual or potential risk of harm to the environment, property and/or human health, and advise the Construction Manager, Site Manager and Planning & Environment Manager.

4.2.6 Site supervisor

The environmental responsibilities of the Site Supervisors include (but are not limited to):

- Undertake environmental duties as defined by the Foreman or project/site engineers.
- Control field works and implement/maintain effective environmental controls.
- Where required, undertake environmental risk assessment of works prior to commencement.
- Ensure site activities comply with the CEMP and relevant records are kept.
- Ensure all site workers are site inducted prior to commencement of works.
- Attend to any spills or environmental incidents that may occur on site.
- Immediately report to the Planning & Environment Manager any activity that has resulted, or has the potential to result, in an environmental incident.
- Stop activities where there is an actual or potential risk of harm to the environment, property and/or human health and advise the Site Manager, Construction Manager, Foreman or Planning & Environment Manager.

4.3 ENVIRONMENT AND COMMUNITY TEAM

4.3.1 Planning and Environment Manager

The environmental responsibilities of the Planning & Environment Manager are:

- Overall responsibility for the management of environmental aspects of the project.
- Development, implementation, monitoring and updating of the CEMP and supporting documentation.
- Report to Project Director on the performance and implementation of the CEMP.
- Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented.
- Ensure environmental risks of the project are identified and appropriate mitigation measures are implemented.
- Identify where environmental measures are not meeting the set targets and where improvement can be achieved.
- Ensure environmental protocols are in place and managed.
- Obtain and update all environmental licenses, approvals and permits as required.
- Lead liaison with Sydney Metro environment team, the independent ER and other approval authorities.
- Manage environmental document control, reporting, inductions and training.
- Manage environmental reporting.
- Promote sustainability initiatives.
- Prepare monthly reports outlining the project works undertaken, achievements and areas where improvements were made.
- Prepare and submit construction compliance reports to Sydney Metro on a quarterly basis.

- Oversee site environmental monitoring, inspections and internal audits.
- Manage all sub-contractors and consultants with regards to environmental matters, including assessing their environmental capabilities and environmental documents.
- Prepare and/or distribute environment awareness notes.
- Review and approve CEMP.
- Develop and facilitate inductions, toolbox talks and other training programs regarding environmental requirements for all site personnel.
- Notify Sydney Metro, the environmental representative and relevant authorities in the event of an environmental incident and manage the investigation and close-out of these.
- Notify Sydney Metro on becoming aware of the need for emergency construction in accordance with E44(b) of the CSSI Approval or C5(b) of the SSD Approval.
- Stop activities where there is actual or potential risk of harm to the environment, property and/or human health, or to prevent an environmental non-conformance and advise the Project Director, Construction Manager, Site Manager and Foreman.
- Assist the stakeholder and community relations manager to resolve environment-related complaints.
- The Planning & Environment Manager has the following authority:
    - Appointed by the Project Director and is independent of the design and construction functions.
    - Authorised to produce any correspondence and documentation necessary for approvals and environmental and sustainability management.
    - All correspondence and documentation that has legal, commercial or contractual impact must be viewed and agreed upon, by the Project Director.
    - Authorised to require all reasonable steps to be taken to achieve environmental compliance.
- The Planning & Environment Manager has the following lines of communications:
    - Reports to the Project Director.
    - Primary contact on environmental and sustainability matters for Sydney Metro representatives, ER, acoustic advisor, and community complaints mediator.
    - Primary government agency contact for planning approvals, environmental management and sustainability.

4.3.2 Environmental Coordinator

The environmental responsibility of the Environmental Coordinator includes, but is not limited to:

- Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements;
- Develop ECMs and erosion and sediment control plans in consultation with the Foreman, Site Manager, Construction Manager and other relevant site personnel, as required;
- Carry out site inspections, carry out monitoring activities and complete environmental inspection checklists;
- Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed;
- Manage the day-to-day environmental elements of construction;
- Record and provide written reports to the Planning & Environment Manager of non-conformances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures;
- Identifying environmental risks;

- Advise the Planning & Environment Manager and Construction Manager of the need to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken by the Construction Manager or site construction staff to avoid or minimise impact;
- Provide reports to the Planning & Environment Manager on any major issues resulting from construction works;
- Assist construction personnel with issues concerning environmental matters;
- Assist in developing training programs about environmental requirements and deliver where required, including delivery of the environmental component of toolbox talks; and
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, Construction Manager and Planning & Environment Manager.

4.3.3 Stakeholder and Community Relations Manager

The environmental responsibilities of the Stakeholder and Community Relations Manager are:

- Ensure that all community consultation activities are carried out in accordance with the environmental assessment and/or Sydney Metro requirements.
- Report any environmental issues raised by stakeholders or members of the community to the Planning & Environment Manager.
- Communicate environment-related project progress, performance, mitigation measures and issues to stakeholders and the community.
- Maintain the 24-hour complaints hotline.
- Establish a website which provides information in relation to the project before commencement of works and maintain this for the duration of construction, and for a minimum of 12 months following the completion of construction or other timeframe as agreed with the Secretary.
- Publish and maintain the following up to date information prior to the relevant works commencing:
    - information on the current implementation status of the project.
    - a copy of the documents listed in A1 and A2 of the CSSI Approval and A2 of the SSD Approval, and any additional documentation relating to any modifications made to the project or the terms of the approval.
    - a copy of the approvals' in their original form, a current consolidated copy of each approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of the approval.
    - a current copy of each document required under the terms of this approval must be published within one week of its endorsement / approval or before the commencement of any works to which they relate or before their implementation.

4.3.4 Community complaints mediator

A Community Complaints Mediator that is independent of the design and construction personnel will be nominated by the Sydney Metro, approved by the Secretary and engaged during all works associated with the project. The nominated Community Complaints Mediator will be submitted to the Secretary for approval within one month of the date of this approval or within another timeframe agreed with the Secretary.

The responsibilities of the Community Complaints Mediator are:

- Address any complaint where a member of the public is not satisfied by the A W Edwards' response.
- To review A W Edwards' response to a complaint which has been lodged by any member of the public in the Complaints Management System if requested to do so by the lodger of the complainant.
- Review the unresolved disputes between the project and members of the public if the procedures and mechanisms under CoA B2(g)(iii) do not satisfactorily address complaints.
- Make recommendations to Sydney Metro and A W Edwards to satisfactorily address complaints, resolve disputes or mitigate against the occurrence of future complaints or disputes.
- To not act before Sydney Metro has provided an initial response to a complaint and will not consider issues such as property acquisition where other dispute processes are provided for in this approval, or clear government policy and resolution processes are available, or matters which are not within the scope of the project.
-

4.4 WIDER PROJECT TEAM

The environmental responsibilities of the wider project team include (but are not limited to):

- Comply with the relevant requirements of the CEMP, environmental assessment and other environmental documentation.
- Participate in the project/site induction program.
- Report any environmental incidents to the Foreman immediately or as soon as practicable if reasonable steps can be adopted to control the incident.
- Undertake remedial action as required to ensure environmental controls are maintained in good working order.
- Stop activities where there is an actual or potential risk of harm to the environment, property and/or human health, and advise the Site Manager, Construction Manager, Foreman or Planning & Environment Manager.

4.5 SUB-CONTRACTOR MANAGEMENT

As part of the selection process, consideration will also to be given to the past environmental performance of sub-contractors. The Planning & Environment Manager, or delegate, will participate in the tender assessment and selection process where it is deemed necessary due to associated environmental risks. All subcontractors will be required to complete a sub-contractor questionnaire or similar.

All subcontractors are required to work in accordance with the approved CEMP.
All subcontractors are required to attend project and site inductions where the requirements and obligations of the CEMP are communicated. A record of all subcontractors inducted will be maintained as part of the project induction and training register.

Sub-contractors shall comply with all statutory and A W Edwards EMS requirement.
Sub-contractors will operate in accordance with this CEMP any supporting documentation.

A W Edwards may request that sub-contractors provide an environmental work method statement (EWMS) for their work activity and they will be required to comply with A W Edwards management approach.

Sub-contractors must report all environmental incidents to their A W Edwards Site Supervisor immediately.

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

- Subcontractor's general work practices;
- Effectiveness of the sub-contractor's environmental protection measures;
- Subcontractor's compliance with the requirements of this CEMP; and
- Maintenance of environmental measures.

4.6 INDEPENDENT ENVIRONMENTAL REPRESENTATIVE

A suitably qualified and experienced Environmental Representative (ER) who is independent of the design and construction personnel has been nominated by Sydney Metro, approved by the Secretary and will be engaged for the duration of construction of the ISD Project. The responsibilities of the independent ER are defined in CoA A24 of the CSSI Approval:

- Receive and respond to communications from DPHI in relation to the environmental performance of the ISD Project.
- Consider and inform DPHI on matters specified in the terms of the CSSI Approval.
- Consider and recommend any improvements that may be made to work practices on the ISD Project, to avoid or minimise adverse impact to the environment and to the community.
- Review documents identified in CoA C1, C3 and C9 of the CSSI Approval and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under the CSSI Approval and if so: make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary), or make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary).
- Regularly monitor the implementation of environmental management related documents of the ISD Project to ensure implementation is being carried out in accordance with what is stated in the document and the terms of the CSSI Approval.
- Review Sydney Metro's notification of incidents in accordance with CoA A41 of the CSSI Approval.
- As may be requested by the Secretary, help plan, attend or undertake Department audits of the ISD Project, briefings, and site visits.
- If conflict arises between Sydney Metro and the community in relation to the environmental performance of the ISD Project, follow the procedure in the Community Communication Strategy approved under CoA B3 of the CSSI Approval to attempt to resolve the conflict, and if it cannot be resolved, inform the Community Complaints Mediator.
- Review any draft consistency assessment that may be carried out by Sydney Metro 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 documents listed in CoA C1, C3 and C9 of the CSSI Approval, and any document that requires the approval of DPHI (excluding noise and vibration documents) that comprise updating or are of an administrative or minor nature, and are consistent with the terms of the CSSI Approval and the documents listed in CoA C1, C3 and C9 or other documents 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 CSSI Approval.
- Assess the impacts of minor ancillary facilities as required by CoA A18 of the CSSI Approval.
- Prepare and submit to DPHI and other relevant regulatory agencies, for information, a monthly environmental representative report detailing the actions and decisions on matters for which the independent ER was responsible in the preceding month.
- Endorse the compliance tracking program per CoA A29 of the CSSI Approval.
- Endorse the construction monitoring programs per CoA C13 of the CSSI Approval.

4.7 ACOUSTIC ADVISOR

The independent acoustic advisor (AA) has been engaged by Sydney Metro and approved by DPHI for the ISD Project. The primary role of the AA is to independently oversee construction noise and vibration planning, management and mitigation in accordance with the CSSI Approval. Sydney Metro engaged the AA for the duration of construction, and for no less than six months following operation of the ISD Project.

The role of the AA defined in CoA A25 to A27 of the CSSI Approval is:

- Receive and respond to communication from the Secretary regarding the noise and vibration performance of the ISD Project.
- Consider and inform the Secretary on matters specified in the CSSI Approval relating to noise and vibration.
- Consider and recommend, to Sydney Metro, improvements that may be made to work practices on the ISD Project to avoid or minimise adverse noise and vibration impacts.
- Review all noise and vibration documents required to be prepared under the CSSI Approval, should they be consistent with the terms of the approval, 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 noise and vibration documents required under the CSSI Approval to ensure implementation is in accordance with what is stated in the document and the terms of the approval.
- Review A W Edwards' notification of noise and vibration incidents in accordance with CoA A41 of the CSSI Approval.
- Any activities of the ISD Project generating noise and vibration more than the noise management level derived from the *Interim Construction Noise Guideline* must not commence until the AA has been approved by the Secretary.
- In conjunction with the ER, the AA must:
    - Consider requests for out of hours construction activities and determine whether to endorse the proposed activities in accordance with CoA E47 of the CSSI Approval.
    - As may be requested by the Secretary or community complaints mediator, help plan, attend or undertake audits of noise and vibration management of the ISD project works including briefings, and site visits.
    - If conflict arises between Sydney Metro and the community in relation to the noise and vibration performance of the ISD Project, follow the procedure in the Community Communication Strategy approved under CoA B3 of the CSSI Approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary.
    - Consider relevant minor amendments made to any noise and vibration document approved by the Secretary that require updating or are of an

administrative nature, and are consistent with the terms of the approval and the document 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 approval.

- Assess the noise impacts of minor ancillary facilities as required by CoA A18 of the CSSI Approval.
- 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 which the AA was responsible in the preceding month (or other timeframe agreed with the Secretary). The noise and vibration report must be submitted within seven days following the end of each month for the duration of construction of the project, or as otherwise agreed with the Secretary.

4.8 OTHER STAKEHOLDERS

Internal project audits shall be scheduled by the Project Manager and form part of A W Edwards audit schedule. Refer to Safety & Environmental Procedures Manual

Audits shall address the requirements of ISO9001, ISO14001, AS4801, AWE's Management System and the various Management Plans.

4.8.1 Sydney Metro

TfNSW is the proponent under the EP&A Act with ultimate responsibility to DPHI for compliance with the project planning approvals. Sydney Metro is a specialised delivery office, owned by the NSW Government and is part of the NSW Transport cluster and will manage the planning, procurement and delivery of the Sydney Metro Network.

Personnel from the Sydney Metro delivery environment and sustainability team will ensure compliance with the project planning approvals and revised environmental mitigation measure obligations held by TfNSW, as set out in the City and Southwest Chatswood to Sydenham –Staging Report.

The Sydney Metro team will determine consistency assessments for the ISD Project under Section 115ZI of the EP&A Act. Personnel from the Sydney Metro team may attend independent ER site inspections and collaborative audits.

4.8.2 Department of Planning, Housing and Infrastructure

DPHI is responsible for assessing compliance with the project planning approvals and any documents which need the specific approval of the Secretary. Communications with DPHI must be managed through Sydney Metro as it is the proponent under the EP&A Act. A W Edwards will need to be fully involved in any communication with DPHI about approvals and compliance with project planning approval conditions that A W Edwards has been allocated.

4.8.3 Environment Protection Authority

The EPA protects the community and our environment and has powers and responsibilities under a range of NSW environmental legislation. Neither project is required to hold an environment protection licence (EPL) as the construction activities are not listed in Schedule 1 of the POEO Act.

In the event of an incident that has the potential to, or has resulted in environmental harm, the EPA will be notified in accordance with the Sydney Metro Environmental Incident Classification and Reporting Procedure, refer to Chapter 8.

5 ENVIRONMENTAL MANAGEMENT

5.1 ENVIRONMENTAL MANAGEMENT DOCUMENTATION

This CEMP is the overarching management plan for a suite of environmental management documents.

The CEMP comprises:

- A description of the work activities associated with the project, including any plant and equipment to be used.
- An outline of the sequence of tasks for the activity, including interfaces with other construction activities.
- Identification of any environmental and/or socially sensitive areas, sites or places.
- An outline of key environmental issues as identified in the environmental assessment.
- Any project commitments and roles and responsibilities for implementing these commitments as outlined in the environmental assessment.
- Environmental safeguards or conditions included within the environmental assessment and the roles and responsibilities for their implementation.
- A list of any licenses and approvals required for each project and the timeframe for obtaining these approvals.
- The process for assessing the performance of the implemented mitigation measures.
- A process for resolving environmental issues or conflicts.

Where management plans, procedures or systems have been published within the Sydney Metro Integrated Management System, the A W Edwards will adopt and implement the requirements in those documents.

5.1.1 Environmental management sub plans and procedures

Separate environmental management sub plans and procedures necessary for construction of each project are appended as follows:

- **Appendix E** – Construction Heritage Management Plan.
- **Appendix F** – Construction Spoil Management Plan.
- **Appendix G** – Construction Noise and Vibration Management Plan.
- **Appendix H** – Construction Visual and Landscape Management Plan.
- **Appendix I** – Construction Groundwater Management Plan.
- **Appendix J** – Construction Air Quality Management Procedure.
- **Appendix K** – Construction Soil and Water Management Procedure.
- **Appendix L** – Construction Fauna and Flora Management Procedure.

The environmental management requirements specific to these individual environmental aspects and risks are outlined in the respective plan or procedure.

The following environmental aspects are not a sub-plan of the CEMP but have been addressed in **Sections 5.3 to 5.6:**

- Waste management.
- Hazards and risks.
- Social amenity.
- Sustainability.

-

5.1.2 Environmental control map

To assist construction planning and on-site construction management, an initial environmental control map (ECM) has been prepared as part of this CEMP and can be seen in Figure 5.1 below.

The ECM identifies:

- Environmentally sensitive areas on and adjacent to the site, including any exclusion zones.
- Waterways, including stormwater drains.
- Erosion and sediment control measures.
- Work areas, machinery and vehicle parking, spoil stockpiling and fuel/ chemical areas.
- Tree protection zones.
- Monitoring locations (e.g. noise, dust).
- Location of sensitive receivers (e.g. residents, schools).

The ECM is a 'living document' and will be updated periodically as activities or the site changes (i.e. prior to construction commencing). All ECMs will be submitted to Sydney Metro for review and endorsement.

Figure 5.1: Environmental Control Map

AW EDWARDS	DRAWING TITLE	ENVIRONMENTAL CONTROL MAP	DRAWN	M. RYAN
	PROJECT NAME	CROWS NEST CONSTRUCT ONLY PACKAGE	REVIEWED	D. GREEN
	LOCATION	CROWS NEST, NORTH SYDNEY	REVISION NO.	1
	SHEET NUMBER	1	REVISION DATE	17/12/2020

5.2 KEY ENVIRONMENTAL RISKS

The environmental assessments prepared for the projects' (refer to **Section 3.1**) identified the environmental risks and environmental safeguards to be implemented to avoid or minimise these risks.

The key environmental impacts which will arise during construction include:

- Temporary traffic and pedestrian impacts.
- Temporary noise and vibration impact to the adjacent community.
- Potential to track materials on to public road and associated sedimentation of the stormwater network and waterways.
- Temporary generation of dust and other air emissions.
- Potential to pollute surface or groundwater.
- Potential for inadvertent damage to identified and/or unidentified Aboriginal and Non-Aboriginal heritage items within proximity to the works.
- Potential to encounter unidentified contaminated materials, and associated management/disposal of these materials.
- Socio-economic and other general impacts to the surrounding community.
- Temporary visual impacts associated with construction.

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

The objectives of the risk assessment are to:

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

An environmental risk assessment is included in **Appendix D**. This risk assessment will be routinely reviewed, as described in **Chapter 10** and addresses the total environmental risk (i.e. when undertaking both the ISD and OSD projects).

Any additional site-specific environmental risks identified by the environmental assessments are detailed in this CEMP or respective sub plan or procedures, along with the site-specific mitigation and management measures to minimise the potential and severity of these risks.

All requirements of the environmental assessments as reiterated in this CEMP must be implemented prior to, and during construction of the project.

5.3 WASTE MANAGEMENT

5.3.1 Potential impacts

The types and quantities of construction waste generated by the project would vary throughout the stages of construction.

Potential waste management issues during construction would include:

- Waste being directed to landfill due to the inadequate collection, classification and disposal of waste, which would increase the demand for landfill capacity within the Sydney region;
- Contamination of soil, surface and / or groundwater from the inappropriate storage, transport and disposal of liquid and solid wastes;
- An increase in vermin from the incorrect storage, handling and disposal of putrescible waste from construction sites;
- Incorrect classification and / or disposal of waste, including the incorrect storage, handling and disposal of contaminated spoil and other hazardous materials;
- Excessive amounts of materials being ordered, resulting in a large amount of left-over, unused resources; and
- Lack of identification of feasible options for recycling or re-use of resources.

All waste would be segregated and stockpiled on site, with materials such as bricks and tiles, timber, plastic and metals being separated where practicable and sent to a waste facility with recycling capabilities.

All waste would be classified in accordance with the *Waste Classification Guidelines* (EPA, 2014) and directed to a waste management facility that is lawfully permitted to accept that type of waste.

If previously unidentified area(s) or types of contaminated material are encountered, all relevant work would cease in the vicinity of the discovery. Relevant works would not recommence until the need for and scope of remedial action(s), if required, is identified in accordance with the requirements of the NSW *Contaminated Land Management Act 1997*.

Any spoil classified as being contaminated per *Waste Classification Guidelines* (EPA, 2014) would be directed to a waste management facility that is lawfully permitted to accept that type of waste.

5.3.2 Management and mitigation measures

Waste generated during construction and operation will be dealt with in accordance with the following priorities:

- waste generation is to be avoided and where avoidance is not reasonably practicable, waste generation is to be reduced.
- where avoiding or reducing waste is not possible, waste is to be re-used, recycled, or recovered.
- where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of.

Table 5.3 outlines the mitigation and management measures to be implemented to ensure appropriate management of waste generated by the project.

Table 5.3: Waste mitigation and management measures

REFERENCE	MITIGATION MEASURE	TIMING	RESPONSIBILITY
WR1	All waste would be assessed, classified, managed and disposed of in accordance with the NSW Waste Classification Guidelines.	Construction	Foreman
WR2	100 per cent of spoil that can be reused would be beneficially re-used in accordance with the project spoil re-use hierarchy.	Construction	Construction Manager Site Manager

			Foreman
WR3	A recycling target of at least 90 per cent would be adopted for the project.	Construction	Construction Manager
WR4	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	Construction	Site Manager

5.4 HAZARDS AND RISKS

5.4.1 Potential impacts

Potential hazards and risks during construction would be associated with:

- The on-site storage, use and transport of dangerous goods and hazardous substances;
- The rupture of, or interference with, underground utilities;
- Risk of damage to existing building basements and ground support structures due to ground movement and geotechnical uncertainty; and
- Bushfire risks.

Storage and transportation of dangerous goods / hazardous substances

Typically, low volumes of potentially hazardous materials would be stored on site. The volume required to be stored on site would largely depend on the anticipated rates of consumption, with deliveries of dangerous goods coordinated to match consumption rates. This could be about one delivery per day if needed to meet storage thresholds based on the proximity of sensitive receivers, provided that this is within transport thresholds.

Construction site planning would ensure hazardous materials are stored appropriately and at an appropriate distance from sensitive receivers, in accordance with the thresholds established under SEPP 33. Should the minimum buffers be unable to be maintained, either due to space constraints, the close proximity of sensitive receivers, or a requirement to store volumes of hazardous materials in excess of storage thresholds, a risk management strategy would be developed on a case by-case basis.

Environmental hazards and risks associated with the on-site storage, use and transport of chemicals, fuels and materials would be managed through standard mitigation measures and all hazardous substances would be stored and managed in accordance with the *Work Health and Safety Act 2011*, the *Storage and Handling of Dangerous Goods Code of Practice* (WorkCover NSW, 2005) and *Applying SEPP 33* (Department of Planning, 2011).

Rupture of, or interference with, underground utilities

A number of utilities would need to be adjusted, relocated and / or protected to enable construction of the project. Damage, rupture and / or failure to shut down or isolate underground utilities during this work has the potential to result in the following environmental hazards and risks:

- Release of untreated sewage and / or gas from a sewer main;
- Release of natural gas from a gas main; and
- Release of large electrical currents through the ground surface from an underground electricity cable (known as earth potential rise).

The risk associated with these hazards would be minimised by carrying out utility checks (such as dial before you dig searches and non-destructive digging), consulting with the relevant utility providers and, if required, relocating and / or protecting utilities in and around the project prior to construction.

Bushfire risks

The site is in a highly developed urban environment that generally lacks substantial areas of vegetation. Therefore, bushfire risks are negligible.

5.4.2 Management and mitigation measures

Table 5.4 outlines the mitigation and management measures to be implemented to minimise the potential for hazards and risks associated with the project.

Table 5.4 Hazard and risk mitigation and management measures

REFERENCE	MITIGATION MEASURE	TIMING	RESPONSIBILITY
HR1	All hazardous substances that may be required for construction and operation would be stored and managed in accordance with the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005) and Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (Department of Planning, 2011).	Construction	Foreman
HR2	Dial before you dig searches and non-destructive digging would be carried out to identify the presence of underground utilities.	Pre-construction and construction	Site Manager Foreman
HR3	Hazardous material survey would be completed for those buildings and structures suspected of containing hazardous materials (particularly asbestos) prior to their demolition. If asbestos is encountered, it would be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	Pre-construction and construction	Site Manager Foreman

5.5 SOCIAL AMENITY

5.5.1 Existing environment

Community infrastructure around the Crows Nest Station site includes:

- Cultural facilities and places of worship, such as Northside Community Church, on the corner of Oxley Street and Pole Lane;
- Sport and recreation facilities, such as the North Sydney Indoor Sports Centre, on Clarke Street and Hume Street, and Crows Nest Dance Centre on the Pacific Highway;
- Kelly's Place Children's Centre, on the corner of Clarke Street and Hume Street; and
- A number of healthcare facilities on Clarke Street, such as Crows Nest Day Surgery, Crows Nest Eye Surgery, Dental on Clarke, Special Needs Dentistry Practice, Special Medical Practice, North Shore Oral and Maxillofacial Surgery, and Specialist Endo Crows Nest.

5.5.2 Potential impacts

Impacts to businesses

Businesses could be disrupted by planned or temporary closures of Clarke Lane, Clarke Street and Hume Street for between 6 and 15 months. The potential impacts would relate to servicing and delivery constraints for business located along the Pacific Highway and in surrounding streets such as Clarke Street, Hume Street and Oxley Street. Many of these businesses rely heavily on servicing and deliveries as they are retail showrooms for furniture, homewares, picture framing and other bulky goods.

Construction hoarding, changed access routes and perceived access challenges could disrupt pedestrian access and affect the visibility of businesses.

Construction work could disturb businesses and the work environment, although expected impacts would be substantially with the implementation of suitable mitigation measures. The project's construction workers would require food and beverage services and other goods. This would especially benefit, and potentially offset impacts on, businesses which may otherwise lose some regular trade around Clarke Street, Oxley Street and Hume Street.

Community health

If unmanaged, noise, light spill, dust and vibration from construction activities may impact on the health and wellbeing of some residents and occupants of buildings nearest to the site. In particular, the potential for dust from construction activities to impact on health of some sections of the community who may be more sensitive to changes in air quality (such as children or elderly people who suffer asthma or similar conditions), is likely to be of concern for some community members. This impact is most likely to occur where night-time work results in sleep disturbance over extended periods or where construction activities create extended periods of high noise or dust levels.

Most construction activities would be carried out during standard daytime construction hours. Some other activities may also need to be carried out outside of standard daytime construction hours to minimise disruptions to local and regional road networks and rail services. The implementation of mitigation measures, in conjunction with ongoing consultation and communication with local communities, would help to manage potential impacts on community health. Uncertainty about local changes associated with the project and project impacts would have the potential to impact on health, wellbeing and / or quality of life for some people.

Consultation and communication with affected property owners and communities about the project's property requirements and construction activities (including timing, likely impacts and mitigation measures) will be important in reducing uncertainty and helping people make decisions about their property and / or business.

Public safety

The use of local roads by construction vehicles and an increase in construction traffic may impact on community perceptions of road safety.

Pedestrian and cycle access would be maintained near the site, however temporary changes would be required to some footpaths to ensure the safety of pedestrians and cyclists.

Changes to public spaces and footpaths may impact on peoples' perceptions of safety through reduced sight lines, opportunities for casual surveillance and levels of activity.

The needs of people with mobility difficulties – such as children, elderly people and people with disability – would also be considered in the design of temporary pedestrian and cycle facilities. Where possible, traffic controllers will be used to ensure safety for pedestrians and cyclists, such as at the access points to the site. Temporary changes to pedestrian and cycle access would need to be clearly communicated and marked to ensure safety for pedestrians and cyclists.

If unmanaged, the use of Clarke Street and Hume Street by heavy vehicles accessing the construction site may present a safety risk for parents and children accessing Kelly's Place Children's Centre, particularly during morning drop-off and afternoon pick-up times, as well as for people using North Sydney Indoor Sports Centre. The Kelly's Place Children's Centre drop off area would not be directly affected by the project.

5.5.3 Management and mitigation measures

Table 5.5 outlines the mitigation and management measures to be implemented for the project to minimise the potential for adverse noise and vibration impacts to surrounding sensitive receivers.

Table 5.5: Social and visual amenity mitigation and management measures

REFERENCE	MITIGATION MEASURE	TIMING	RESPONSIBILITY
BI1	Specific consultation would be carried out with businesses potentially impacted during construction. Consultation would aim to identify and develop measures to manage the specific construction impacts for individual businesses.	Pre-construction and construction	Stakeholder & Community Relations Manager
BI2	A business impact risk register would be developed to identify, rate and manage the specific construction impacts for individual businesses.	Pre-construction and construction	Stakeholder & Community Relations Manager
BI3	Appropriate signage would be provided around construction sites to provide visibility to retained businesses.	Pre-construction and construction	Stakeholder & Community Relations Manager Site Manager Foreman
SO2	Specific consultation would be carried out with sensitive community facilities (including aged care, child care centres, educational institutions and places of worship) potentially impacted during construction. Consultation would aim to identify and develop measures to manage the specific construction impacts for individual sensitive community facilities.	Pre-construction and construction	Stakeholder & Community Relations Manager
LV1	Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts, for example materials and machinery would be stored behind fencing.	Construction	Site Manager Foreman
CEMF 4.4 a	A W Edwards will develop and implement a Landscape and Temporary Works Management Plan for their scope of works. The Landscape and Temporary Works Management Plan will ensure as a minimum: • Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including: Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations. • Project information to raise awareness on benefits, explain the proposed works at each site and provide	Construction	Site Manager

REFERENCE	MITIGATION MEASURE	TIMING	RESPONSIBILITY
	updates on construction progress. • Community information, including contact numbers for enquiries / complaints. • Signage and information to mitigate impacts on local businesses which may be obscured by the construction site. • Sydney Metro advertising / public awareness campaigns. • Logos / branding, including Sydney Metro, NSW Government, and Contractor branding.		
CEMF 4.4 b	The design of all temporary works will require Sydney Metro approval in relation to urban design and visual impacts.	Construction	Site Manager
CEMF 4.4 c	Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.	Construction	Site Manager
CEMF 4.4 d	The principles of Crime Prevention Through Environmental Design will be applied to all works, including temporary works, that have a public interface.	Construction	Site Manager

5.6 SUSTAINABILITY

5.6.1 Potential impacts

Greenhouse gas emissions would be generated during the construction of the project, with substantial energy-consuming activities anticipated to occur over the construction period.

Greenhouse gas emissions would predominantly be generated as a result of:

- Combustion of fuel in construction plant, equipment and vehicles – these would be Scope 1 emissions (direct emissions occurring on-site);
- Electricity used at the construction site – these would be Scope 2 emissions (occurring off-site at power stations); and
- Embodied emissions in key construction materials, including cement and steel – these would be Scope 3 emissions (energy and resources of construction materials consumed to produce a particular construction material).

5.6.2 Potential impacts

Table 5.6 outlines management measures to be implemented for the project to promote sustainability and minimise generation of greenhouse emissions.

Table 5.6: Sustainability mitigation and management measures

REFERENCE	MITIGATION MEASURE	TIMING	RESPONSIBILITY
SUS1	Sustainability initiatives would be incorporated into the detailed design and construction of the project to support the achievement of the project sustainability objectives.	Construction	Planning & Environment Manager
SUS2	A best practice level of performance would be achieved using market leading sustainability rating tools during design and construction.	Construction	Construction Manager
SUS5	An iterative process of greenhouse gas assessments and design refinements would be carried out during detailed design and construction to identify opportunities to minimise greenhouse gas emissions. Performance would be measured in terms of a percentage reduction in greenhouse gas emissions from a defined reference footprint.	Construction	Construction Manager
SUS6	25 per cent of the greenhouse gas emissions associated with consumption of electricity during construction would be offset.	Construction	Planning & Environment Manager

5.7 HOLD POINTS

Hold points beyond which approval is required to proceed with a certain activity are summarised in **Table 5.7**.

Table 5.7: Hold points

HOLD POINT	RELEASE OF HOLD POINT	BY WHOM
Prior to Vegetation Clearing / Ground Disturbance	• Pre-clearing inspection • Erosion and sediment control plan	• Qualified Ecologist • Contractor's Environmental Manager
Discharge of water	• Water tested to verify compliance and approval to discharge • Construction Groundwater Management Plan • Construction Soil and water Management Procedure	• Planning and Environment Manager
Out of hours works	• Construction Noise and Vibration Management Plan • Out of hour works approval	• Planning and Environment Manager

HOLD POINT	RELEASE OF HOLD POINT	BY WHOM
Use of local roads by heavy vehicles	• Road dilapidation report	• Transport engineer/ consultant
Construction identified as affecting buildings	• Building condition survey	• Construction surveyor

6 TRAINING AND AWARENESS

All employees will receive suitable environmental induction and training to ensure that they are aware of their responsibilities and are competent to carry out the work. Environmental requirements will be outlined during the project induction and on-going training via toolbox talks, briefings, notifications and targeted aspect specific training.

6.1 ENVIRONMENTAL INDUCTION

All personnel, including sub-contractors, are required to attend a compulsory program induction that includes an environmental component prior to commencement on the project. The Planning & Environment Manager (or delegate) will present the environmental component of the program induction. The environmental component will include an overview of:

- Relevant details of the CEMP including purpose and objectives
- General environmental management requirements and responsibilities.
- Incident response and reporting requirements.

All construction personnel will also be subject to a project specific environmental induction prior to the commencement of works, including as a minimum:

- Training purpose, objectives and key issues.
- Contractor's environmental policy and key performance indicators.
- Due diligence, duty of care and responsibilities.
- Relevant conditions of any environmental licence and/or the relevant conditions of approval.
- Site specific issues and controls including those described in the environmental procedures.
- Reporting procedure for environmental hazards and incidents.
- Communication protocols.
- Specific environmental management requirements and responsibilities.
- Site environmental rules and mitigation measures for the control of environmental issues.
- Information relating to the location of environmental constraints.

The Planning & Environment Manager may authorise amendments to the inductions where required to address project modifications, legislative changes in response to incidents or amendments to this CEMP or related documentation.

The Training & Competency Manager will establish and maintain an induction register that includes the following:

- Induction date.
- Name of the training course/topic.
- Names of persons trained, their position and signature.
- Trainer details providing to all employees.

6.2 STRATEGIC ENVIRONMENTAL TRAINING AND UPSKILLING

Targeted environmental training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management, or those undertaking an activity with a high risk of environmental impact (e.g. spill response training will be provided to all Foremen).

6.3 TOOLBOX TALKS, TRAINING AND AWARENESS

Toolbox talks will be used to raise awareness and educate personnel on construction related environmental issues. The toolbox talks will be used to ensure environmental awareness continues during construction.

Toolbox talks will be tailored to specific environmental issues including (but not limited to):

- Erosion and sedimentation control.
- Hours of work.
- Emergency and spill response.
- Aboriginal and non-Aboriginal heritage.
- Noise.
- Housekeeping and waste.
- Concrete washout.
- Excavation dewatering.
- Dust control.
- General procedures for site preparation prior to absence or significant rain events.
- Out of hour work approval processes.
- Working outside of standard construction hours (including monitoring of noise and light spill).
- Dealing with members of the public and/or stakeholders.
- Use of non-tonal reverse alarms.

Toolbox talk attendance is mandatory, and attendees of Toolbox talks are required to sign an attendance form. Records of toolbox talk attendance will be maintained.

Awareness notes, in the form of posters, booklets or similar may be developed and distributed to Site Managers, foremen and others with a responsibility for managing specific work locations or activities. Awareness notes may also be distributed to the broader workforce at daily pre-start meetings or made available in worker crib sheds/break facilities.

The Planning & Environment Manager will review the training program and monitor its implementation.

6.4 DAILY PRE-START MEETINGS

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

The Foreman, or other appropriate site staff member, will conduct a daily pre-start meeting for the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Pre-start meetings may be project-wide and/or held for specific work areas. The environmental component of pre-starts will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered and a register of attendees will be maintained and the records captured.

6.5 ENVIRONMENTAL ALERTS

The Planning & Environment Manager will promote regular environmental alerts to be distributed to the wider project team and sub-contractors. Such environmental alerts may include:

- Highlight environmental legislation changes.
- Industry news.
- New technology or innovations regarding environmental management.
- Lessons learned from site inspections and audits.
- Promotion of a culture of continuous improvement in response to identified poor performance trends.
- Highlighting environmental case studies or excellent performance on the project.

To promote excellent environmental performance across the Sydney Metro project, at the discretion of the Project Director, the Planning & Environment Manager may distribute environmental alerts for wider internal distribution within Sydney Metro and other contracts.

6.6 SUBCONTRACTORS

A W Edwards will build effective relationships with subcontractors and suppliers to ensure they positively contribute to the environmental management and sustainability performance of the project by considering environment and sustainability proactively when procuring all supplier agreements and subcontracts including:

- Preparing environment and sustainability subcontractor requirements to be included in requests for tenders to set out sustainability and workforce targets.
- Using the pre-award tender interview questionnaire to request detailed information on environmental performance, sustainability compliance and workforce details.
- Using environment, sustainability and workforce criteria in selecting subcontractors and suppliers.
- Writing key sustainability and workforce requirements into contracts where relevant.
- Assessing compliance with local regulations and human rights standards for proposed supply contracts with a value over $5M where the proposed supplier undertakes some manufacturing in a developing country.

As part of their subcontract all sub-contractors will be required to comply with the project planning approval and all licences and permits and the relevant environment management documentation. All subcontractors working at the project will be required to comply with this CEMP. AWE will verify subcontractor compliance with the project environmental requirements through the weekly environmental inspections. Subcontractors will not be permitted to operate under their own environmental management documentation.

All subcontractors will be required to participate in or complete a risk assessment including the potential environmental risks associated with their work package and comply with all relevant environment and planning documents. All subcontractors will be required to attend the induction as well as a specific site induction/prestart/toolbox talks relevant to the area they are working in. Subcontractors will be required to attend formal training courses and/or site toolbox talks at the direction of A W Edwards.

In addition, subcontractors will be required to be inducted into ECM relevant to their work. Each subcontractor is responsible for conducting toolbox talks with their own employees. The subcontractor will maintain a record of toolbox talks it holds which includes the date and time the meeting was conducted, the individuals who attended and the specific topics addressed.

7 COMMUNICATION AND CONSULTATION

7.1 COORDINATION MEETINGS

Environment and planning coordination meetings attended by representatives from the environment and sustainability team, independent ER and representatives from Sydney Metro will be held fortnightly (unless otherwise agreed) to discuss:

- Environment planning approval documentation and approvals progress.
- Any observations, issues and trends arising from independent ER Inspections.
- The management of any environmental complaints.
- Any non-conformance notices.
- Upcoming works.

This meeting is an 'open' forum for discussions of environment and planning related items. Meetings minutes will be documented and actions allocated.

7.2 INTERNAL COMMUNICATION

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

The A W Edwards management team will meet regularly to discuss on-site environmental management, amendments to plans, changes to construction activities, environmental monitoring results and other relevant aspects of the project.

Regular meetings may also be scheduled with the Sydney Metro environmental representative to communicate ongoing environmental performance and to discuss issues to be addressed.

The Planning & Environment Manager will participate regularly in toolbox talks to communicate to the wider project personnel on environmental performance including sensitive environmental matters for future work areas, and to receive feedback from on-site personnel.

7.3 COMMUNICATION WITH AGENCIES AND AUTHORITIES

The Planning & Environment Manager will be the main point of contact regarding specific environmental issues.

The Planning & Environment Manager has the responsibility to report on the ongoing environmental performance of the project to Sydney Metro.

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

- Clint Wilson (Construction Manager).
- Colin Danby (Project Director).

Refer to **Chapter 8** for details on how A W Edwards communicates with agencies and authorities about pollution incidents that cause or threaten material harm to the environment.

7.4 STAKEHOLDER AND COMMUNITY CONSULTATION

7.4.1 Community communication strategy

A Community Communication Strategy (CCS) has been developed for both projects to provide mechanisms to facilitate communication between A W Edwards, Sydney Metro, North Sydney Council, government stakeholders and the local community on the construction-related and environmental matters.

The Community Engagement Manager will advise neighbours of the nature and scope of works. This shall be done via letter box drops and or community meetings. In some instances, Sydney Metro shall take responsibility for advising neighbours (refer contract conditions).

Notifications will be distributed to the local community affected by the works to inform them of the project's activities, provide information and offer them an opportunity to make enquires about the project. Specific notification may also be required for some activities e.g. noise intensive works, out of hours work.

Written notifications will be made in advance of works commencing and during construction for specific construction elements. This will include contact details of the A W Edwards Site Manager and Sydney Metro Project Manager (where applicable).

During construction, community notifications will occur via letter box drop at least one month prior to construction commencing and then again at least seven days in advance of construction work which would impact the resident or business. This will give residents a brief overview of the project and how residents may be impacted. In addition to letter box drops, A W Edwards will provide a community enquiries hotline which will be detailed on site safety notice boards.

7.4.2 Complaints and enquiry management

Community liaison and complaints handling will be undertaken in accordance with the CCS and will include:

- A W Edwards will deal with complaints in a responsive manner so that stakeholders' concerns are managed effectively and promptly.
- A verbal response will be provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise).
- A detailed written response will then be provided, if required, to the complainant within one week.

Information on all complaints received during the previous 24-hours shall be forwarded to Sydney Metro and the independent ER (when related to the ISD Project) with provision to the AA being in accordance with CoA A27 (c) of the CSSI Approval.

All complaints received must be recorded in the Consultation Manager database (Complaints Register), which is curated by Sydney Metro:

- Date of complaint.
- Name, address, telephone number of complainant.
- Nature of complaint.
- Date and nature of response action.

Any remedial action must be taken as soon as practical. Any action taken shall be recorded on the corrective action request (SE4601). The Complaints Register will be provided to the Secretary upon request, within the timeframe stated in the request.

The following facilities will be available within one month from the date of approval and for 12 months following the completion of construction and appropriately broadcast to collect community enquiries and complaints:

- A 24 hour telephone number for the registration of complaints and enquiries about the project;
- A postal address to which written complaints and enquires may be sent;
- An email address to which electronic complaints and enquiries may be transmitted; and
- Place-based community manager for each of the station locations available to meet with community members on request.

The telephone number, postal address and email address will be published in a newspaper circulating in the local area and on-site hoarding at each construction site before commencement of construction and published in the same way again before commencement of operation.

Phone enquiries

A verbal response to phone enquiries on what action is proposed to be undertaken is to be provided to the complainant within two hours during working times and within 24 hours during non-working times (unless the complainant agrees otherwise). A detailed written response to the complainant, which captures the details of their complaint and the actions implemented in response to their complaint, is to be provided within seven calendar days of the complaint being recorded.

Email/written enquiries

A verbal response to written complaints (email/letter) should be provided within 48 hours of receipt of the communication. A detailed written response to the complainant, which captures the details of their complaint and the actions implemented in response to their complaint, is to be provided within seven calendar days of the complaint being recorded.

Client notification

Information on all complaints received during the previous 24-hours shall be forwarded to the Sydney Metro community relations manager.

Handover of complaint records

Upon completion of each project, all complaint records shall be handed over to Sydney Metro for its record keeping.

8 INCIDENT AND EMERGENCY MANAGEMENT

8.1 DEFINITION

An incident is defined in the project planning approval as an occurrence or set of circumstances, that causes or threatens to cause, material harm to the environment, community or any member of the community, being actual or potential harm to the health or safety of human beings or to threatened species, endangered ecological communities or ecosystems that is not trivial.

Material harm to the environment is defined by Section 147 of the POEO Act as follows:

147 Meaning of material harm to the environment

1. For the purposes of this Part
    - harm to the environment is material if
        - it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
        - it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and
    - loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.
2. For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Under Section 148 of the POEO Act, environmental incidents causing or threatening material harm to the environment must be reported to the EPA.

All environmental incidents and emergencies will be managed in accordance with the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure (SM-17-00000096).

8.2 RESPONSE

In the event of an environmental incident causing or threatening material harm to the environment (as defined under Section 147 of the POEO Act), the following process would be followed:

1. Assess and declare incident

- All potential or actual environmental incidents would be verbally notified to the Foreman immediately.
- All works on the site are to cease immediately and the Foreman would immediately notify the Site Manager, Construction Manager and Planning & Environment Manager of the incident. No works are to recommence without the written approval of the Planning & Environment Manager and Sydney Metro.
- The Foreman would direct actions to contain and/or minimise material harm caused by the incident and protect the environment and community where safe to do so. An exception to this would be where such action would result in additional material harm to the environment.
- The Foreman would document detailed information regarding the incident including:

- Time, date, nature, duration and location of the incident.
- Location of the place where pollution is occurring or is likely to occur.
- Nature, the estimated quantity or volume and the concentration of any pollutants involved (if known).
- Circumstances in which the incident occurred (including the cause of the incident, if known).
- Any action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution.

2. Notify the incident

- The Planning & Environment Manager and Site Manager would immediately notify the Sydney Metro environmental representative, independent ER and Sydney Metro Project Manager. The Secretary will be notified as soon as possible and in any event within 24 hours of the incident. The Secretary will be notified the time and date of the incident, details of the incident and any non-compliance with the conditions of approval. A W Edwards and Sydney Metro would work together to immediately determine if the incident is to be notified to the regulatory authorities as per environmental legislation requirements. If the incident is deemed to be required to be notified, all relevant authorities must be notified immediately (in this order):
  - EPA.
  - DPHI.
  - NSW Health.
  - SafeWork NSW.
  - Local council.
  - Fire and Rescue NSW.

Contact numbers can be found in contacts section at the front of this CEMP. If statutory notification is given to the EPA as required under the POEO Act in relation to the CSSI, such notification will also be provided to the Secretary for information within 24 hours after the notification was given to the EPA.

3. Manage incident

- The Planning & Environment Manager (or delegate) would arrange to attend the site as soon as possible to inspect the environmental incident and advise the Foreman on additional management and monitoring measures to be implemented in addition to initial clean up measures previously implemented.
- If required, the Planning & Environment Manager would liaise with the Sydney Metro environmental representative and the independent ER to determine response measures for the control and management of the environmental incident.
- Any requirements of the Secretary or Relevant Public Authority to address the cause or impact of the incident will be met within the timeframe determined by the Secretary or relevant public authority.

4. Record the incident

- The Planning & Environment Manager would record details of the environmental incident.
- Incident reports will be provided to Sydney Metro within 24 hours of becoming aware of the incident, including a root cause analysis and lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. Incidents will be closed out as quickly as possible, all required action will be taken to resolve each environmental incident.

9 INSPECTIONS, AUDITING AND MONITORING

9.1 CONSTRUCTION MONITORING

The following construction monitoring programs must be prepared in consultation with the relevant government agencies identified for each construction monitoring program to compare actual performance of construction of the project against predicted performance. Per CoA C17 of the CSSI Approval, the Construction Monitoring Programs for the ISD Project have been incorporated into the relevant CEMP sub-plan. The results of the Construction Monitoring Programs will be submitted to the Secretary for information, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant construction monitoring programs. The construction monitoring programs will be incorporated into the following CEMP sub-plans in accordance with CoA C17 of the CSSI Approval:

- Noise and Vibration (included in Construction Noise and Vibration Management Plan)
- Groundwater (included in Construction Groundwater Management Plan)

The independent ER must endorse the construction monitoring programs and Sydney Metro must submit to the Secretary for approval at least one (1) month before commencement of construction or within another timeframe agreed with the Secretary.

Construction must not commence until the Secretary has approved all the required construction monitoring programs, and all relevant baseline data for the specific construction activity has been collected.

Refer to **Table C.1** for specific construction monitoring program CoAs.

9.2 ENVIRONMENTAL INSPECTIONS

Environmental inspections will be regularly completed to confirm the implementation and adequacy of the CEMP in achieving required compliance and environmental outcomes. Environmental inspections also provide an opportunity to investigate whether the controls implemented on site could be altered to improve outcomes beyond compliance. The program of environmental inspections to be carried out is summarised in Table 9.1, with further details provided in the following sub-sections.

Table 9.1: Schedule of environmental inspections

DELIVERABLE	FREQUENCY	RESPONSIBLE PARTY
Environmental inspection	Weekly	• A W Edwards
Sydney Metro inspection	Ad hoc (dependent on environmental risk)	• Sydney Metro
ER inspection	Ad hoc (dependent on environmental risk)	• ER
AA inspection	Ad hoc (dependent on environmental risk)	• AA
Shutdown inspection	Prior to any period where the project will be shut down for more than four days	• A W Edwards
Stakeholder inspection	Ad hoc (dependent on environmental risk)	• DPHI

9.2.1 Weekly inspections

The Environmental Coordinator will inspect work sites weekly and after rainfall to evaluate the effectiveness of environmental controls. The results of the inspections will be recorded manually in the Hazard and Observation Sheet (SE6301) or a digital form maintained in Hammertech. The Planning & Environment Manager (or delegate) may also regularly inspect work sites based on the specific environmental risk of each site.

As an additional demonstration of leadership, senior A W Edwards management will inspect the project on a quarterly basis.

Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority. The completion of the actions will be monitored to ensure they are implemented within the agreed timeframes.

Environmental monitoring, including monitoring of sub-contractors' activities, must be conducted as an on-going activity during the normal (continuous) course of supervision of works.

Records of such surveillance will be kept and will include if any environmental issues are observed. Should environmental issues be identified by the Site Manager, the environmental issues shall be recorded on the Hazard and Observation Sheet (SE6301) or in Hammertech. The Site Manager shall manage the close out of the identified issues.

9.2.2 Sydney Metro and Independent ER environmental inspections

Sydney Metro and the independent ER may regularly inspect the ISD Project during construction. The frequency of inspections by Sydney Metro and the independent ER would depend on the complexity of the work and anticipated environmental risks associated with construction of the individual component of the project.

The Planning & Environment Manager (or delegate) will participate in all Sydney Metro and independent ER environmental inspections and records will be maintained. Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

9.2.3 AA inspections

The AA may request to undertake inspections to monitor the implementation of noise and vibration requirements. The inspections may be required out of hours to review requirements of the permits are implemented. The Planning & Environment Manager will facilitate the inspection with the AA. The AA will prepare an inspection checklist documenting the inspection and any observations and actions with an agreed close out timeframe based on the environmental risk of the action.

9.2.4 Shutdown inspections

Prior to any period where the site will be shut down for more than four days (i.e. long weekends, the Christmas period, etc.) a shutdown inspection to identify any additional environmental controls needed to minimise the potential for environmental impacts during the site shutdown period will be undertaken by the Planning & Environment Manager.

Copies of these internal inspection records will be provided to Sydney Metro and the independent ER for information.

9.2.5 Stakeholder inspections

An authorised DPHI officer may inspect the site to monitor environmental performance and compliance with the relevant project planning approval. The project team is obliged to grant

access and assist DPHI during all site inspections. DPHI officers inspecting the site will be asked to undertake a visitors induction, remain with, and always follow the directions of their project escort to ensure that they are aware of safety requirements and maintain their safety while on site.

Where required, an authorised EPA officer may inspect the site to monitor compliance with the POEO Act. The project team is obliged to grant access and assist EPA during all site inspections. EPA officers inspecting the site will be asked to undertake a visitors induction, remain with, and always follow the directions of their project escort to ensure that they are aware of safety requirements and maintain their safety while on site.

9.3 AUDITING AND REPORTING

A W Edwards is committed to always ensuring compliance with the project planning approval and all applicable environmental legislation. Table 9.2 summarises the compliance tracking and auditing deliverables for the duration of construction, and additional detail for each deliverable is provided in the sub-sections.

Table 9.2: Schedule of compliance auditing

DELIVERABLE	FREQUENCY	RESPONSIBLE PARTY
Pre-construction compliance report	Prior to construction commencing	• Sydney Metro (prepare and submit) • A W Edwards (input)
Building condition surveys	Prior to construction commencing	A W Edwards
Road dilapidation survey	Prior to construction commencing	A W Edwards
Internal audit	Every three months from the commencement of construction	A W Edwards
Construction compliance report	Every six months from the commencement of construction	• Sydney Metro (prepare and submit) • A W Edwards (input)
Independent environmental audit	Every year from the commencement of construction	Sydney Metro

9.3.1 Independent environmental audits

Sydney Metro is responsible for the environmental audit program as required by the CSSI Approval and SSD Approval. The audit program has been prepared in accordance with AS/NZS ISO 19011:2014 *Guidelines for Auditing Management Systems*. The audits will be conducted by a suitably qualified, experienced and independent team of experts in auditing. A W Edwards will participate in any scheduled audits where required and provide the independent auditor with any information they require to meet their responsibilities.

The environmental audit report will:

- Assess the environmental performance of the project, and its effects on the surrounding environment.
- Assess whether the project is complying with the terms of the project planning approval.
- Review the adequacy of any document required under the project planning approval (where applicable to the project).
- Recommend measures or actions to improve the environmental performance of the project, and improvements to any document (where applicable) required under the project planning approval.

The audit process will be collaborative and generally include:

- Invitation for representatives from ER, AA, Sydney Metro and A W Edwards to attend and participate. A briefing will be scheduled prior to the audit to confirm the audit scope and provide for input from all parties into the audit checklist. Formal opening and closing meetings.
- The site inspection component of the audit will utilise the independent ER Inspection where possible.
- Audit findings will be documented in a report by exception, with relevant timeframes for action specified. Draft reports will be circulated to audit attendees for review and comment prior to finalisation.

Sydney Metro will submit a copy of the audit report to the Secretary of DPHI with a response to any recommendations contained in the audit report within six weeks of completing the audit.

9.3.2 Internal audits

The Planning & Environment Manager (or delegate) will audit the CEMP on a quarterly basis. Representatives from Sydney Metro and the independent ER and AA will also be involved in the internal auditing process. The first audit must occur no later than three months after commencement of construction. Internal audit frequency may change in response to the management review process described in **Section 9.5**.

Internal audits will verify compliance with:

- This CEMP and supporting documentation.
- The requirements of the environmental assessments and/or project approval requirements.
- Any relevant legal and other requirements (e.g. licenses, permits, regulations, Sydney Metro contract documentation).

A W Edwards shall comply with any Sydney Metro audit requirements; however, the Planning & Environment Manager is to be present.

Any non-conformances raised will be managed and rectified in accordance with **Section 9.4** of this CEMP.

9.3.3 Pre-construction compliance report

Sydney Metro prepared a pre-construction compliance report (PCCR) for the ISD Project, with input from A W Edwards, and submitted the PCCR to DPHI for information on 26 February 2021. The PCCR was developed in accordance with CoA A32 of the CSSI Approval and included details of how the terms of the conditions of approval had been complied with prior to construction and the construction commencement date. Construction of the ISD Project did not commence until the Pre-Construction Compliance Report was submitted to the Secretary.

Similarly, B75 of the SSD Approval requires the preparation of a PCCR and submission of the PCCR to the Certifier for approval before the SSD Project commences construction. The PCCR for the SSD Project must include: details of how the pre-construction phase terms of the SSD Approval have been complied with; and, the expected commencement date of construction.

9.3.4 Compliance tracking and reporting

Sydney Metro is responsible for monitoring and tracking compliance against planning, licensing and permit conditions in accordance with the approved Sydney Metro Compliance Tracking Program and project planning approvals. A copy of the endorsed compliance report for each project must be provided to the Department before the commencement of construction.

The Compliance Tracking Program was endorsed by the ER on 13 March 2017, in accordance with CoA A29 of the CSSI Approval, and submitted to the Secretary for information 28 March 2017 before the commencement of construction.

A W Edwards will assist Sydney Metro by completing the Sydney Metro Compliance Tracking template each quarter for both the ISD Project and SSD Project. Completed templates for the ISD project will be forwarded to the independent ER for endorsement. The Compliance Tracking Program will be implemented for the duration of construction and for a minimum of one year following commencement of operation, or for a longer period as determined by the Secretary based on the outcomes of independent environmental audits, Environmental Representative Reports and regular compliance reviews submitted through Compliance Reports.

9.3.5 Monthly reporting

In accordance with the WHSE Reporting Procedure (AWE-007), project environmental performance data shall be reported each month by the Project Director via the monthly site performance report. The following information will be captured:

- General project status.
- Environmental targets – inspections, audits, non-conformances and incidents.
- Project milestones.
- Key issues for management attention.
- Work completed.
- Work planned.

9.3.6 Construction compliance report

A W Edwards will provide input into a construction compliance report every six months from the commencement of construction. This report is formatted as a tracker and will be submitted to Sydney Metro. The construction compliance tracker must include:

- Commentary on how AWE has complied with all relevant project environmental requirements.
- Evidence to support the compliance commentary.

The Planning & Environment Manager has the responsibility to report on the ongoing environmental performance of projects to Sydney Metro.

9.3.7 Building condition survey

The project must be designed and constructed with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction.

Before commencing construction of the ISD Project, all property owners of buildings identified as being at risk of cosmetic damage were offered a building condition survey. Where an offer was accepted, a structural engineer undertook the survey. The results of the surveys were documented in a Building Condition Survey Report for each building surveyed.

All property owners of buildings for which a building condition survey was carried out will be offered a second building condition survey within 3 months of completion of construction. Where an offer is accepted, building condition surveys will be undertaken by a structural engineer. The results of the surveys will be documented in a Building Condition Survey Report for each building surveyed. Copies of Building Condition Survey Reports will be provided to the owners of the buildings surveyed within one month of the survey being completed.

A Road Dilapidation Report was prepared for local roads proposed to be used by heavy vehicles by the ISD Project and provided to the Relevant Council within three weeks of completing the surveys and no later than one month before the use of local roads by heavy vehicles.

Appropriate equipment will be installed to monitor areas in proximity to construction sites and the tunnel route during construction and for a period of not less than six months after settlement has stabilised with particular reference to risk areas identified in the building and infrastructure condition surveys and/or the geotechnical analysis. If monitoring during construction indicates exceedance of the criteria, then all construction affecting settlement will cease immediately and will not resume until fully rectified or a revised method of construction is established that will ensure protection of affected buildings.

9.4 NON-CONFORMITY, CORRECTIVE AND PREVENTATIVE ACTIONS

A non-conformance is defined as failure to comply with the requirements of this CEMP, project planning approval and/or legislative requirements and station delivery deed. Non-conformances may be identified during environmental inspections or during auditing and compliance reporting activities.

Sydney Metro, the independent ER and if relevant the AA will be notified if a non-conformance occurs.

Any member of the A W Edwards project team may raise a non-conformance. Sydney Metro representatives or other stakeholders may also raise a non-conformance or improvement opportunity using the same process.

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

Corrective and preventative actions and improvement opportunities will be entered into a Corrective Action Request (SE4601) or Hammertech, and will include details of the issue, action required, timing and responsibilities. The record will be updated with date of close out and any necessary notes. The record will be reviewed regularly to ensure actions are closed out as required.

The Site Manager is responsible for initiating any actions required by the issuing of a non-conformance report and for the acknowledgement that the non-conformance has been addressed and closed out.

The Planning & Environment Manager, Site Manager or Foreman, following consultation with the Construction Manager, will stop any non-conforming activities. The works will not

recommence until a corrective/preventative action has been closed out. The independent ER or Sydney Metro environmental representative or Project Manager may also stop works in these circumstances.

A register of corrective actions will be maintained and reviewed regularly by A W Edwards to ensure corrective actions are closed out timeously and to identify any developing trends.

Preventive actions will be identified as follows: environmental events, relevant incidents, complaints, audit findings and non-compliance are discussed at the planning, environment and sustainability coordination meetings.

Trends relating to environmental incidents and non-compliance findings are reviewed at these meetings to identify any reoccurring issues that are indicative of the need to take preventative action. Any member of the project team, including subcontractors, can contribute and provide suggestion to any required or appropriate preventative action.

9.5 MANAGEMENT REVIEW

A W Edwards management will review the CEMP each year to ensure its continuing suitability, adequacy and effectiveness. When the CEMP review is complete an update of system improvements will be communicated to all employees.

The management review shall include consideration of:

- The status of actions from previous management reviews.
- Changes in:
    - External and internal issues that are relevant to the environmental management system.
    - The needs and expectations of interested parties, including compliance obligations.
    - Its significant environmental aspects.
    - Risks and opportunities.
- The extent to which environmental objectives have been achieved.
- Adequacy of resources.
- Relevant communication(s) from interested parties, including complaints.
- Opportunities for continual improvement.

The outputs of the management review shall include:

- Conclusions on the continuing suitability, adequacy and effectiveness of the CEMP.
- Decisions related to continual improvement opportunities.
- Decisions related to any need for changes to the environmental management system, including resources.
- Actions, if needed, when environmental objectives have not been achieved.
- Opportunities to improve integration of the CEMP with other business processes, if needed.
- Any implications for the strategic direction of the organisation.

A W Edwards shall retain documented information as evidence of the results of management reviews.

10 REVIEW AND CONTINUOUS IMPROVEMENT

A W Edwards management reviews will be undertaken as part of the continual improvement process. The Planning & Environment Manager will initiate reviews and include relevant project team members and stakeholders. The A W Edwards management team will meet at least monthly, to review environmental management issues for both projects. The management meeting can be run in conjunction with a wider project team meeting if the Planning & Environment Manager deems it appropriate.

The reviews will include:

- Consideration of the general progress of work and the level of overall environmental risk;
- Consideration of monitoring, inspection and audit results;
- Consideration of recent and relevant incidents and any lessons learnt;
- Consideration of any new regulatory obligations;
- Consideration of any recorded pollution complaints;
- A review of the effectiveness of environmental controls, including erosion and sediment controls;
- Consideration of changes in operational needs such as resourcing;
- Feedback from Sydney Metro and other relevant stakeholders; and
- Outcomes of Construction Compliance Reports.

The outcomes of environmental reviews may trigger amendments to this CEMP and related documentation, revision to the EMS, review of the environmental risk assessment, review of internal audit frequency, re-evaluation of the project objectives and targets, as well as input into other project documents.

Documents will also be reviewed as follows:

- When there is a change in the scope of the project that requires a change in environmental controls.
- When there is a need to improve performance in an area of environmental impact.
- At the completion of environmental audits as required.
- As a result of changes in environmental legislation applicable and relevant to the project.

Should the document review process identify any issues or items within the documents that need updating, it is the responsibility of A W Edwards to prepare the revised documents. The revised document will then be issued to Sydney Metro and the independent ER for endorsement of the changes prior to implementation. Updates to the CEMP and its sub-plans may be approved by the independent ER where the amendments are deemed to be minor, significant changes will be consulted on and approved by the Secretary.

This CEMP and associated documentation would be updated on an annual basis at a minimum and submitted to Sydney Metro.

11 DOCUMENTATION

11.1 APPROVAL AND DISTRIBUTION

The CEMP will be made available to all personnel and sub-contractors via the project document control management system.

The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained at the project site and be electronically available at the A W Edwards office.

Registered copies of the CEMP will also be distributed to:

- Sydney Metro.
- Environmental Representative.
- Project Director.
- Construction Manager.
- Site Manager.
- Planning & Environment Manager.
- Stakeholder & Community Relations Manager.

11.2 ENVIRONMENTAL RECORDS

The Planning & Environment Manager is responsible for maintaining all environmental management documents so that they are always current at the point of use. Types of records include:

- Licenses, permits and approvals.
- Monitoring, inspection and compliance reports/records.
- Correspondence with public authorities.
- Induction and training records.
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action.
- Non-conformance reports and evidence of corrective actions.
- CEMP audit reports.
- Community complaints.
- Waste registers and disposal dockets.
- Hazardous substances registers.
- Community engagement information.
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken.

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements. Only the Planning & Environment Manager, or delegate, has the authority to change any of the environmental management documentation.

11.3 DOCUMENT CONTROL

All records generated in the undertaking of the contract will be retained and managed in accordance with A W Edwards' document control procedures.

Hard copy documents will be clearly labelled folders and a common register of these records shall be maintained to allow document retrieval. All hard copy media which may become illegible over time is to be backed up electronically prior to archiving.

Storage of these electronic records is completed electronically on the A W Edwards network drives. All primary records at the completion of the project will be archived in accordance with statutory requirements of a minimum of seven years.

A W Edwards will coordinate the preparation, review and distribution, as appropriate, of the environmental documents listed in Section 15.1. During construction, the environmental documents will be stored at the main site compound.

The procedure will also ensure that documentation is:

- Developed, reviewed and approved prior to issue.
- Issued for use.
- Controlled and stored for the legally required timeframe.
- Removed from use when superseded or obsolete.
- Archived.

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

11.4 ELECTRONIC INFORMATION

A website providing information in relation to the project was established before work started and will be maintained for the duration of construction, and for a minimum of 12 months following the completion of construction. The following up-to-date information will be published prior to the relevant works commencing in accordance with the requirements of the project planning approvals, and maintained on the website or dedicated pages:

- information on the current implementation status of the project.
- a copy of the documents listed in Condition A1 and Condition A2 of the SSI approval, and any documentation relating to any modifications made to the project or the terms of the approval.
- a copy of each project planning approval in its original form, a current consolidated copy of the approval, and copies of any approval granted by the Minister to a modification of the terms of the approval.
- a copy of any Environment Protection Licence obtained in relation to the project or link to any existing Environment Protection Licence applied to the project.a current copy of each document required under the terms of each project planning approval will be published within one week of its endorsement / approval or before the commencement of any works to which they relate or before their implementation.

APPENDIX A - A W EDWARDS ENVIRONMENTAL SUSTAINABILITY POLICY

AW EDWARDS

ENVIRONMENTAL SUSTAINABILITY POLICY

A W Edwards Pty Limited is committed to excellence, quality and leadership in all of its activities. This includes the implementation of a sustainable approach and commitment to the concept of maintaining a sustainable environment.

A W Edwards demonstrates this commitment to environmental responsibility by:

- Complying with all relevant environmental legislation;
- Setting and communicating meaningful environmental objectives and targets for all aspects of A W Edwards activities, so as to continue to reduce natural resource use, and minimise adverse environmental impacts;
- Incorporating environmental sustainability principles, awareness and understanding into all areas of its work;
- Integrating principles of ecologically sustainable development into all activities;
- Membership and support of key environmental organisations including the Green Building Council of Australia (GBCA);
- Educating A W Edwards staff so that they are qualified to oversee the implementation of effective environmentally sensitive initiatives, both in the design of projects and in construction processes; and
- Managing all its construction activities so as to minimise waste, minimise pollution, and optimise the protection of soil, air and water quality.

The following principles underpin the A W Edwards Sustainability Policy in undertaking our commitment towards environmentally sustainable work sites:

- Incorporating sustainability principles into A W Edwards projects where required;
- Identifying alternative and sustainable courses of action to minimise the environmental impact of A W Edwards activities;
- Creating and promoting an environmentally sustainable and responsible culture across the company;
- Identify opportunities for incorporation of sustainability principles into project procurement and
- Committing to continuous improvement of environment performance

GREG D'ARCY
Chief Executive Officer
A W Edwards Pty Limited

01/07/2020

IMAGE: SYDNEY TRAINS ENGINEERING & MAINTENANCE HUB

APPENDIX B - LEGAL AND OTHER REQUIREMENTS

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
WATER				
Water Management Act 2000 With the exception of controlled activity approvals, the Water Management Act 2000 (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground and includes coastal waters) without an access licence. Do not use of water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	No
Water Management Act 2000	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90	No
	Waterfront land	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No
Protection of the Environment Operations Act 1997	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.	S120 S122	Yes
NOISE				
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes
CONTAMINATED MATERIAL				

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
Protection of the Environment Operations Act 1997	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However, it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. Contamination meets other criteria that may be prescribed by the regulations.	S60	Yes
BIODIVERSITY				
Fisheries Management Act 1994	Dredging or reclamation	Provide the Minister for Primary Industries 28 days' notice of planned dredging or reclamation work.	S199	No
	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No
	Fish passage	Do not block fish passage without a permit	S219	No
Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	No
		Comply with the terms of any EPBC Act approval for the project.		No
WASTE				
Protection of the Environment Operations Act 1997	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or	Part 5.6A	Yes

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
		newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.		
	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environment protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: • is VENM. • does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • is covered by a "general exemption". Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.	Part 3.2 Schedule 1	Yes

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation	Protection of the Environment Operations (Waste) Regulation 2005
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation	Comply with record keeping requirements in relation to the transport of certain types of waste.
HERITAGE				
Heritage Act 1977	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	Yes
		Notify the heritage Council on discovery of a relic	S146	Yes
National Parks and Wildlife Act 1974	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86	No
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes
GENERAL				

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
Protection of the Environment Operations Act 1997	Harming the environment	Do not risk harming the environment by wilfully or negligently: • disposing of waste unlawfully. • causing any substance to leak, spill or otherwise escape (whether or not from a container); or • emitting an ozone depleting substance	S115 S116 S117	Yes
	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes
	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes
	Environmental protection licence	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA.	S47	No
Environmentally Hazardous Chemicals Act, 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
Pesticides Act 1999	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or	S12 S13 S14 S15 S17	Yes

ACT	ACTIVITY/ ASPECT	REQUIREMENT	REFERENCE	APPLICABILITY TO EACH PROJECT
		a pesticide control order under the Act. Compliance with pesticide codes of practice is required.		
National Greenhouse and Energy Reporting Act 2007 and Regulations 2008	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes

APPENDIX C - APPROVALS AND COMPLIANCE MATRIX

The general and CEMP specific conditions from the CSSI Approval and SSD Approval in Table C.1 and Table C.2 are addressed in this CEMP. The environmental issue specific conditions are listed in the respective CEMP sub-plans and procedures.

Table C.1: CSSI-7400 conditions of approval related to this CEMP

COA	REQUIREMENT	REFERENCE
A9	Where the terms of this approval require consultation with identified parties, details of the consultation undertaken, matters raised by the parties, and how the matters were considered must accompany the strategies, plans, programs, reviews, audits, protocols and the like submitted to the Secretary.	Section 1.6
A16	Ancillary facilities that are not identified by description and location in the EIS as amended by the documents listed in A1, must meet the following criteria, unless otherwise approved by the Secretary: (a) the facility is development of a type that would, if it were not for the purpose of the CSSI, otherwise be exempt or complying development; or (b) the facility is located as follows: i. at least 50 metres from any waterway unless an erosion and sediment control plan is prepared and implemented so as not to adversely affect water quality in the waterway in accordance with Managing Urban Stormwater series; ii. within or adjacent to land upon which the SSI is being carried out unless it can be demonstrated that performance criteria established in this approval can be met and that there will be a reduction in impact at other sites and a reduction in the construction program; iii. with ready access to a road network; iv. to prevent heavy vehicles travelling on local streets or through residential areas in order to access the facility, except as identified in the EIS and amended by the documents listed in A1; v. on level land; vi. so as to be in accordance with the Interim Construction Noise Guideline (DECC 2009) or as otherwise agreed in writing with affected landowners and occupiers; vii. so as not to require vegetation clearing beyond the extent of clearing approved under other terms of this approval except as approved by the ER as minor clearing; viii. so as not to have any impact on heritage items (including areas of archaeological sensitivity) beyond the impacts identified, assessed and approved under other terms of this approval; ix. so as not to unreasonably interfere with lawful uses of adjacent properties that are being carried out at the date upon which construction or establishment of the facility is to commence; x. to enable operation of the ancillary facility during flood events and to avoid or minimise, to the greatest extent practicable, adverse flood impacts on the surrounding environment and other properties and infrastructure; and xi. so as to have sufficient area for the storage of raw materials to minimise, to the greatest extent practicable, the number of deliveries required outside standard construction hours.	Section 3.8

COA	REQUIREMENT	REFERENCE
A17	Before establishment of any ancillary facility that satisfies the criteria in Condition A16, the Proponent must prepare an Ancillary Facilities Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment and operation of the ancillary facility. The Ancillary Facilities Management Plan must be prepared in consultation with the EPA and the relevant council(s) and submitted to the Secretary and EPA for information one month before installation of the relevant ancillary facilities. The Ancillary Facilities Management Plan must detail the management of the ancillary facilities and include: (a) a description of activities to be undertaken during construction (including scheduling of construction); (b) 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; and (c) details of how the activities described in subsection (a) of this condition will be carried out to: i. meet the performance outcomes stated in the EIS as amended by documents listed in A1; and ii. manage the risks identified in the risk analysis undertaken in subsection (b) of this condition.	Section 3.8
A18	Minor ancillary facilities comprising lunch sheds, office sheds, portable toilet facilities or the like, that are not identified in the EIS as amended by the documents listed in A1 and which do not satisfy the criteria set out in Condition A16 of this approval must satisfy the following criteria: (a) have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the CEMP required under Condition C1 of this approval; and (b) have been assessed by the ER to have: i. 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; ii. minimal environmental impact with respect to waste management and flooding; and iii. no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.	Section 3.8
A19	Boundary fencing that incorporates screening must be erected around all ancillary facilities that are adjacent to sensitive receivers for the duration of construction unless otherwise agreed with Relevant Council(s), and affected residents, business operators or landowners.	Construction Visual and Landscape Management Plan
A20	Boundary screening required under Condition A19 of this approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers.	Construction Visual and Landscape Management Plan
A22	A suitably qualified and experienced Environmental Representative (ER) who is independent of the design and construction personnel must be nominated by the Proponent, approved by the Secretary and engaged for the duration of construction of the CSSI. Additional ERs may be engaged for the purpose of this condition in which case the obligations to be carried out by an ER under the terms of this approval may be satisfied by any ER that is approved by the Secretary. The details of nominated ER(s) must be submitted to the Secretary for approval no	Section 4.2.7

COA	REQUIREMENT	REFERENCE
	later than one month before the commencement of works, or within another timeframe agreed with the Secretary.	
A23	Works must not commence until an ER nominated under Condition A22 of this approval in respect of such works has been approved by the Secretary.	Section 4.2.7
A24	From commencement of construction until completion of construction, the approved ER must: (a) receive and respond to communications from the Secretary in relation to the environmental performance of the CSSI; (b) consider and inform the Secretary on matters specified in the terms of this approval; (c) 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; (d) review documents identified in Conditions C1, C3 and C9 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so: i. make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary), or ii. make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary); (e) regularly monitor the implementation of environmental management related documents to ensure implementation is being carried out in accordance with what is stated in the document and the terms of this approval; (f) review the Proponent's notification of incidents in accordance with Condition A41 of this approval; (g) as may be requested by the Secretary, help plan, attend or undertake Department audits of the CSSI, briefings, and site visits; (h) 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 this approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary; (i) 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; (j) consider any minor amendments to be made to the documents listed in Conditions C1, C3 and C9 and any document that requires the approval of the Secretary (excluding noise and vibration documents) that comprise updating or are of an administrative or minor nature, and are consistent with the terms of this approval and the documents listed in Conditions C1, C3 and C9 or other documents approved by the Secretary and, if satisfied such amendment	Section 4.2.7
A25	A suitably qualified and experienced Acoustics Advisor (AA), who is independent of the design and construction personnel, must be nominated by the Proponent and engaged for the duration of construction and for no less than six (6) months following operation of the CSSI.	Section 4.6

COA	REQUIREMENT	REFERENCE
	The details of the nominated AA must be submitted to the Secretary for approval no later than one (1) month before commencement of works, or within another timeframe as agreed with the Secretary. The Proponent may nominate additional suitably qualified and experienced persons to assist the lead Acoustics Advisor for the Secretary's approval. The Proponent must cooperate with the AA by: (a) providing access to noise and vibration monitoring activities as they take place; (b) providing for review of noise and vibration plans, assessments, monitoring reports, data and analyses undertaken; and (c) considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.	
A26	Any activities generating noise and vibration in excess of the Noise Management Level derived from the Interim Construction Noise Guideline must not commence until an AA, nominated under Condition A25 of this approval, has been approved by the Secretary.	Section 4.6
A27	The approved AA must: (a) receive and respond to communication from the Secretary in relation to the performance of the CSSI in relation to noise and vibration; (b) consider and inform the Secretary on matters specified in the terms of this approval relating to noise and vibration; (c) consider and recommend, to the Proponent, improvements that may be made to work practices to avoid or minimise adverse noise and vibration impacts; (d) review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, 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); (e) regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval; (f) review the Proponent's notification of noise and vibration incidents in accordance with Condition A41 of this approval; (g) in conjunction with the ER (where required), the AA must: i. consider requests for out of hours construction activities and determine whether to endorse the proposed activities in accordance with Condition E47; ii. as may be requested by the Secretary or Complaints Mediator, help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits; iii. if conflict arises between the Proponent and the community in relation to the noise and vibration performance during construction of the CSSI, follow the procedure in the Community Communication Strategy approved	Section 4.6

COA	REQUIREMENT	REFERENCE
	under Condition B3 of this approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary; iv. consider relevant minor amendments made to any noise and vibration document approved by the Secretary that require updating or are of an administrative or minor nature, and are consistent with the terms of this approval and the document approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; v. assess the noise impacts of minor ancillary facilities as required by Condition A18 of this approval; and vi. 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 which the AA was responsible in the preceding month (or other timeframe agreed with the Secretary) The Noise and Vibration Report must be submitted within seven (7) days following the end of each month for the duration of construction of the CSSI, or as otherwise agreed with the Secretary.	
A29	The Compliance Tracking Program must be endorsed by the ER then submitted to the Secretary for information before the commencement of works or within another timeframe agreed with the Secretary.	Section 9.3.4
A30	The Compliance Tracking Program in the form required under Condition A28 of this approval must be implemented for the duration of construction and for a minimum of one (1) year following commencement of operation, or for a longer period as determined by the Secretary based on the outcomes of independent environmental audits, Environmental Representative Reports and regular compliance reviews submitted through Compliance Reports. If staged operation is proposed, or operation is commenced of part of the CSSI, the Compliance Tracking Program must be implemented for the relevant period for each stage or part of the CSSI.	Section 9.3.4
A31	A Pre-Construction Compliance Report must be prepared and submitted to the Secretary for information no later than one month before the commencement of construction or within another timeframe agreed with the Secretary.	Section 9.3.3
A32	The Pre-Construction Compliance Report must include: (a) details of how the terms of this approval that must be addressed before the commencement of construction have been complied with; and (b) the commencement date for construction.	Section 9.3.3
A33	Construction must not commence until the Pre-Construction Compliance Report has been submitted to the Secretary	Section 9.3.3
A34	Construction Compliance Reports must be prepared and submitted 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 Construction Compliance Reports must include: (a) a results summary and analysis of environmental monitoring; (b) 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; (c) details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period;	Section 9.3.6 Section 10

COA	REQUIREMENT	REFERENCE
	(d) a register of any consistency assessments undertaken and their status; (e) results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit; (f) a summary of all incidents notified in accordance with Condition A41 and Condition A44 of this approval; and (g) any other matter relating to compliance with the terms of this approval or as requested by the Secretary.	
A37	An Environmental Audit Program for independent annual environmental auditing against the terms of this approval must be prepared in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems and submitted to the Secretary for information no later than one month before the commencement of construction or within another timeframe agreed with the Secretary.	Section 9.3.1
A38	The Environmental Audit Program, as submitted to the Secretary, must be implemented for the duration of construction and operation.	Section 9.3.1
A39	All independent environmental audits of the CSSI conducted under Conditions A35 and A36 must be conducted by a suitably qualified, experienced and independent team of experts in auditing and be documented in an Environmental Audit Report which: (a) assesses the environmental performance of the CSSI, and its effects on the surrounding environment; (b) assesses whether the project is complying with the terms of this approval; (c) reviews the adequacy of any document required under this approval; and (d) recommends measures or actions to improve the environmental performance of the CSSI, and improvements to any document required under this approval.	Section 9.3.1
A40	The Proponent must submit a copy of the Environmental Audit Report to the Secretary with a response to any recommendations contained in the audit report within six (6) weeks of completing the audit, or within another timeframe agreed with the Secretary.	Section 9.3.1
A41	The Secretary must be notified as soon as possible and in any event within 24 hours of any incident.	Section 8.2
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.	Section 8.2
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.	Section 8.2
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.	Section 8.2
B1	A Community Communication Strategy must be prepared to facilitate communication between the Proponent, and the community (including Relevant Councils, adjoining affected landowners and businesses, and others directly impacted by the CSSI), during the design and construction of the CSSI and for a minimum of 12 months following the completion of construction of the CSSI.	Section 7.4.1
B2	The Community Communication Strategy must:	Section 7.4.1

COA	REQUIREMENT	REFERENCE
	(a) identify people or organisations to be consulted during the design and construction phases; (b) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the CSSI; (c) identify opportunities to provide accessible information regarding regularly updated site construction activities, schedules and milestones at each construction site including use of construction hoardings to provide information regarding construction, specific to the location; (d) identify opportunities for the community to visit construction sites (taking into consideration workplace, health and safety requirements); (e) involve construction personnel from each construction site in engaging with the local community; (f) provide for the formation of issue or location-based community forums that focus on key environmental management issues of concern to the relevant community(ies) for the CSSI; (g) set out procedures and mechanisms: i. through which the community can discuss or provide feedback to the Proponent; ii. through which the Proponent will respond to enquiries or feedback from the community; and iii. to resolve any issues and mediate any disputes that may arise in relation to environmental management and delivery of the CSSI.	
B3	The Community Communication Strategy must be submitted to the Secretary for approval no later than three months from the date of this approval or one (1) month before commencement of any work, whichever is the latter.	Section 7.4.1
B4	Work for the purposes of the CSSI must not commence until the Community Communication Strategy has been approved by the Secretary, or within another timeframe agreed with the Secretary.	Section 7.4.1
B5	The Community Communication Strategy, as approved by the Secretary, must be implemented for the duration of the works and for 12 months following the completion of construction.	Section 7.4.1
B6	A Complaints Management System must be prepared before the commencement of any works in respect of the CSSI and be implemented and maintained for the duration of works and for a minimum for 12 months following completion of construction of the CSSI.	Section 7.4.1
B7	The Complaints Management System must include a Complaints Register to be maintained recording information on all complaints received about the CSSI during the carrying out of any works associated with the CSSI and for a minimum of 12 months following the completion of construction. The Complaints Register must record the: (a) number of complaints received; (b) number of people affected in relation to a complaint; and (c) nature of the complaint and means by which the complaint was addressed and whether resolution was reached, with or without mediation.	Section 7.4.2, Section 9.6
B8	The Complaints Register must be provided to the Secretary upon request, within the timeframe stated in the request.	Section 7.4.1, Section 9.6

COA	REQUIREMENT	REFERENCE
B9	The following facilities must be available within one (1) month from the date of this approval and for 12 months following the completion of construction and appropriately broadcast to collect community enquiries and complaints: (a) a 24 hour telephone number for the registration of complaints and enquiries about the CSSI; (b) a postal address to which written complaints and enquires may be sent; (c) an email address to which electronic complaints and enquiries may be transmitted; and (d) place-based community manager for each of the station locations available to meet with community members on request.	Section 7.4.1
B10	The telephone number, postal address and email address required under Condition B9 of this approval must be published in a newspaper circulating in the local area and on site hoarding at each construction site before commencement of construction and published in the same way again before commencement of operation. This information must also be provided on the website required under Condition B15 of this approval.	Section 7.4.1
B11	A Community Complaints Mediator that is independent of the design and construction personnel must be nominated by the Proponent, approved by the Secretary and engaged during all works associated with the CSSI. The nominated Community Complaints Mediator must be submitted to the Secretary for approval within one month of the date of this approval or within another timeframe agreed with the Secretary.	Section 4.3.3
B12	The role of the Community Complaints Mediator must address any complaint where a member of the public is not satisfied by the Proponent's response. Any member of the public that has lodged a complaint which is registered in the Complaints Management System identified in Condition B6 may ask the Community Complaints Mediator to review the Proponent's response. The application must be submitted in writing and the Community Complaints Mediator must respond within 28 days of the request being made or other specified timeframe agreed between the Community Complaints Mediator and the member of the public.	Section 4.3.3
B13	The Community Complaints Mediator will: (a) review the Proponent's unresolved disputes between the project and members of the public if the procedures and mechanisms under Condition B2(g)(iii) do not satisfactorily address complaints; and (b) make recommendations to the Proponent to satisfactorily address complaints, resolve disputes or mitigate against the occurrence of future complaints or disputes.	Section 4.3.3
B14	The Community Complaints Mediator will not act before the Proponent has provided an initial response to a complaint and will not consider issues such as property acquisition where other dispute processes are provided for in this approval, or clear government policy and resolution processes are available, or matters which are not within the scope of the CSSI.	Section 4.3.3
B15	A website providing information in relation to the CSSI must be established before commencement of works and maintained for the duration of construction, and for a minimum of 12 months following the completion of construction or other timeframe as agreed with the Secretary. Th following up-to-date information (excluding confidential, private and commercial information or other documents as agreed to by the Secretary) must be published prior to the relevant works commencing, or in the case of documents prepared in accordance with E66	Sydney Metro

COA	REQUIREMENT	REFERENCE
	and E67 when finalised in accordance with the requirements of this approval, and maintained on the website or dedicated pages: (a) information on the current implementation status of the CSSI; (b) a copy of the documents listed in Condition A1 and Condition A2 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval; (c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval; (d) a copy of any Environment Protection Licence obtained in relation to the CSSI or link to any existing Environment Protection Licence applied to the CSSI; and (e) a current copy of each document required under the terms of this approval must be published within one week of its endorsement / approval or before the commencement of any works to which they relate or before their implementation as the case may be. Note: Environment Protection Licences relevant to each stage of the project need to be clearly differentiated to identify how and where they specifically apply.	
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.	This CEMP Section 3.5 Appendix C3
C2	The CEMP must provide: (a) a description of activities to be undertaken during construction (including the scheduling of construction);	Chapter 2
	(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Section 1.4, 3.4.and 3.5
	(c) a schedule for compliance auditing;	Section 9.3
	(d) a program for ongoing analysis of the key environmental risk 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;	Section 5.2, Appendix D
	(e) details of how the activities described in subsection (a) of this condition will be carried out to: 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;	Chapter 5
	(f) an inspection program detailing the activities to be inspected and frequency of inspections;	Section 9.2
	(g) a protocol for managing and reporting any: i. incidents; and ii. non-compliances with this approval and with statutory requirements;	Chapter 8, Section 9.4
	(h) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	Section 9.4

COA	REQUIREMENT	REFERENCE
	(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 5.1
	(j) a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER;	Section 4.2-4.7
	(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;	Chapter 6
	(l) for periodic review and update of the CEMP and all associated plans and programs.	Chapter 10
C3	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. (a)Noise and Vibration Relevant Council (b)Biodiversity OEH and Relevant Council (c)Air Quality n/a (d)Soil and Water DPI Water, Relevant Council, OEH, SES, NSW Fire and Rescue (e)Groundwater DPI Water (f) n/a (g)Heritage Council (or its delegate and relevant council (h) n/a	5.1, Appendix E-I
C4	The CEMP sub-plans must state how: (a) the environmental performance outcomes identified in the EIS as amended by the PIR as modified by these conditions will be achieved; (b) the mitigation measures identified in the EIS as amended by the PIR as modified by these conditions will be implemented; (c) the relevant terms of this approval will be complied with; and (d) issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.	Appendix E-I
C5	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.	Appendix E-I
C6	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.	Appendix E-I
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.	Section 1.7

COA	REQUIREMENT	REFERENCE
C8	Construction must not commence until the CEMP and all CEMP subplans 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. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and subplans have been approved by the Secretary.	Section 1.7
C9	The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each Construction Monitoring Program to compare actual performance of construction of the CSSI against predicted performance. (a) Noise and Vibration (d) Groundwater	Appendix G and I
C10	Each Construction Monitoring Program must provide: (a) details of baseline data available; (b) details of baseline data to be obtained and when; (c) details of all monitoring of the project to be undertaken; (d) the parameters of the project to be monitored; (e) the frequency of monitoring to be undertaken; (f) the location of monitoring; (g) the reporting of monitoring results; (h) procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and (i) any consultation to be undertaken in relation to the monitoring programs.	Appendix G and I
C12	The Construction Monitoring Programs must be developed in consultation with relevant government agencies as identified in Condition C9 of this approval and must include, to the written satisfaction of the Secretary, information requested by an agency to be included in a Construction Monitoring Programs during such consultation. Details of all information requested by an agency including copies of all correspondence from those agencies, must be provided with the relevant Construction Monitoring Program.	Appendix G and I
C13	The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Secretary for approval at least one (1) month before commencement of construction or within another timeframe agreed with the Secretary.	Section 9.1 Appendix G and I
C14	Construction must not commence until the Secretary has approved all of the required Construction Monitoring Programs, and all relevant baseline data for the specific construction activity has been collected.	Section 9.1
C15	The Construction Monitoring Programs, as approved by the Secretary including any minor amendments approved by the ER (or AA in regards to the Noise and Vibration Construction Monitoring Program), must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Secretary, whichever is the greater.	Section 9.1
C16	The results of the Construction Monitoring Programs must be submitted to the Secretary for information, and relevant regulatory agencies, for information in the form or a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	Section 9.1

COA	REQUIREMENT	REFERENCE
C17	Where a relevant CEMP sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP sub-plan.	Section 9.1
E5	In addition to the performance outcomes, commitments and mitigation measures specified in PIR, all reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during the construction and operation of the CSSI	Appendix J
E6	The CSSI must be designed to retain as many trees as possible and provide replacement trees such that there a net increase in the number of trees. The Proponent must commission an independent, experienced and suitably qualified arborist to prepare a comprehensive Tree Report before removing any trees as detailed in the EIS, as amended by the documents listed in A1. The Tree Report must include: (a) a description of the conditions of the tree(s) and its amenity and visual value; (b) consideration of all options to avoid tree removal, including relocation of services, redesign or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and (c) measures to avoid tree removal, minimise damage to, and ensure the health and stability of those trees to be retained and protected. This includes details of any proposed canopy or root pruning, root protection zone, excavation, site controls on waste disposal, vehicular access, materials storage and protection of public utilities. In the event that tree removal cannot be avoided, then replacement trees are to be planted within, or in close proximity to the CSSI or other location in consultation with the Relevant Councils and agreed by the Secretary. The size of the replacement trees will be determined in consultation with the relevant Council. A copy of the Tree Report must be submitted to the Secretary before the removal, damage and/or pruning of any trees, including those affected by the site establishment works. All recommendations of the Tree Report must be implemented by the Proponent, unless otherwise agreed by the Secretary. The Tree Report may be prepared for the entire CSSI or separate reports may be prepared for individual areas where tree removal and/or pruning is proposed.	Sydney Metro
E36	Construction, except as allowed by Condition E48 (excluding cut and cover tunnelling), must only be undertaken during the following standard construction hours: (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.	Section 2.6
E44	Notwithstanding Condition E36 construction associated with the CSSI may be undertaken outside the hours specified under those conditions in the following circumstances: (a) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or (b) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or (c) where different construction hours are permitted or required under an EPL in force in respect of the construction; or (d) construction that causes LAeq(15 minute) noise levels:	Section 2.6

COA	REQUIREMENT	REFERENCE
	i. no more than 5 dB(A) above the rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009), and ii. no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses, and iii. continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), and iv. intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006); or (e) where a negotiated agreement has been reached with a substantial majority of sensitive receivers who are within the vicinity of and may be potentially affected by the particular construction, and the noise management levels and/or limits for ground-borne noise and vibration (human comfort) cannot be achieved. All agreements must be in writing and a copy forwarded to the Secretary at least one (1) week before the works commencing; or (f) construction approved through an Out of Hours Work Protocol referred to in Condition E47, provided the relevant council, local residents and other affected stakeholders and sensitive receivers are informed of the timing and duration at least five (5) days and no more than 14 days before the commencement of the works. Note: This condition does not apply where an EPL is in force in respect of the construction	
E58	The CSSI must be designed and constructed with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction.	Section 5.4.1 Section 9.3.7
E59	Before commencement of construction, all property owners of buildings identified as being at risk of damage must be offered a building condition survey. Where an offer is accepted a structural engineer must undertake the survey. The results of the surveys must be documented in a Building Condition Survey Report for each building surveyed. Copies of Building Condition Survey Reports must be provided to the owners of the buildings surveyed, and if agreed by the owner, the Relevant Council within three (3) weeks of completing the Survey Report and no later than one (1) month before the commencement of construction.	Section 9.3.7
E60	Within three (3) months of the completion of construction, all property owners of buildings for which a building condition survey was carried out in accordance with Condition E59 must be offered a second building condition survey. Where an offer is accepted, building condition surveys must be undertaken by a structural engineer. The results of the surveys must be documented in a Building Condition Survey Report for each building surveyed. Copies of Building Condition Survey Reports must be provided to the owners of the buildings surveyed within one (1) month of the survey being completed.	Section 9.3.7
E61	The Proponent must install appropriate equipment to monitor areas in proximity to construction sites and the tunnel route during construction and for a period of not less than six (6) months after settlement has stabilised with particular reference to risk areas identified in the building and infrastructure condition surveys required by conditions E59 and E60 and/or the geotechnical analysis as required. If monitoring during construction indicates exceedance of the criteria, then all construction affecting settlement must cease immediately and must not	Section 9.3.7

COA	REQUIREMENT	REFERENCE
	resume until fully rectified or a revised method of construction is established that will ensure protection of affected buildings.	
E63	The Proponent must monitor settlement for any period beyond the minimum timeframe requirements of condition E61 if directed so by the Independent Property Impact Assessment Panel following its review of the monitoring data from the period not less than six (6) months after settlement has stabilised, consistent with Condition E61. The results of the monitoring must be made available to the Secretary on request.	Section 9.3.7
E106	Waste generated during construction and operation is to be dealt with in accordance with the following priorities: (a) waste generation is to be avoided and where avoidance is not reasonably practicable, waste generation is to be reduced; (b) where avoiding or reducing waste is not possible, waste is to be reused, recycled, or recovered; and (c) where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of.	Section 5.3.2

Table C.2: SSD- 13852803 conditions of approval related to this CEMP

COA	REQUIREMENT	REFERENCE
A15	Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification and independent environmental auditing. Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.	Section 9.1 Section 9.3
A16	The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.	Section 4.2 Section 4.5 Section 8
B28	Prior to the commencement of construction, the Applicant must submit to the Certifier evidence that sufficient off-street parking has been provided for heavy vehicles and for site personnel, to ensure that construction traffic associated with the development does not utilise on-street parking or public parking facilities.	Section 5.1.2 The Construction Traffic Management Plan
B40	Prior to the commencement of any works, the Applicant shall: (a) amend, or prepare an addendum to, the Construction Pedestrian and Traffic Management Plan (CPTMP) applicable to the CSSI approval (CSSI 7400) to apply to the development. The amended CPTMP must be prepared in consultation with the Sydney Coordination Office within TfNSW, and submitted to the Planning Secretary and Certifier; or	The Construction Traffic Management Plan

COA	REQUIREMENT	REFERENCE
	(b) Prepare a final CPTMP in consultation with the Sydney Coordination Office within TfNSW. The CPTMP needs to specify matters including, but not limited to, the following: (i) a description of the development (ii) location of any proposed work zone(s) (iii) details of crane arrangements including location of any crane(s) and crane movement plan (iv) haulage routes (v) proposed construction hours (vi) predicted number of construction vehicle movements, detail of vehicle types and demonstrate that proposed construction vehicle movements can work within the context of road changes in the surrounding area, noting that construction vehicle movements are to be minimised during peak periods (vii) construction vehicle access arrangements (viii) construction program and construction methodology, including any construction staging (ix) a detailed plan of any proposed hoarding and/or scaffolding (x) measures to avoid construction worker vehicle movements within the precinct (xi) consultation strategy for liaison with surrounding stakeholders, including other developments under construction and Sydney Metro City and Southwest (xii) identify any potential impacts to general traffic, cyclists, pedestrians, bus services within the vicinity of the site from construction vehicles during the construction of the proposed works. Proposed mitigation measures should be clearly identified and included in the CPTMP; and (xiii) identify the cumulative construction activities of the development and other projects within or around the development site, including the Sydney Metro City and Southwest and private development. Proposed measures to minimise the cumulative impacts on the surrounding road network should be clearly identified and included in the CPTMP.	Not applicable. AWE has adopted B40(a).
	(c) Submit a copy of the final development specific CPTMP to Sydney Coordination Office within TfNSW for endorsement	The Construction Traffic Management Plan
	(d) Provide the builder's direct contact number to small businesses adjoining or impacted by the construction work and the Transport Management Centre and Sydney Coordination Office within Transport for NSW to resolve issues relating to traffic, public transport, freight, servicing and pedestrian access during construction in real time. The Applicant is responsible for ensuring the builder's direct contact number is current during any stage of construction; and	Section 7.4.1
	(e) A copy of the final development specific CPTMP must be submitted to the Planning Secretary and Certifier.	The Construction Traffic Management Plan
B41	The Applicant shall: (a) amend, or prepare an addendum to, the Construction Environmental Management Plan (CEMP) applicable to the CSSI approval (CSSI 7400) to apply to the development. The amended CEMP must be submitted to the Planning Secretary and Certifier, or	This CEMP

COA	REQUIREMENT	REFERENCE
	(b) prepare a Construction Framework Environmental Management Plan (CFEMP) for the development, independent of the CEMP approved with the CSSI station works. A copy of the final CFEMP must be submitted to the Planning Secretary and Certifier. The CFEMP must: (i) describe the relevant stages and phases of construction including work program outlining relevant timeframes for each stage/phase (ii) describe all activities to be undertaken on the site during site establishment and construction of the development (iii) clearly outline the stages/phases of construction that require ongoing environmental management monitoring and reporting (iv) detail statutory and other obligations that the Applicant is required to fulfil during site establishment and construction, including approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies (v) include specific consideration of measures to address any requirements of the EPA during site establishment and construction (vi) describe the roles and responsibilities for all relevant employees involved in the site establishment and construction of the works (vii) detail how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified potential environmental impacts (viii) document and incorporate all sub environmental management plans (Sub-Plans), studies and monitoring programs required under this consent; and (ix) include arrangements for community consultation and complaints handling procedures during construction.	Not applicable. AWE has adopted B41(a).
B42	In the event of any inconsistency between the consent and the CFEMP, the consent shall prevail.	Not applicable. AWE has adopted B41(a).
B43	The CFEMP and any associated Sub-Plans should be revised: (a) at each key stage of the works (b) in response to future development consents (c) in response to major changes in site conditions or work methods; and (d) in support of licence variations as necessary.	Not applicable. AWE has adopted B41(a).
B44	The Applicant shall: (a) amend, or prepare an addendum to, the Construction Noise and Vibration Management Sub-Plan (CNVMP) applicable to the CSSI approval (CSSI 7400) to apply to the development. The amended CNVMP must be submitted to the Planning Secretary and Certifier, or	Appendix G – Construction Noise and Vibration Management Plan
	(b) prepare and implement a Construction Noise and Vibration Management Sub-Plan (CNVMP) for the development, independent of the CNVMP approved with the CSSI station works. A copy of the CNVMP must be submitted to the Planning Secretary and Certifier. The Sub-Plan must include: (i) identification of the specific activities that will be carried out and associated noise sources at the premises (ii) identification of all potentially affected sensitive residential receiver locations	Not applicable. AWE has adopted B44(a)

COA	REQUIREMENT	REFERENCE
	(iii) quantification of the rating background noise level (RBL) for sensitive receivers, as part of the Sub-Plan, or as undertaken in the EIS (iv) the construction noise, ground-borne noise and vibration objectives derived from an application of the EPA Interim Construction Noise Guideline (ICNG), as reflected in conditions of approval (v) prediction and assessment of potential noise, ground-borne noise (as relevant) and vibration levels from the proposed construction methods expected at sensitive receiver premises against the objectives identified in the ICNG and conditions of approval (vi) where objectives are predicted to be exceeded, an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise and vibration impacts (vii) description of management methods and procedures, and specific noise mitigation treatments/measures that can be implemented to control noise and vibration during construction (viii) where objectives cannot be met, additional measures including, but not necessarily limited to, the following should be considered and implemented where practicable; reduce hours of construction, the provision of respite from noise/vibration intensive activities, acoustic barriers/enclosures, alternative excavation methods or other negotiated outcomes with the affected community (ix) where night-time noise management levels cannot be satisfied, a report shall be submitted to the Planning Secretary outlining the mitigation measures applied, the noise levels achieved and justification that the outcome is consistent with best practice (x) measures to identify non-conformances with the requirements of the Sub-Plan, and procedures to implement corrective and preventative action (xi) suitable contractual arrangements to ensure that all site personnel, including sub-contractors, are required to adhere to the noise management provisions in the Sub-Plan (xii) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity (xiii) measures to monitor noise performance and respond to complaints (xiv) measures to reduce noise related impacts associated with offsite vehicle movements on nearby access and egress routes from the site (xv) procedures to allow for regular professional acoustic input to construction activities and planning; and (xvi) effective site induction, and ongoing training and awareness measures for personnel (e.g. toolbox talks, meetings etc).	
B45	The Applicant shall: (a) amend, or prepare an addendum to, the Air Quality Management Sub-Plan (AQMP) applicable to the CSSI station works (CSSI 7400) to apply to the development. The amended CNVMP must be submitted to the Planning Secretary and Certifier, or	Appendix J – Air quality and dust management procedure
	(b) prepare an Air Quality Management Sub-Plan (AQMP) for the development, independent of the AQMP approved with the CSSI station works. A copy of the AQMP must be submitted to the Planning Secretary and Certifying Authority. The Sub-Plan must include, as a minimum, the following elements:	Not applicable. AWE has adopted B45(a).

COA	REQUIREMENT	REFERENCE
	(i) be prepared by a suitably qualified and experienced expert in accordance with the EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods) (ii) relevant environmental criteria to be used in the day-to-day management of dust and volatile organic compounds (VOC/odour) (iii) mission statement (iv) dust and VOCs/odour management strategies consisting of: • objectives and targets • risk assessment • suppression improvement plan. (v) monitoring requirements including assigning responsibility (for all employees and contractors) (vi) communication strategy; and (vii) system and performance review for continuous improvements.	
B48	The Applicant shall: (a) amend, or prepare an addendum to, the Construction Waste Management Sub-Plan (CWMP) applicable to the CSSI station works (CSSI 7400) to apply to the development. The amended CWMP must be submitted to the Planning Secretary and Certifier, or	The Sustainability Management Plan
	(b) prepare a Construction Waste Management Sub-Plan (CWMP) for the development, independent of the CWMP approved with the CSSI station works. A copy of the CWMP must be submitted to the Planning Secretary and Certifier. The Sub-Plan must include, as a minimum, the following elements: (i) require that all waste generated during the project is assessed, classified and managed in accordance with the EPA's "Waste Classification Guidelines Part 1: Classifying Waste" (ii) demonstrate that an appropriate area will be provided for the storage of bins and recycling containers and all waste and recyclable material generated by the works (iii) procedures for minimising the movement of waste material around the site and double handling (iv) waste (including litter, debris or other matter) is not caused or permitted to enter the waters of Sydney Harbour (v) any vehicle used to transport waste or excavation spoil from the site is covered before leaving the premises (vi) the wheels of any vehicle, trailer or mobilised plant leaving the site and cleaned of debris prior to leaving the premises (vii) details in relation to the transport of waste material around the site (on-site) and from the site, including (at a minimum): • a traffic plan showing transport routes within the site; • a commitment to retain waste transport details for the life of the project to demonstrate compliance with the Protection of the Environment Operations Act 1997; and • the name and address of each licensed facility that will receive waste from the site (if appropriate).	Not applicable. AWE has adopted B48(a).

COA	REQUIREMENT	REFERENCE
B50	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 6
B63	The Applicant shall: (a) amend, or prepare an addendum to, the Unexpected Contaminated Land and Asbestos Finds Procedure (UCLAFP) applicable to the CSSI station works (CSSI 7400) to apply to the development. The amended UCLAFP must be submitted to the Planning Secretary and Certifier, or (b) an Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of any demolition / construction works and must be followed should unexpected contaminated land or asbestos be excavated or otherwise discovered during construction. The Unexpected Contaminated Land and Asbestos Finds Procedure must outline the steps to be undertaken to identify, report and manage any signs of potential environmental concern encountered during earthworks/redevelopment works.	Sydney Metro Unexpected Finds Procedure for Contamination
B66	Soil erosion and sediment control measures shall be designed in accordance with the document Managing Urban Stormwater – Soils & Construction Volume 1 (2004) by Landcom. Details are to be included in the CEMP outlined in Condition B41.	Section 5.1.2
B73	At least 48 hours before the commencement of construction until the completion of all works under this consent, or such other time as agreed by the Planning Secretary, the Applicant must: (a) make the following information and documents (as they are obtained or approved) publicly available on its website: (i) the documents referred to in condition A2 of this consent (ii) all current statutory approvals for the development (iii) all approved strategies, plans and programs required under the conditions of this consent (iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs (vi) a summary of the current stage and progress of the development (vii) contact details to enquire about the development or to make a complaint (viii) a complaints register, updated monthly (ix) audit reports prepared as part of any independent environmental audit of the development and the Applicant's response to the recommendations in any audit report (x) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary.	Section 11.4
C2	A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifier and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements: (a) minimum dimensions of the notice are to measure 841 mm x 594 mm (A1) with any text on the notice to be	Section 7.4.2

COA	REQUIREMENT	REFERENCE
	a minimum of 30-point type size (b) the notice is to be durable and weatherproof and is to be displayed throughout the works period (c) the approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and (d) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.	
C3	Construction, including the delivery of materials to and from the site, may only be carried out between the following hours: (a) between 7 am and 6 pm, Mondays to Fridays inclusive; and (b) between 8 am and 1 pm, Saturdays.	Section 2.6.2
C4	No work may be carried out on Sundays or public holidays.	Section 2.6.2
C5	Activities may be undertaken outside of these hours if required: (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.	Section 2.6.2
C6	Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.	Section 7.4.1
C7	Rock breaking, rock hammering, sheet piling, pile driving, and similar high noise and/or annoying activities as defined in the Interim Construction Noise Guidelines, must be carried out in accordance with the hours agreed to in CSSI-7400. Under CSSI-7400, the following respite hours have been agreed within the community following appropriate consultation in relation to high impact works: (a) Monday to Friday: high noise activities between 8-11am, 12-3pm and 4-6pm. Respite periods would be before 8am and between 11am-12pm, 3-4pm. (b) Saturday: high noise activities would be limited to 8-11am	Section 2.6.3
C9	The Applicant shall ensure that the requirements of the Construction Environmental Management Plan, Construction Pedestrian Traffic Management Plan, Construction Noise and Vibration Management Sub-Plan, Air Quality Management Plan and Construction Waste Management Plan required by Part B of this consent are implemented during construction.	Chapter 4

APPENDIX C.2 - REVISED ENVIRONMENTAL MITIGATION MEASURES

The general and environmental issue specific REMMs relevant to this CEMP are addressed in Table C.3. The other environmental issue specific REMMs are addresses in the CEMP sub-plans and procedures.

Table C.3: Revised environmental mitigation measures

ITEM	REQUIREMENT
BI1	Specific consultation would be carried out with businesses potentially impacted during construction. Consultation would aim to identify and develop measures to manage the specific construction impacts for individual businesses
BI2	A business impact risk register would be developed to identify, rate and manage the specific construction impacts for individual businesses
BI3	Appropriate signage would be provided around construction sites to provide visibility to retained businesses.
SO2	Specific consultation would be carried out with sensitive community facilities (including aged care, child care centres, educational institutions and places of worship) potentially impacted during construction. Consultation would aim to identify and develop measures to manage the specific construction impacts for individual sensitive community facilities.
HR1	All hazardous substances that may be required for construction would be stored and managed in accordance with the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005) and Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (Department of Planning, 2011).
HR2	Dial before you dig searches and non-destructive digging would be carried out to identify the presence of underground utilities.
WM1	All waste would be assessed, classified, managed and disposed of in accordance with the NSW Waste Classification Guidelines.
WM2	100 per cent of spoil that can be reused would be beneficially reused in accordance with the project spoil reuse hierarchy
WM3	A recycling target of at least 90 per cent would be adopted for the project.
WM4	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.

APPENDIX C.3 - CONSTRUCTION ENVIRONMENTAL MANAGEMENT FRAMEWORK

The general and environmental issue specific CEMF requirements relevant to this CEMP are addressed in Table C.4. The other environmental issue specific CEMF requirements are addresses in the CEMP sub-plans and procedures.

Table C.4 Construction environmental management framework

ITEM	REQUIREMENT	REFERENCE
1.3	Transport for NSW (TfNSW) has developed an Environment and Sustainability Policy (Appendix A) for the Sydney Metro Delivery Office (SMDO). Principal Contractors will be required to undertake their works in accordance with this policy. The policy reflects a commitment in the delivery of the project 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.	Section 1.4
2.1	Table 1.1 below identifies key NSW environmental legislative requirements and their application to SM C&SW construction works, current as at the date of this document. TfNSW and its Contractors should regularly review their legislative requirements.	Section 3.2, Appendix B
2.2	Sydney Metro Northwest is classified as Critical State Significant Infrastructure and was approved under the following in accordance with Section 115W of the Environmental Protection and Assessment Act 1997: • Staged State Infrastructure Approval (1 October 2011, modified on 25 September 2012) • Stage 1 – Major Civil Construction Works (25 September 2012, modified on 18 April 2013) • Stage 2 – Stations, Rail Infrastructure and Systems (8 May 2013, modified on 20 May 2014). Some components of Sydney Metro Northwest (such as the conversion of the Epping to Chatswood component of the project) have also been approved under Part 5 of the Environmental Protection and Assessment Act. in which case TfNSW is the consent authority.	Section 3.1

ITEM	REQUIREMENT	REFERENCE
	Sydney Metro City and Southwest is also classified as Critical State Significant Infrastructure and requires approval from a consent authority under the requirements of the Environmental Protection and Assessment Act 1997 (Section 115W). Two separate approvals will be sought: • Sydney Metro City and Southwest – Chatswood to Sydenham • Sydney Metro City and Southwest - Sydenham to Bankstown The requirements of the approval are required to be complied with by TfNSW. Responsibility for implementing mitigation measures and conditions of approval will be allocated between TfNSW and Principal Contractors as appropriate. Typically TfNSW will produce a Staging Report which sets out the applicability and allocation of approval requirements within the project's program of works.	
2.3	Sydney Metro projects often meet the definition of a number of scheduled activities under Schedule 1 of the Protection of the Environmental Operation Act 1997 (POEO Act) and as such our contractors may be required to obtain an Environment Protection Licence (EPL) or work under the existing EPL held by Sydney Trains. Where required, Sydney Metro Principal Contractors will: a. Apply for and be granted an EPL from the EPA. b. Hold an EPL which covers their scope of works as necessary under the POEO Act. c. Undertake their scope of works in accordance with the conditions of the applicable EPLs as issued by the EPA. d. Work under the existing Sydney Trains EPL.	N/A
2.4	Numerous environmental publications, standards, codes of practice and guidelines are relevant to TfNSW construction and are referenced throughout this Construction Environmental Management Framework. A summary of these applicable standards and guidelines is provided in Table 1.3.	Section 3.4 and 3.5
3.1	a. Principal Contractors are required to have a corporate Environmental Management System certified under AS/NZS ISO 14001:2004 and to have transitioned this accreditation into AS/NZS ISO 14001:2015 by September 2018. b. Principal Contractors are required to develop a project based Environment and Sustainability Management System (E&SMS). The E&SMS will: i. Be consistent with the Principal Contractors corporate Environmental Management System and AS/NZS ISO 14001:2004 or 2015; ii. Be supported by a process for identifying and responding to changing legislative or other requirements; iii. Include processes for assessing design or construction methodology changes for consistency against the planning approvals; iv. Include processes for tracking and reporting performance against sustainability and compliance targets;	Section 1.3

ITEM	REQUIREMENT	REFERENCE
	v. Include a procedure for the identification and management of project specific environmental risks and appropriate control measures; and vi. Be consistent with the SM C&SW Sustainability Strategy and Sydney Metro Environment and Sustainability Policy. c. All sub-contractors engaged by the Principal Contractor will be required to work under the Principal Contractor's E&SMS. d. The relationship between key documents within the Sydney Metro Environment and Sustainability Management System and the Principal Contractor's Environment and Sustainability Management System is shown in Figure 2. e. The Principal Contractors Sustainability Plan and its sub plans will capture governance and design requirements as well as social sustainability initiatives as required by the Sydney Metro Sustainability Strategies. f. These plans vary in scope across different delivery packages.	
3.3	a. Principal Contractors are required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works. The CEMP shall comprise of a main CEMP document, issue specific sub plans, activity specific procedures and site based control maps. The CEMP shall illustrate the relationship between other plans required by the contract, in particular those that relate to design management.	This plan
	b. Depending on the scope and scale of the works, TfNSW may decide to streamline the CEMP and sub-plan requirements. For example, depending on the risk associated with particular environmental issues it may be appropriate to remove the need for a sub plan, or replace with a procedure as part of the CEMP.	Section 5.1
	c. The CEMP will cover the requirements of the relevant planning approval documentation, the conditions of all other permits and licences, the Principal Contractor's corporate EMS, the environmental provisions of the contract documentation and this Construction Environmental Management Framework.	Chapter 3, Appendix C
	d. As a minimum the CEMP will:	-
	i. Include a contract specific environmental policy;	Appendix A
	ii. Include a description of activities to be undertaken during construction;	Chapter 2
	iii. For each plan under the CEMP include a matrix of the relevant Conditions of Approval or Consent referencing where each requirement is addressed;	Appendix E-I
	iv. For each plan under the CEMP, set objectives and targets, and identify measurable key performance indicators in relation to these;	Appendix E-I
	v. For each role that has environmental accountabilities or responsibilities, including key personnel, provide a tabulated description of the authority and roles of key personnel, lines of responsibility and	Chapter 4

ITEM	REQUIREMENT	REFERENCE
	communication, minimum skill level requirements and their interface with the overall project organisation structure;	
	vi. Assign the responsibility for the implementation of the CEMP to the Environment Manager, who will have appropriate experience. The Principal Contractor's Project Director will be accountable for the implementation of the CEMP;	Section 4.2.1 and 4.3.1
	vii. Identify communication requirements, including liaison with stakeholders and the community;	Chapter 7
	viii. Include induction and training requirements and a summary of the Training Needs Analysis required in Section 3.9(b);	Chapter 6
	ix. Management strategies for environmental compliance and review of the performance of environmental controls;	Chapters 6, 9 & 10
	x. Processes and methodologies for surveillance and monitoring, auditing and review, and reporting on environmental performance including environmental compliance tracking;	Chapter 9
	xi. Include procedures for emergency and incident management, non-compliance management, and corrective and preventative action; and	Chapter 8 & Section 9.4
	xii. Include procedures for the control of environmental records.	Chapter 11
	e. The CEMP and associated sub-plans will be reviewed by TfNSW and/or an independent environmental representative (see Section 3.11) prior to any construction works commencing. Depending on the Conditions of Approval, the CEMP and certain sub-plans may also require the approval of the Department of Planning and Environment (DPE).	Section 1.7
	f. Where a corresponding systems document exists within the Sydney Metro Integrated Management System, the Principal Contractor's procedures will be required to be consistent with any requirements in those documents.	Section 5.1
3.4	a. Subject to Section 3.3(b) and Section 3.2(b) the Principal Contractor will prepare issue specific environmental sub plans to the CEMP and SMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include: i. Spoil management; ii. Groundwater management; iii. Traffic and transport management; iv. Noise and vibration management; v. Heritage management; vi. Flora and fauna management; vii. Visual amenity management; viii. Carbon and energy management; ix. Materials management; x. Soil and water management; xi. Air quality management; and	Section 5.1, Appendix E

ITEM	REQUIREMENT	REFERENCE
	xii. Waste management and recycling. b. Additional detail on the minimum requirements for these sub plans is provided in Sections 6-17 of this CEMF.	
3.5	a. The Principal Contractor will prepare and implement activity specific environmental procedures. These procedures should supplement environmental management sub plans, but may substitute for sub plans in agreement with TfNSW if a reasonable risk based justification can be made and the sub plan is not a requirement of any approval. b. The procedures will include: i. A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task; ii. Potential impacts associated with each task; iii. A risk rating for each of the identified potential impacts; iv. Mitigation measures relevant to each of the work tasks; and v. Responsibility to ensure the implementation of the mitigation measures.	Section 5.1, Appendix J-L
	c. The Principal Contractor will prepare and implement site based progressive Environmental Control Maps (ECM's) which as a minimum: i. Is a progressive document depicting a current representation of the site; ii. Indicates which environmental procedures, environmental approvals, or licences are applicable; iii. Illustrates the site showing significant structures, work areas and boundaries; iv. Illustrates environmental control measures and environmentally sensitive receivers; v. Is endorsed by the Principal Contractors Environmental Manager or delegate; and vi. Relevant workers will be trained in the requirements of and will sign off the procedures prior to commencing works on the specific site and / or activity.	Section 5.1.2
3.6	a. Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any physical works. The environmental assessment will include: i. A description of the existing surrounding environment; ii. Details of the ancillary works and construction activities required to be carried out including the hours of works; iii. An assessment of the environmental impacts of the works, including, but not necessarily limited to, traffic, noise and vibration, air quality, soil and water, ecology and heritage; iv. Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts; and v. Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).	Section 3.7 and 3.9
3.7	a. Prior to the commencement of construction the Principal Contractors will offer Pre-construction Building Condition Surveys, in writing, to the owners of buildings where there is a potential for	Section 9.3.7

ITEM	REQUIREMENT	REFERENCE
	construction activities to cause cosmetic or structural damage. If accepted, the Principal Contractor will produce a comprehensive written and photographic condition report produced by an appropriate professional prior to relevant works commencing. b. Prior to the commencement of construction the Principal Contractor will prepare a Road Dilapidation Report for all local public roads proposed to be used by heavy vehicles.	
3.8	a. Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. Example activities include vegetation removal and water discharge. Hold points will be documented in relevant CEMPs. b. Table 1.4 provides the structure for the register of hold points as well as a preliminary list of hold points which will be implemented.	Section 5.7
3.9	a. Principal Contractors will be responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows: i. The site induction will be provided to all site personnel and will include, as a minimum: • Training purpose, objectives and key issues; • Contractor's environmental policy and key performance indicators; • Due diligence, duty of care and responsibilities; • Relevant conditions of any environmental licence and/or the relevant conditions of approval; • Site specific issues and controls including those described in the environmental procedures; • Reporting procedure for environmental hazards and incidents; and • Communication protocols. ii. Toolbox talks will be held on a regular basis in order to provide a project or site wide update, including any key or recurring environmental issues; and iii. Topic specific environmental training should be based upon, but is not limited to, Issue specific sub-plans required under Section 3.4 (a) (i-xi). b. Principal Contractors will conduct a Training Needs Analysis which: i. Identifies that all staff are to receive an environmental induction and undertake environmental incident management training; ii. Identifies the competency requirements of staff that hold environmental roles and responsibilities documented within the Construction Environmental Management Plan and sub-plans; iii. Identifies appropriate training courses/events and the frequency of training to achieve and/or maintain these competency requirements; and	Chapter 6

ITEM	REQUIREMENT	REFERENCE
	iv. Implements and documents as part of the CEMP a training schedule that plans attendance at environmental training events, provides mechanisms to notify staff of their training requirements, and identifies staff who do not attend scheduled training events or who have overdue training requirements.	
3.10	a. Principal Contractors will develop and implement a Pollution Incident Response Management Plan, in accordance with the requirements of the POEO Act. Contractors' emergency and incident response procedures will also be consistent with any relevant SMDO procedures and will include: i. Categories for environmental emergencies and incidents; ii. Notification protocols for each category of environmental emergency or incident, including notification of TfNSW and notification to owners / occupiers in the vicinity of the incident. This is to include relevant contact details; iii. Identification of personnel who have the authority to take immediate action to shut down any activity, or to affect any environmental control measure (including as directed by an authorised officer of the EPA); iv. A process for undertaking appropriate levels of investigation for all incidents and the identification, implementation and assessment of corrective and preventative actions; and v. Notification protocols of incidents to the EPA, DP&E or OEH that are made by the Contractor or TfNSW. b. The Contractor will make all personnel aware of the plan and their responsibilities	No EPL for this project therefore no PIRMP requirement. Section 8
3.11	a. TfNSW will engage Independent Environmental Representatives (ERs) to undertake the following, along with any additional roles as required: i. Review, provide comment on and endorse (where required) any relevant environmental documentation to verify it is prepared in accordance with relevant environmental legislation, planning approval conditions, Environment Protection Licences, relevant standards and this CEMF; ii. Monitor and report on the implementation and performance of the above mentioned documentation and other relevant documentation; iii. Provide independent guidance and advice to TfNSW and the Contractors in relation to environmental compliance issues and the interpretation of planning approval conditions; iv. Be the principal point of advice for the DP&E in relation to all questions and complaints concerning the environmental performance of the project; v. Ensure that environmental auditing is undertaken in accordance with all relevant project requirements; and vi. Recommend reasonable steps, including 'stop works', to be taken to avoid or minimise adverse environmental impacts.	Section 4.2.7
3.12	a. In relation to Roles and Responsibilities the CEMP will:	Chapter 4

ITEM	REQUIREMENT	REFERENCE
	i. Describe the relationship between the Principal Contractor, TfNSW, key regulatory stakeholders, the independent environmental representative and the independent certifier; ii. For each role that has environmental accountabilities or responsibilities, including key personnel, provide a tabulated description of the authority and roles of key personnel, lines of responsibility and communication, minimum skill level requirements and their interface with the overall project organisation structure; iii. Provide details of each specialist environment, sustainability or planning consultant who is employed by the Principal Contractor including the scope of their work; and iv. Provide an overview of the role and responsibilities of the Independent Environmental Representative, the Independent Certifier and other regulatory stakeholders. b. All sub-contractors engaged by the Principal Contractor will be required to operate within the EMS documentation of that Principal Contractor.	
3.13	a. Issue specific environmental monitoring will be undertaken as required or as additionally required by any approval, permit or licence conditions. b. The results of any monitoring undertaken as a requirement of the EPL will be published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results. c. Environmental inspections will include: i. Surveillance of environmental mitigation measures by the Site Foreman; and ii. Periodic inspections by the Principal Contractor's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record. d. Regular site inspections by the ERs and TfNSW representatives at a frequency to be agreed with the Principal Contractor. e. Principal Contractors must undertake internal environmental audits. The scope will include: i. Compliance with any approval, permit or licence conditions; ii. Compliance with the E&SMS, CEMP, SMP, sub-plans and procedures; iii. Community consultation and complaint response; iv. Environmental training records; and v. Environmental monitoring and inspection results. f. TfNSW (or an independent environmental auditor) will also undertake periodic audits of the Principal Contractor's E&SMS and compliance with the environmental aspects of contract documentation, including this Construction Environmental Management Framework.	Section 9.1

ITEM	REQUIREMENT	REFERENCE
3.14	a. Principal Contractors will document and detail any non-compliances arising out of the above monitoring, inspections and audits. TfNSW will be made aware of all non-compliances in a timely manner. b. Principal Contractors will develop and implement corrective actions to rectify the non compliances and preventative actions in order to prevent a re-occurrence of the non compliance. Contractors will also maintain a register of non compliances, corrective actions and preventative actions. c. TfNSW or the Environmental Representative may raise non-compliances against environmental requirements.	Section 9.4
3.15	a. Principal Contractors will maintain appropriate records of the following: i. Site inspections, audits, monitoring, reviews or remedial actions; ii. Documentation as required by performance conditions, approvals, licences and legislation; iii. Modifications to site environmental documentation (e.g. CEMP, sub-plans and procedures); and iv. Other records as required by this Construction Environmental Management Framework. b. Records will be retained onsite for the duration of works. c. Additionally records will be retained by the Principal Contractor for a period of no less than 7 years. Records will be made available in a timely manner to TfNSW (or their representative) upon request. d. Compliance reports detailing the outcome of any environmental surveillance activity including internal and external audits (refer to Section 3.13) will be produced by the Principal Contractors Environmental Manager or delegate. These reports will be submitted to TfNSW at an agreed frequency.	Chapter 11
3.16	a. Principal Contractors will ensure the continual review and improvement of the E&SMS. This will generally occur in response to i. Issues raised during environmental surveillance and monitoring; ii. Expanded scope of works; iii. Environmental incidents; and iv. Environmental non-conformances. b. A formal review of the E&SMS by the Principal Contractor's Senior Management Team will also occur on an annual basis, as a minimum. This review shall generate actions for the continual improvement of the E&SMS and supporting management plans.	Chapter 10
4.1	a. Throughout construction, Sydney Metro and the Principal Contractors will work closely with stakeholders and the community to ensure they are well informed regarding the construction works. b. Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include: i. Significant milestones; ii. Design changes; iii. Changes to traffic conditions and access arrangements for road users and the affected public; and	Chapter 7

ITEM	REQUIREMENT	REFERENCE
	iv. Construction operations which will have a direct impact on stakeholders and the community including noisy works, interruptions to utility services or construction work outside of normal work hours.	
4.2	a. A Community Communication Strategy will be developed by each Sydney Metro Principal Contractor. b. Key elements of the Community Communication Strategy, which will be implemented at appropriate times in the construction process, will include: i. Notification (including targeted letterbox drops and email) of any works that may disturb local residents and businesses (such as noisy activities and night works) at least seven days prior to those works commencing; ii. Notification (including targeted letterbox drops and email) of works that may affect transport (such as road closures, changes to pedestrian routes and changes to bus stops); iii. Traffic alerts (via email) to all key traffic and transport stakeholders advising of any changes to access and local traffic arrangements (at least seven days prior to significant events); iv. Print and radio advertisements regarding major traffic changes; v. 24-hour toll-free community project information phone line; vi. Complaints management process; vii. Community information sessions, as required; viii. Regular updates to the Sydney Metro website (sydneymetro.info), including uploading of all relevant documents, and contact details for the stakeholder and community relations team; ix. Provision of information to the Sydney Metro Community Information Centre including community newsletters, information brochures and fact sheets and interactive web based activities; x. Clear signage at the construction sites; xi. Regular newspaper advertisements in local and metropolitan papers; xii. Regular inter-agency group meetings; xiii. Community, business and stakeholder satisfaction surveys and feedback forms; xiv. Translator and interpreter services; and xv. The Principal Contractor's Community Relations Team will liaise with the Sydney Metro Project Communications team as the point of contact for the community.	Chapter 7
4.3	a. Community liaison and complaints handling will be undertaken in accordance with the Construction Complaints Management System and will include: i. Principal Contractors will deal with complaints in a responsive manner so that stakeholders' concerns are managed effectively and promptly; and ii. A verbal response will be provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise). A detailed written response will then be provided, if required, to the complainant within one week.	Section 7.4.2 and 9.7

ITEM	REQUIREMENT	REFERENCE
4.4	a. Principal Contractors will ensure as a minimum: i. Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including: • Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations; • Project information to raise awareness on benefits, explain the proposed works at each site and provide updates on construction progress; • Community information, including contact numbers for enquiries / complaints; • Signage and information to mitigate impacts on local businesses which may be obscured by the construction site; • Sydney Metro advertising / public awareness campaigns; and • Logos / branding, including Sydney Metro, NSW Government, and Contractor branding. b. The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts. c. Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly. d. The principles of Crime Prevention Through Environmental Design will be applied to all works, including temporary works, that have a public interface.	Section 5.5.3
4.5	a. Principal Contractors will proactively work with potentially affected stakeholders to identify the likely impacts and put in place measures to minimise impacts. b. Construction works will be undertaken to meet the following objectives: i. Minimise the potential impact of the project to businesses affected by construction works; ii. Ensure businesses are kept informed of the project and consulted in advance of major works or factors that are likely to have a direct impact; iii. Consult with all business directly affected by changes to access arrangements regarding specific requirements at least two weeks prior to those changes coming into effect; and iv. Ensure that business stakeholder enquiries and complaints regarding the project are managed and resolved effectively. c. Principal Contractors will document in the Community Communication Strategy (Section 4.2) key issues relating to business impacts by locality with a particular focus on proactive consultation with affected businesses. Including: i. Identification of specific businesses which are sensitive to construction activity disturbances;	Chapter 7

ITEM	REQUIREMENT	REFERENCE
	ii. Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as: • Operating hours; • Main delivery times; • Reliance on foot traffic; • Any signage or advertising that may be impacted; • Customer origin; and • Other information specific to the business that will need to be considered in construction planning. iii. Define the roles and responsibilities in relation to the control and monitoring of business disturbances; iv. Identification of locality specific standard business mitigation measures which would be implemented; v. Maps and diagrams to illustrate the information for easy identification of measures which would be implemented; vi. Description of the monitoring, auditing and reporting procedures; vii. Procedure for reviewing performance and implementing corrective actions; viii. Description of the complaints handling process; and ix. Procedure for community consultation and liaison.	
5.1	a. Standard working hours are between 7am – 6pm on weekdays and 8am – 1pm on Saturdays. b. Works which can be undertaken outside of standard construction hours without any further approval include: i. Those which have been described in respective environmental assessments as being required to take place 24/7. For example, tunnelling and underground excavations and supporting activities will be required 24/7; ii. Works which are determined to comply with the relevant Noise Management Level at sensitive receivers; iii. The delivery of materials outside of approved hours as required by the Police or other authorities (including RMS) for safety reasons; iv. Where it is required to avoid the loss of lives, property and / or to prevent environmental harm in an emergency; and v. Where written agreement is reached with all affected receivers. c. Principal Contractors may apply for EPA approval to undertake works outside of normal working hours under their respective Environment Protection Licences.	Section 2.6
5.2	a. Principal Contractors will consider the following in the layout of construction sites:	Section 5.5

ITEM	REQUIREMENT	REFERENCE
	i. The location of noise intensive works and 24 hour activities in relation to noise sensitive receivers; ii. The location of site access and egress points in relation to noise and light sensitive receivers, especially for sites proposed to be utilised 24 hours per day; iii. The use of site buildings to shield noisy activities from receivers; iv. The use of noise barriers and / or acoustic sheds where feasible and reasonable for sites proposed to be regularly used outside of daytime hours; and v. Aim to minimise the requirement for reversing, especially of heavy vehicles.	
5.3	a. Mitigation measures for reinstatement will be produced in consultation with TfNSW, the community and stakeholders. b. Mitigation measures required for reinstatement will be incorporated into the CEMP and will include as a minimum: i. Principal Contractors will clear and clean all working areas and accesses at project completion; ii. At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site; iii. All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better; and iv. Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.	Section 2.7

APPENDIX D (A) - ENVIRONMENTAL RISK ASSESSMENT (SSID)

The identification of significant construction activities and associated impacts that could eventuate during construction of the project is central to the selection of appropriate environmental mitigation measures.

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

The objectives of the risk assessment are to:

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

The identification of risks included a review of the proposed works, the CoA, REMMs, and review of the environmental risks identified by the EIS.

The risk assessment has been undertaken in accordance with the requirements of Sydney Metro Risk Management Standard.

A1 Consequence Table

Consequence Table						
Rating	**C6**	**C5**	**C4**	**C3**	**C2**	**C1**
Descriptor/ Impact Area	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**	**Catastrophic**
Health and Safety (Injury and Disease)	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	1-10 major injuries requiring hospitalisation and numerous days lost, or medium-term occupational illness.	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic diseases.	Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic diseases.
Environment	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.
Customer Experience/ Operational Reliability	Short duration disruptions affecting part of one transport mode.	Minor disruptions affecting several parts of one transport mode.	Serious disruptions affecting operation of one complete transport mode.	Major disruptions affecting operations of one transport mode with network-wide effects on one or more other modes of transport.	Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.	Extensive shutdowns or extended disruptions with economy-wide effects.
Government/ Stakeholder / Public Trust/ Confidence	Negative article in local media. No discernible reaction/apprehension. Goodwill, confidence and trust retained.	Unease – Series of negative articles in local/state media. Confidence remains with some minor loss of goodwill or trust. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Disappointment – Extended negative local/state media coverage. Confidence and trust dented but are quickly recoverable at modest cost within existing budget and resources.	Concern – Short-term negative state/national media coverage. Confidence and trust are diminished but are recoverable with time, staff effort and additional funding.	Displeasure – Extended negative state/national media coverage. Confidence and trust are damaged but recoverable at considerable cost, time and staff effort.	Outrage – Material change in the public perception of the organisation. Confidence and trust are severely damaged, possibly irreparably, and full recovery both questionable and costly.
Regulatory or Legal Breach	Low-level non-compliance with legal and/or regulatory requirement or duty by individuals or TINSW.	Minor non-compliance with legal and/or regulatory requirement or duty. Investigation and/or report to authority.	Moderate non-compliance. Subject to comment and monitoring from applicable regulator. Small fine and no disruption to services.	Major breach resulting in enforcement action and/or prohibition notices. Substantial fine and no disruption to services.	Substantial breach resulting in prosecution, fines and/or litigation. Licence or accreditation restricted or conditional affecting ability to operate.	Prosecution leading to imprisonment of TINSW executive. Loss of operating licence.
Management Effort/ Organisational Fatigue	An event, the impact of which can be absorbed as part of normal activity.	An event, the impact of which can be absorbed but some additional management effort is required.	An event, the impact of which can be absorbed but much broader management effort is required.	Major event which can be absorbed, but substantial management effort is required.	Severe event which requires extensive management effort but can be survived.	Catastrophic event with the clear potential to lead to the collapse of the organisation.
Benefit Realisation of Initiative, Program or Project	No time delay with initiative or project but it will incur a slight decrease in the benefits realised.	Minor delay with the initiative and/or a minor decrease in the benefits realised; or minor delay on the project or another project, with no public implications.	Several delays with the initiative and/or moderate decrease in benefits realised; or completion date missed for non-critical path project.	Major delays with the initiative and/or major decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed with demonstrable mitigating external circumstances.	Severe delays with initiative, which impacts across divisions and/or significant decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed on critical path project.	Failure to realise benefits of the initiative which adversely affects the enterprise-wide operations of TINSW; or publicly announced portion/ milestone significantly missed or final completion date significantly missed on critical path project.
Budget, Costs or Revenue	< $100k	$100k – $1m	$1m – $10m	$10m – $50m	$50m – $100m	> $100m

A2 Likelihood Criteria

Likelihood						
Rating	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**
Descriptor/ Definition	**Almost Unprecedented**	**Very Unlikely**	**Unlikely**	**Likely**	**Very Likely**	**Almost Certain**
Qualitative Expectation	Not expected to ever occur during time of activity or project	Not expected to occur during the time of activity or project	More likely not to occur than occur during time of activity or project	More likely to occur than not occur during time of activity or project	Expected to occur occasionally during time of activity or project	Expected to occur frequently during time of activity or project
Sydney Metro Probability Analysis	<10%	10-25%	25-50%	50-75%	75-90%	>90%
Quantitative Frequency	Less than once every 100 years	Once every 10 to 100 years	Once every 1 to 10 years	Once each year	1-10 times every year	10 times or more every year

A3 Risk Matrix

Risk Rating A – Very High B – High C – Medium D - Low			Consequence					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
Likelihood	Almost certain	L1	C	B	B	A	A	A
	Likely	L2	C	C	B	B	A	A
	Possible	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Rare	L5	D	D	D	C	C	B
	Almost unprecedented	L6	D	D	D	D	C	C

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
EROSION, SEDIMENTATION AND WATER QUALITY						
Earthworks (rock breaking), station works and OSD enabling works	Sediment laden runoff from disturbed areas Diesel/fuel spills Mud tracking Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Likely	High	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sand bags) will be installed, maintained and cleaned regularly. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Ensure chemical and fuel storage areas are adequately bunded. • Ensure adequately sized spill kits are readily available. • Induction to include contamination management requirements. • Isolate and visibly delineate suspected contamination. Notify Site Supervisor. Environment & Planning Manager to investigate and arrange further assessment if necessary.
		Mud tracking on public roads resulting in road safety issues and community complaints	Moderate	Likely	Medium	• Wheel mud reduction/cleaning measures at exit of sites where required.
		Uncontrolled discharges of groundwater	Major	Possible	High	• Implement sumps to collect groundwater seepage and manage in accordance with Construction Groundwater Management Plan

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
Drainage works	Sediment laden runoff from disturbed areas Diesel/fuel spills Mud tracking Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Likely	High	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Ensure chemical and fuel storage areas are adequately bunded. • Ensure adequately sized spill kits are readily available and close to the areas which need them. • Induction to include contamination management requirements.
		Mud tracking on public roads resulting in road safety issues and community complaints	Moderate	Likely	Medium	• Wheel mud reduction/cleaning measures at exit of sites where required.
		Contamination of surface water by concrete slurry	Major	Possible	High	• Implement wet vacuum system for any incidental spillages. • Ensure adequately sized spill kits are readily available and close to the areas which need them.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
		Uncontrolled discharges of groundwater	Major	Possible	High	• Implement sumps to collect groundwater seepage and manage in accordance with Construction Groundwater Management Plan
Public utility adjustment	Sediment laden runoff Diesel/fuel spills Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container • Refuelling to occur more than 20m away from stormwater drains. • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them. • Induction to include contamination management requirements.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
		Uncontrolled discharges of groundwater	Major	Possible	High	• Implement sumps to collect groundwater seepage and manage in accordance with Construction Groundwater Management Plan
Materials stockpiling	Sediment laden runoff Strong winds	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading from unstabilised stockpiles	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions around stockpiles to ensure clean and dirty water are not mixed on site. • Store spoil in sealed skip bins in preference to stockpiling on the ground surface • Cover erodible materials.
Paving activities	Hydrocarbon spills	Contamination of surface water by petroleum hydrocarbons	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container • Refuelling to occur more than 20m away from stormwater drains. • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them.
Operation of ancillary	Diesel/fuel spills, including	Contamination of surface water by	Major	Possible	High	• Implement Construction Soil and Water Management Procedure.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
facilities, including e.g. chemical storage, refuelling.	those resulting from maintenance activities Chemical spills	petroleum hydrocarbons				• Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container • Refuelling to occur more than 20m away from drainage lines • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them.
Concrete pouring	Concrete spillage	Contamination of surface water by concrete slurry.	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Ensure adequately sized spill kits are readily available. • Maintain concrete pumps and equipment and check for signs of leaks.
FLORA AND FAUNA						
All construction activities	Sediment laden runoff from disturbed areas Vehicular movements Unauthorised damage/clearing of vegetation.	Loss of unexpected threatened fauna species	Major	Possible	High	• Prior to construction, identify and fence all flora and fauna habitat areas required to be protected.
		Inadvertent loss of native vegetation/ fauna habitat identified to be protected	Moderate	Possible	Medium	• Prior to construction, identify and fence all flora and fauna habitat areas required to be protected.
		Terrestrial fauna mortality / injury	Major	Unlikely	Medium	• Allow encountered wildlife to leave work site without harassment. • Stop work and notify WIRES for any identified injured wildlife.
		Reduced water quality in local stormwater	Major	Possible	High	• Implement Construction Soil and Water Management Procedure.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		system and receiving waterways due to increased turbidity and sediment loading leading to degradation of aquatic habitat.				• Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
AIR QUALITY						
Earthworks (rock breaking), station works and OSD enabling works Stockpiling, material loading and material haulage	Mud tracking Wind erosion Poorly maintained equipment	Loss of reusable material, such as backfill material	Minor	Possible	Medium	• Maximise reuse of material on site.
		Mud tracking on public roads resulting in road safety issues and community complaints	Moderate	Likely	Medium	• Wheel mud reduction/cleaning measures at exit of sites where required.
		Amenity impacts to sensitive receivers when dust is deposited on surfaces resulting in community complaints.	Moderate	Possible	Medium	• Implement Construction Air Quality Management Procedure. • Induct personnel on air quality issues and safeguards. • Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces. • Modify or cease operations during high winds. • All trucks on public roads to cover loads. • Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes. • All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable. • Regularly inspect erosion control measures.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
		Reduced water quality in local waterways when dust is deposited in waterways.	Moderate	Unlikely	Medium	• Implement Construction Air Quality Management Procedure. • Induct personnel on air quality issues and safeguards. • Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces. • Modify or cease operations during high winds. • All trucks on public roads to cover loads. • All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable.
		Health and environmental impacts due to poorly maintained equipment	Minor	Possible	Medium	• Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes.
Greenhouse gas emissions	All construction activities	Greenhouse gas emissions due to consumption of energy from non-renewable resources, such as diesel. Increased greenhouse gas emissions due to the purchase of non-local products/services.	Insignificant	Almost certain	Medium	• Maximise reuse of material on site. • Use recycled products where possible. • Procure locally sourced materials to minimise transportation distances. • Turn plant and equipment off when not in use. • Conserve power in site offices (switch off lighting etc).
WASTE MANAGEMENT						
Demolition	Demolition waste including	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	pipe work and pavements.					• Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Cross-contamination of waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
Site establishment and general construction works, including at ancillary facility sites	Surplus material. Packaging materials from items delivered to the site, such as pallets, crates. General office wastes generated by onsite personnel, such as paper, cardboard, beverage containers and food wastes. Effluent generated at site amenities	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Litter	Minor	Possible	Medium	• Maintain work areas in neat and tidy condition. • Utilise available waste receptables for disposal of rubbish.
		Excessive packaging on products delivered to site.	Insignificant	Possible	Low	• Discuss excessive packaging with supplier if noted or source alternative suppliers.
		Excessive paper use.	Insignificant	Possible	Low	• Minimise use of consumables where possible.
		Paper from office cross-contaminated with food waste.	Insignificant	Possible	Low	• Ensure suitable number of waste receptacles available. • Segregate waste streams.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
	during construction.	Over-ordering of materials resulting in waste.	Insignificant	Possible	Low	• Procure materials only as required.
		Waste received on site unlawfully	Major	Possible	High	• Source materials from reputable supplies, including verification of fill material as contaminant and weed free.
		Cross-contamination of waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
Earthworks (rock breaking), station works and OSD enabling works	Soil and rock, unable to be reused within the project. Exposure of contaminated soils.	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Inefficient use of available resources.	Insignificant	Possible	Low	• Maximise re-use of materials and waste hierarchy.
		Waste received on site unlawfully	Major	Possible	High	• Source materials from reputable supplies, including verification of fill material as contaminant and weed free.
		Spread of contaminated waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
Plant and vehicle	Waste fuel, oil and chemical containers.	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
maintenance						• Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Cross-contamination of waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
ABORIGINAL AND NON-ABORIGINAL HERITAGE						
Earthworks (rock breaking), station works and OSD enabling works	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement	Damage/impacts to known heritage item/site	Major	Possible	High	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Possible	High	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
Stockpiling, site compound use, loading and haulage	Ground disturbance, vibration from plant and equipment, non-adherence to	Damage/impacts to known heritage item/site	Major	Possible	High	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
	exclusion zones, vehicle movement					• Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Possible	High	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
Public utility adjustment (existing services, electricity, telecommunications, water and sewer, gas, traffic signals)	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement	Damage/impacts to known heritage item/site	Major	Possible	High	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Possible	High	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
Realignment of perimeter hoarding	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones,	Damage/impacts to known heritage item/site	Major	Possible	High	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	vehicle movement					flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Possible	High	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
NOISE AND VIBRATION						
Mobilisation and site establishment	Noise and vibration generated during mobilisation and site establishment, including utility diversions.	Noise from mobilisation and site establishment activities causes disturbance and leads to community complaints	Moderate	Almost certain	Medium	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration Management Plan unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms. • Minimise impacts from rock breaking/saw cutting and use effective shielding. • Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles. • No idling of vehicles or machinery prior to approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours. • Workers to be inducted and tool boxed prior to commencing works.
		Vibration from mobilisation and site establishment works causes disturbance or damage to structures (including heritage buildings) and leads to community complaints	Major	Possible	High	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
Earthworks (rock breaking), station works and OSD enabling works Stockpiling and other activities associated with the operation of ancillary facilities.	Noise and vibration generated during earthworks and rock breaking/cutting	Noise causes disturbance and leads to community complaints	Moderate	Almost certain	Medium	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration Management Plan unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms. • Minimise impacts from rock breaking/saw cutting and use effective shielding. • Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
Drainage works Utility works Paving and roadworks Landscaping works						• No idling of vehicles or machinery prior to approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system. • Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours. • Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol. • Workers to be inducted and tool boxed prior to commencing works.
		Vibration causes disturbance or damage to structures (including heritage buildings) and leads to community complaints	Major	Possible	High	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
Out of Hours works	Noise outside of standard construction hours and extended hours	Noise from works carried out outside of the standard construction hours, including critical OOHW, results in community complaints	Moderate	Almost certain	Medium	• Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol.
		Vibration from OOHW results in community complaints or damage to structures (including heritage buildings).	Major	Possible	High	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
Operation of ancillary facilities	Noise and vibration from plant operations.	Extended operations of noise intensive activities at ancillary activities results in complaints	Moderate	Almost certain	Medium	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration Management Plan unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms. • Minimise impacts from rock breaking/saw cutting and use effective shielding.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles. • No idling of vehicles or machinery prior to approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system. • Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours. • Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol. • Workers to be inducted and tool boxed prior to commencing works.
		Vibration causes disturbance or damage to structures (including heritage buildings) and	Major	Possible	High	• Conduct vibration monitoring as required in line with Construction Heritage Management

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		leads to community complaints				Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
FLOODING AND HYDROLOGY						
Rain infiltration resulting in flooding of work area	Onset of flooding following rainfall in the catchment	Potential flooding impacts to people and property	Moderate	Possible	Medium	• Implement sumps to collect rainwater infiltration and manage in accordance with Construction Groundwater Management Plan. • Implement clean water diversion techniques such as sandbags to minimise rainwater infiltration to the work site.
TRAFFIC AND TRANSPORT						
Installation of logistics lane and all construction activities	Construction vehicle movements, deliveries of construction materials and roadway access restrictions for pedestrians	Construction impacts on local traffic and local/arterial roads	Moderate	Likely	Medium	• Develop and implement a Construction Traffic Management Plan (CTMP) in accordance with the project planning approvals and the Sydney Metro CTMF. This CTMP would need to be approved by TfNSW/City of Sydney Council and implemented prior to the works commencing. • Undertake work outside of peak hours, where possible • Provide alternative pedestrian routes.
		Construction impacts on pedestrians and cyclists	Moderate	Likely	Medium	
SOCIAL & VISUAL AMENITY						
All construction activities	All construction activities	Temporary visual impacts as a result of construction activities and ancillary facilities	Minor	Likely	Medium	• Implement Construction Visual Amenity and Landscape Management Plan. • Undertake adequate community consultation. • Implement work signage. • Erect hoarding around work site.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK			MITIGATION MEASURES
			CONSEQUENCE	LIKELIHOOD	RISK RATING	
						• Work area surrounding will be kept tidy and be regularly cleaned and maintained. • Implement complaints handling process.

APPENDIX D (B) - ENVIRONMENTAL RISK ASSESSMENT (SSD)

The identification of significant construction activities and associated impacts that could eventuate during construction of the project is central to the selection of appropriate environmental mitigation measures.

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

The objectives of the risk assessment are to:

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

The identification of risks included a review of the proposed works, the project planning approval, REMMs, and review of the environmental risks identified by the environmental assessments for the OSD.

The risk assessment has been undertaken in accordance with the requirements of Sydney Metro Risk Management Standard.

A1 Consequence Table

Consequence Table						
Rating	**C6**	**C5**	**C4**	**C3**	**C2**	**C1**
Descriptor/ Impact Area	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**	**Catastrophic**
Health and Safety (Injury and Disease)	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	1-10 major injuries requiring hospitalisation and numerous days lost, or medium-term occupational illness.	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic diseases.	Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic diseases.
Environment	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.
Customer Experience/ Operational Reliability	Short duration disruptions affecting part of one transport mode.	Minor disruptions affecting several parts of one transport mode.	Serious disruptions affecting operation of one complete transport mode.	Major disruptions affecting operations of one transport mode with network-wide effects on one or more other modes of transport.	Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.	Extensive shutdowns or extended disruptions with economy-wide effects.
Government/ Stakeholder / Public Trust/ Confidence	Negative article in local media. No discernible reaction/apprehension. Goodwill, confidence and trust retained.	Unease – Series of negative articles in local/state media. Confidence remains with some minor loss of goodwill or trust. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Disappointment – Extended negative local/state media coverage. Confidence and trust dented but are quickly recoverable at modest cost within existing budget and resources.	Concern – Short-term negative state/national media coverage. Confidence and trust are diminished but are recoverable with time, staff effort and additional funding.	Displeasure – Extended negative state/national media coverage. Confidence and trust are damaged but recoverable at considerable cost, time and staff effort.	Outrage – Material change in the public perception of the organisation. Confidence and trust are severely damaged, possibly irreparably, and full recovery both questionable and costly.
Regulatory or Legal Breach	Low-level non-compliance with legal and/or regulatory requirement or duty by individuals or TINSW.	Minor non-compliance with legal and/or regulatory requirement or duty. Investigation and/or report to authority.	Moderate non-compliance. Subject to comment and monitoring from applicable regulator. Small fine and no disruption to services.	Major breach resulting in enforcement action and/or prohibition notices. Substantial fine and no disruption to services.	Substantial breach resulting in prosecution, fines and/or litigation. Licence or accreditation restricted or conditional affecting ability to operate.	Prosecution leading to imprisonment of TINSW executive. Loss of operating licence.
Management Effort/ Organisational Fatigue	An event, the impact of which can be absorbed as part of normal activity.	An event, the impact of which can be absorbed but some additional management effort is required.	An event, the impact of which can be absorbed but much broader management effort is required.	Major event which can be absorbed, but substantial management effort is required.	Severe event which requires extensive management effort but can be survived.	Catastrophic event with the clear potential to lead to the collapse of the organisation.
Benefit Realisation of Initiative, Program or Project	No time delay with initiative or project but it will incur a slight decrease in the benefits realised.	Minor delay with the initiative and/or a minor decrease in the benefits realised; or minor delay on the project or another project, with no public implications.	Several delays with the initiative and/or moderate decrease in benefits realised; or completion date missed for non-critical path project.	Major delays with the initiative and/or major decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed with demonstrable mitigating external circumstances.	Severe delays with initiative, which impacts across divisions and/or significant decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed on critical path project.	Failure to realise benefits of the initiative which adversely affects the enterprise-wide operations of TINSW; or publicly announced portion/ milestone significantly missed or final completion date significantly missed on critical path project.
Budget, Costs or Revenue	< $100k	$100k – $1m	$1m – $10m	$10m – $50m	$50m – $100m	> $100m

A2 Likelihood Criteria

Likelihood						
Rating	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**
Descriptor/ Definition	**Almost Unprecedented**	**Very Unlikely**	**Unlikely**	**Likely**	**Very Likely**	**Almost Certain**
Qualitative Expectation	Not expected to ever occur during time of activity or project	Not expected to occur during the time of activity or project	More likely not to occur than occur during time of activity or project	More likely to occur than not occur during time of activity or project	Expected to occur occasionally during time of activity or project	Expected to occur frequently during time of activity or project
Sydney Metro Probability Analysis	<10%	10-25%	25-50%	50-75%	75-90%	>90%
Quantitative Frequency	Less than once every 100 years	Once every 10 to 100 years	Once every 1 to 10 years	Once each year	1-10 times every year	10 times or more every year

A3 Risk Matrix

Risk Rating A – Very High B – High C – Medium D - Low			Consequence					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
Likelihood	Almost certain	L1	C	B	B	A	A	A
	Likely	L2	C	C	B	B	A	A
	Possible	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Rare	L5	D	D	D	C	C	B
	Almost unprecedented	L6	D	D	D	D	C	C

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
EROSION, SEDIMENTATION AND WATER QUALITY						
OSD works	Sediment laden runoff from work areas Diesel/fuel spills Tracking sediment onto public roads Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sand bags) will be installed, maintained and cleaned regularly. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Ensure chemical and fuel storage areas are adequately bunded. • Ensure adequately sized spill kits are readily available.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Induction to include contamination management requirements. • Isolate and visibly delineate suspected contamination. Notify Site Supervisor. Environment & Planning Manager to investigate and arrange further assessment if necessary.
		Tracking sediment on public roads resulting in road safety issues and community complaints	Moderate	Possible	Medium	• Sealed access points • Wheel cleaning measures at exit of sites if required.
		Uncontrolled discharges of groundwater	Major	Unlikely	Medium	• Implement sumps to collect groundwater seepage and manage in accordance with Construction Groundwater Management Plan

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
Drainage works	Sediment laden runoff from disturbed areas Diesel/fuel spills Tracking sediment onto public roads Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Ensure chemical and fuel storage areas are adequately bunded.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Ensure adequately sized spill kits are readily available and close to the areas which need them. • Induction to include contamination management requirements.
		Tracking sediment on public roads resulting in road safety issues and community complaints	Moderate	Possible	Medium	• Sealed access points • Wheel cleaning measures at exit of sites if required.
		Contamination of surface water by concrete slurry	Major	Possible	High	• Implement wet vacuum system for any incidental spillages. • Ensure adequately sized spill kits are readily available and close to the areas which need them.
		Uncontrolled discharges of groundwater	Major	Unlikely	Medium	• Implement sumps to collect groundwater seepage and manage in accordance with Construction

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						Groundwater Management Plan
Public utility adjustment	Sediment laden runoff Diesel/fuel spills Groundwater seepage in excavations	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed, as early during works as practicable.
		Contamination of surface and groundwater by petroleum hydrocarbons or unexpected contaminated land	Major	Unlikely	Medium	• Implement Construction Soil and Water Management Procedure. • Any chemicals and fuels are to be stored

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						within a bunded area with 110% of the capacity of the largest stored container • Refuelling to occur more than 20m away from stormwater drains. • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them. • Induction to include contamination management requirements.
		Uncontrolled discharges of groundwater	Major	Rare	Medium	• Implement sumps to collect groundwater seepage and manage in accordance with Construction Groundwater Management Plan

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
Materials stockpiling	Sediment laden runoff Strong winds	Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading from unstabilised stockpiles	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Locate stockpiles, plant and equipment away from stormwater drains. • Install clean water diversions around stockpiles to ensure clean and dirty water are not mixed on site. • Store spoil in sealed skip bins in preference to stockpiling on the ground surface • Cover erodible materials.
Paving activities	Hydrocarbon spills	Contamination of surface water by petroleum hydrocarbons	Major	Possible	High	• Implement Construction Soil and Water Management Procedure.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container • Refuelling to occur more than 20m away from stormwater drains. • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them.
Operation of ancillary facilities, including e.g. chemical storage, refuelling.	Diesel/fuel spills, including those resulting from maintenance activities Chemical spills	Contamination of surface water by petroleum hydrocarbons	Major	Possible	High	• Implement Construction Soil and Water Management Procedure. • Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Refuelling to occur more than 20m away from drainage lines • Site induction includes spill response awareness. • Ensure adequately sized spill kits are readily available and close to the areas which need them.
Concrete pouring	Concrete spillage, cement-laden runoff	Contamination of surface water by concrete slurry.	Major	Likely	High	• Implement Construction Soil and Water Management Procedure. • Ensure adequately sized spill kits are readily available. • Maintain concrete pumps and equipment and check for signs of leaks.
FLORA AND FAUNA						
All construction activities	Sediment laden runoff from disturbed areas Vehicular movements	Loss of unexpected threatened fauna species	Major	Rare	Medium	• Prior to construction, identify and fence all flora and fauna habitat areas required to be protected.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	Unauthorised damage/clearing of vegetation.	Inadvertent loss of native vegetation/ fauna habitat identified to be protected	Major	Rare	Medium	• Prior to construction, identify and fence all flora and fauna habitat areas required to be protected.
		Terrestrial fauna mortality / injury	Moderate	Unlikely	Medium	• Allow encountered wildlife to leave work site without harassment. • Stop work and notify WIRES for any identified injured wildlife.
		Reduced water quality in local stormwater system and receiving waterways due to increased turbidity and sediment loading leading to degradation of aquatic habitat.	Major	Rare	Medium	• Implement Construction Soil and Water Management Procedure. • Appropriately designed erosion control structures (e.g. sandbags) will be installed, maintained and cleaned regularly. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, access and parking areas sealed,

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						as early during works as practicable.
AIR QUALITY						
OSD works Stockpiling, material loading and material haulage	Mud tracking Wind erosion Poorly maintained equipment	Loss of reusable material, such as backfill material	Minor	Rare	Low	• Maximise reuse of material on site.
		Mud tracking on public roads resulting in road safety issues and community complaints	Moderate	Possible	Medium	• Wheel mud reduction/cleaning measures at exit of sites where required.
		Amenity impacts to sensitive receivers when dust is deposited on surfaces resulting in community complaints.	Moderate	Possible	Medium	• Implement Construction Air Quality Management Procedure. • Induct personnel on air quality issues and safeguards. • Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces. • Modify or cease operations during high winds. • All trucks on public roads to cover loads. • Vehicles, equipment, machinery used and all facilities – designed, operated

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						and maintained to control the emission of smoke, dust, odours and fumes. • All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable. • Regularly inspect erosion control measures.
		Reduced water quality in local waterways when dust is deposited in waterways.	Moderate	Rare	Low	• Implement Construction Air Quality Management Procedure. • Induct personnel on air quality issues and safeguards. • Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces. • Modify or cease operations during high winds. • All trucks on public roads to cover loads. • All disturbed areas stabilised, revegetated and/or

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						landscaped as soon as practicable.
		Health and environmental impacts due to poorly maintained equipment	Minor	Possible	Medium	• Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes.
Greenhouse gas emissions	All construction activities	Greenhouse gas emissions due to consumption of energy from non-renewable resources, such as diesel. Increased greenhouse gas emissions due to the purchase of non-local products/services.	Insignificant	Almost certain	Medium	• Maximise reuse of material on site. • Use recycled products where possible. • Procure locally sourced materials to minimise transportation distances. • Turn plant and equipment off when not in use. • Conserve power in site offices (switch off lighting etc).
WASTE MANAGEMENT						
Demolition	Demolition waste including pipe	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	work and pavements.					• Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Cross-contamination of waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
Site establishment and general construction works, including at ancillary facility sites	Surplus material. Packaging materials from items delivered to the site, such as pallets, crates. General office wastes generated by onsite personnel, such as paper,	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	cardboard, beverage containers and food wastes. Effluent generated at site amenities during construction.					licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Litter	Minor	Almost certain	High	• Maintain work areas in neat and tidy condition. • Utilise available waste receptables for disposal of rubbish.
		Excessive packaging on products delivered to site.	Insignificant	Possible	Low	• Discuss excessive packaging with supplier if noted or source alternative suppliers.
		Excessive paper use.	Insignificant	Possible	Low	• Minimise use of consumables where possible.
		Paper from office cross-contaminated with food waste.	Insignificant	Possible	Low	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
		Over-ordering of materials resulting in waste.	Insignificant	Possible	Low	• Procure materials only as required.
		Waste received on site unlawfully	Major	Rare	Medium	• Source materials from reputable

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						supplies, including verification of fill material as contaminant and weed free.
		Cross-contamination of waste	Insignificant	Possible	Low	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
OSD works	Soil and rock, unable to be reused within the project. Exposure of contaminated soils.	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.
		Inefficient use of available resources.	Insignificant	Possible	Low	• Maximise re-use of materials and waste hierarchy.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		Waste received on site unlawfully	Major	Rare	Medium	• Source materials from reputable supplies, including verification of fill material as contaminant and weed free.
		Spread of contaminated waste	Moderate	Rare	Low	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
Plant and vehicle maintenance	Waste fuel, oil and chemical containers.	Inappropriate disposal of waste	Moderate	Possible	Medium	• Maintain a waste register. • Manage waste in accordance with the Waste Classification Guidelines and PoEO Act. • Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area. • Ensure suitable number of waste receptacles available.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		Cross-contamination of waste	Moderate	Possible	Medium	• Ensure suitable number of waste receptacles available. • Segregate waste streams.
ABORIGINAL AND NON-ABORIGINAL HERITAGE						
OSD works	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement	Damage/impacts to known heritage item/site	Major	Unlikely	Medium	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Rare	Medium	• Implement Construction Heritage Management Plan

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						including Sydney Metro Unexpected Find Procedure.
Stockpiling, site compound use, loading and haulage	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement	Damage/impacts to known heritage item/site	Major	Rare	Medium	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Rare	Medium	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
Public utility adjustment (existing services, electricity, telecommunications, water and sewer, gas, traffic signals)	Ground disturbance, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement	Damage/impacts to known heritage item/site	Major	Unlikely	Medium	• Induction to include heritage management requirements. • Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Rare	Medium	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
Realignment of perimeter hoarding	Ground disturbance, vibration from plant and	Damage/impacts to known heritage item/site	Major	Rare	Medium	• Induction to include heritage management requirements.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	equipment, non-adherence to exclusion zones, vehicle movement					• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.
		Damage to unknown heritage item	Major	Rare	Medium	• Implement Construction Heritage Management Plan including Sydney Metro Unexpected Find Procedure.
NOISE AND VIBRATION						
Mobilisation and site establishment	Noise and vibration generated during mobilisation and site establishment,	Noise from mobilisation and site establishment activities causes disturbance and leads to community complaints	Moderate	Almost certain	High	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
	including utility diversions.					Management Plan unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms. • Minimise impacts from rock breaking/saw cutting and use effective shielding. • Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• No idling of vehicles or machinery prior to approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system. • Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours. • Workers to be inducted and tool boxed prior to commencing works.
		Vibration from mobilisation and site establishment works causes disturbance or damage to structures (including heritage buildings) and leads to	Major	Unlikely	Medium	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		community complaints				Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
OSD works Stockpiling and other activities associated with the operation of ancillary facilities. Drainage works Utility works Paving and roadworks Landscaping works	Noise and vibration generated during earthworks and rock breaking/cutting	Noise causes disturbance and leads to community complaints	Moderate	Almost certain	High	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration Management Plan unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Minimise impacts from rock breaking/saw cutting and use effective shielding. • Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles. • No idling of vehicles or machinery prior to approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system. • Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						• Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol. • Workers to be inducted and tool boxed prior to commencing works.

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
		Vibration causes disturbance or damage to structures (including heritage buildings) and leads to community complaints	Major	Rare	Medium	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
Out of Hours works	Noise outside of standard construction hours and extended hours	Noise from works carried out outside of the standard construction hours, including critical OOHW, results in community complaints	Moderate	Almost certain	High	• Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol.
		Vibration from OOHW results in community complaints or damage to structures (including heritage buildings).	Major	Rare	Medium	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
Operation of ancillary facilities	Noise and vibration from plant operations.	Extended operations of noise intensive activities at ancillary activities results in complaints	Moderate	Almost certain	High	• Liaise with local communities and affected residents. • Adherence to working hours in Construction Noise and Vibration Management Plan

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						unless otherwise approved. • Implement respite periods for particularly noisy / short duration activities. • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “non tonal” reversing alarms. • Minimise impacts from rock breaking/saw cutting and use effective shielding. • Regular noise monitoring to monitor predicted verses actual noise levels. • Managing construction vehicle routes and speed of vehicles. • No idling of vehicles or machinery prior to

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						approved working hours. • Switch plant and equipment off when not in use. • Establish and maintain complaints management system. • Noisier activities such as concrete cutting or hammering are only expected to occur for short durations and all efforts will be made to schedule within standard construction hours. • Works to occur in during standard construction hours where possible, in the event that OOHW are required to be undertaken contractors must follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy and Sydney Metro Out of Hours Works Strategy Protocol. • Workers to be inducted and tool boxed prior to commencing works.
		Vibration causes disturbance or damage to structures (including heritage buildings) and leads to community complaints	Major	Rare	Medium	• Conduct vibration monitoring as required in line with Construction Heritage Management Plan and Construction Noise and Vibration Management Plan. • Building condition reports on potentially impacted buildings as required.
FLOODING AND HYDROLOGY						

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
Rain infiltration resulting in flooding of work area	Onset of flooding following rainfall in the catchment	Potential flooding impacts to people and property	Moderate	Possible	Medium	• Implement sumps to collect rainwater infiltration and manage in accordance with Construction Groundwater Management Plan. • Implement clean water diversion techniques such as sandbags to minimise rainwater infiltration to the work site.
TRAFFIC AND TRANSPORT						
Installation of logistics lane and all construction activities	Construction vehicle movements, deliveries of construction materials and roadway access restrictions for pedestrians	Construction impacts on local traffic and local/arterial roads	Moderate	Likely	High	• Develop and implement a Construction Traffic Management Plan (CTMP) in accordance with the project planning approvals and the Sydney Metro CTMF. This CTMP would need to be approved by TfNSW/City of Sydney Council and implemented prior to
		Construction impacts on pedestrians and cyclists	Moderate	Likely	High	

ACTIVITY/ ASPECT	HAZARD/ SOURCE OF IMPACT	IMPACT	PRE-CONTROL RISK CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES
						the works commencing. • Undertake work outside of peak hours, where possible • Provide alternative pedestrian routes.
SOCIAL & VISUAL AMENITY						
All construction activities	All construction activities	Temporary visual impacts as a result of construction activities and ancillary facilities	Minor	Likely	Medium	• Implement Construction Visual Amenity and Landscape Management Plan. • Undertake adequate community consultation. • Implement work signage. • Erect hoarding around work site. • Work area surrounding will be kept tidy and be regularly cleaned and maintained. • Implement complaints handling process.

APPENDIX E – CONSTRUCTION HERITAGE MANAGEMENT PLAN

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000022

APPENDIX F - CONSTRUCTION SPOIL MANAGEMENT PLAN

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000025

APPENDIX G - CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000028

APPENDIX H - CONSTRUCTION VISUAL AND LANDSCAPE MANAGEMENT PLAN

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-0000223

APPENDIX I - CONSTRUCTION GROUNDWATER MANAGEMENT PLAN

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000024

APPENDIX J - AIR QUALITY AND DUST MANAGEMENT PROCEDURE

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000018

APPENDIX K - CONSTRUCTION SOIL AND WATER MANAGEMENT PROCEDURE

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000020

APPENDIX L - CONSTRUCTION FAUNA AND FLORA MANAGEMENT PROCEDURE

Document Number: SMCSWSCN-AWE-SCN-EM-PLN-000019