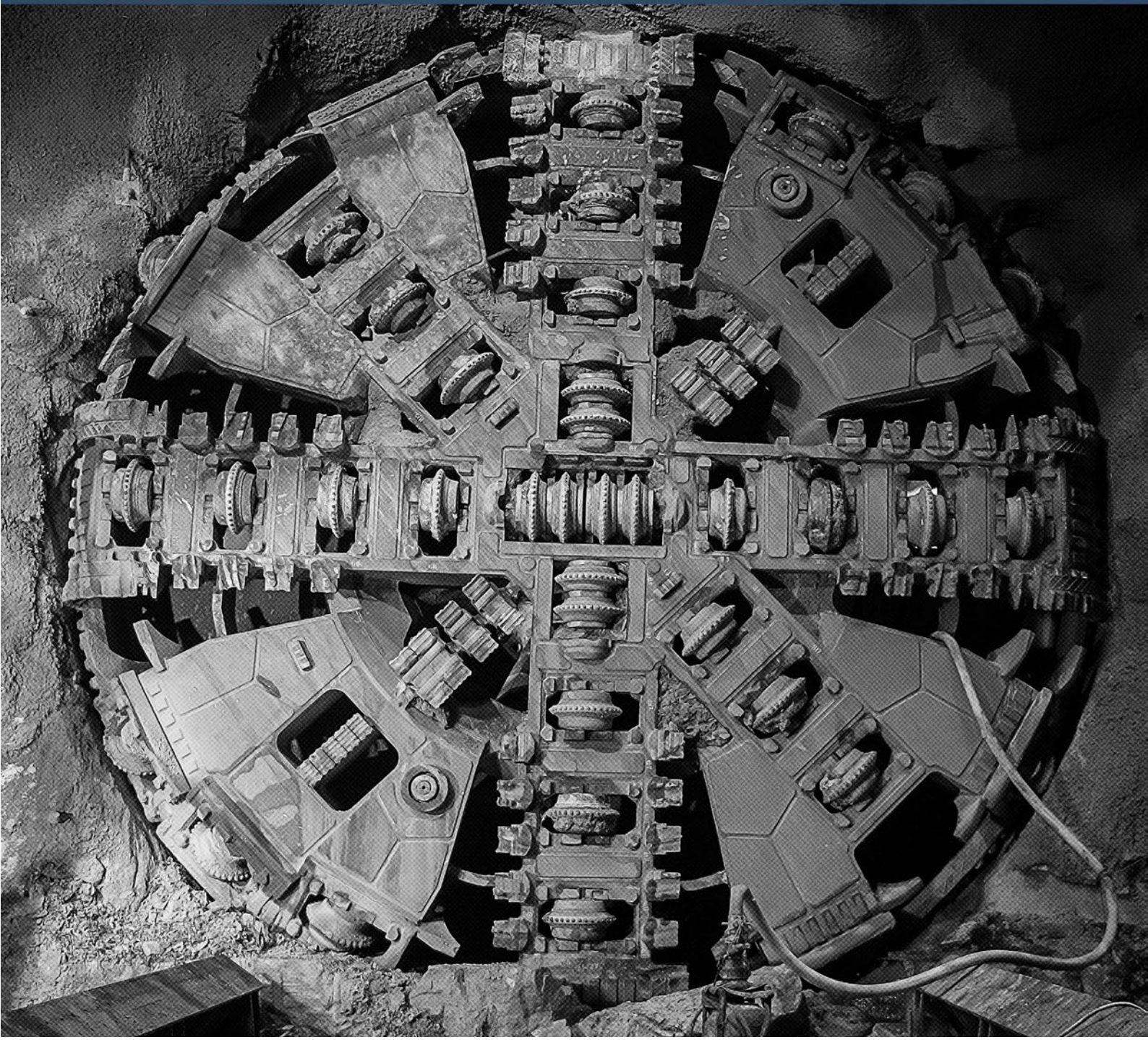


SPOIL MANAGEMENT

SUB-PLAN



SPOIL MANAGEMENT SUB-PLAN

Project number	7040
Document number	SMWSTETP-JCG-SWD-SW000-EN-PLN-002019

Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	29/11/2022			For consultation Sydney Metro & ER review	
B	10/02/2023			For Sydney Metro & ER review	
C	20/02/2023			ER endorsement	
0	22/03/2023			DPE Approval	
1	08/03/2024			Annual review	
Signature:					

Draft issues of this document shall be identified as Revision A, B, C, etc. Upon initial issue for use this shall be changed to a number commencing at Revision 0, with subsequent revision numbers following sequentially (e.g. 1, 2, etc).

This Sub-plan was previously issued to Sydney Metro as SMWSTETP-JCG-1NL-EN-PLN-000003 (Revision A). The document number of this Sub-plan has been updated to SMWSTETP-JCG-SWD-SW000-EN-PLN-002019 to comply with both the Sydney Metro ECM schema and the JCG file numbering convention (FNC). Previous comments against SMWSTETP-JCG-1NL-EN-PLN-000003 have been addressed in this version of the Sub-plan.

Compliance

Table 1: Compliance matrix

ID	Requirement ¹	Reference
A6	Where the conditions of this approval require a document or monitoring program to be prepared, or a review to be undertaken, in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: (a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; (b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them; (c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that the party(s) has none or has failed to provide feedback after repeated requests; (d) outline of the issues raised by the identified party(s) and how they have been addressed; and (e) a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed. <i>Note: *Consultation with the community and businesses will be undertaken in accordance with the Overarching Community Communication Strategy required under Condition B1.</i>	Refer to Appendix A
C1	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during construction.	Section 1.1
C5	Of the CEMP Sub-plans required under Condition C1, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: (a) Noise and vibration: Place Management NSW (in respect of The Bays) and Relevant Council(s) (b) Flora and fauna: DPE Environment and Heritage Group, DPI Fisheries, and Relevant Council(s) (c) Heritage (Non-Aboriginal and Aboriginal): Heritage NSW, Place Management NSW (in respect of The Bays) and Relevant Council(s) (d) Spoil: Relevant council(s) (e) Soil and water: DPE Water and Relevant Council(s)	Section 1.4 Appendix A
C6	The CEMP Sub-plans must state how:	Part B, Table 19
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	Section 8
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Part B, Table 18
	(c) the relevant conditions of this approval will be complied with; and	Part B, Table 17
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles	Section 8

ID	Requirement ¹	Reference
C7	With the exception of any CEMP Sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMP Sub-plans must be submitted to the Planning Secretary for approval.	Section 1.4
C8	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.4
C9	Any of the CEMP Sub-plans to be approved by the Planning Secretary must be submitted to the Planning Secretary with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.4
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or endorsed by the ER upon nomination by the Planning Secretary (whichever is applicable).	Section 1.4

1. Other relevant compliance obligations are detailed in Part B of this Sub-Plan (Element 4).

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Acronyms

Table 2: Acronyms

Terms and abbreviations	Definition
ACM	Asbestos-containing materials
ANZECC/NHMRC 1992	Australian and New Zealand Guidelines for Assessment and Management of Contaminated Sites
ASS	Acid Sulfate Soils
CEMP	Construction Environmental Management Plan
CLM Act	Contaminated Land Management Act 1997
DPE	Department of Planning and Environment
DSI	Detailed Site Investigation
ECM	Environmental Control Map
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental target	Defined by AS/NZS ISO 14001:2015 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.
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
E&SMS	Environment and Sustainability Management System
ETP Works	Eastern Tunnelling Package Works
ER	Environmental Representative
IC	Independent Certifier
JCG	John Holland CPB Ghella Joint Venture
OOHW	Out-of-hours work
PFAS	Perfluoroalkyl and polyfluoroalkyl substances
POEO Act	Protection of the Environment Operations Act 1997
Project, the	Eastern Tunnelling Package
REMM	Revised Environmental Mitigation Measure
SM	Sydney Metro
SPMP	Spoil Management Sub-plan
SSI	State Significant Infrastructure
STP	Slurry Treatment Plant

Terms and abbreviations	Definition
TBM	Tunnel Boring Machine
TRH	Total recoverable hydrocarbons
VENM	Virgin Excavated Natural Material
WMP	Waste Management Sub-plan
WTP	Water Treatment Plant

Part A: Overview

1. Introduction

1.1. Purpose

This Spoil Management Sub-plan (SPMP or Sub-plan) is applicable to the construction of the Sydney Metro West - Eastern Tunnelling Package (ETP Works or the Project). This Sub-plan describes how John Holland CPB Ghella Joint Venture (JCG) will manage the spoil generated by the project and minimise the associated impacts.

This Sub-Plan has been prepared to address the requirements of the:

- State Significant Infrastructure (SSI) 19238057 Infrastructure Approval (dated 24 August 2022) and relevant conditions of the Sydney Metro West Concept Schedule 2 of SSI 10038 Infrastructure Approval (dated 11 March 2021) (Infrastructure Approvals)
- Environment Protection Licence (EPL) (EPL 21784)
- Sydney Metro West – Stage 2 – Phasing Report
- AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with guidance for use
- Sydney Metro Construction Environmental Management Framework (Version 4.3) (CEMF)
- Environmental Impact Statement (EIS) and the Submissions Report, including the Revised Environmental Mitigation Measures (REMMs)
- Contractual requirements including the ETP Deed and General and Particular Specifications
- Applicable legislation.

1.2. Objectives, targets and key performance indicators

The objectives, targets and key performance indicators for spoil management are detailed in Table 3.

Table 3: Objectives, targets and key performance indicators

Objectives	Targets	Key Performance Indicators
Minimise spoil generation where possible	Reduce spoil generation from the reference design, achieved through design optimisation	Final quantity of spoil generated less than quantified for the reference design
The project will mandate 100% reuse or recycling (on or off-site) of reusable spoil	100% reuse of reusable spoil (virgin excavated natural material (VENM), Excavated Natural Material (ENM) or material subject to a Resource Recovery Exemption/Order)	Confirmation via disposal records that all VENM, ENM and material subject to a Resource Recovery Exemption/Order and has been reused.
Spoil will be managed with consideration to minimising adverse traffic and transport related issues	All spoil haulage via nominated haulage routes which have been assessed and agreed with the relevant authority through the CTMP process.	Number of trucks recorded breaching the nominated haulage routes
Spoil will be managed to avoid contamination of land or water	Stockpile management to eliminate or reduce the risk of contamination through runoff and/or leaching	No Environmental breaches
Spoil will be managed with consideration of the impacts on residents and other sensitive receivers	100% of spoil vehicles to travel on approved haulage routes	Number of avoidable spoil complaints
Site contamination will be effectively managed to limit the potential risk to human health and the environment.	Contamination management in accordance with the relevant codes and practices that relate to the applicable contaminant	No breaches of approval requirements relating to contamination

1.3. Context and interface with other plans

To achieve the intended environmental performance outcomes of the Project, JCG have established an Environment and Sustainability Management System (E&SMS) in accordance with the requirements of ISO 14001:2016. Guided by the Environment and Sustainability Policy, the E&SMS consists of a Construction Environmental Management Plan (CEMP), issue-specific procedures, Sub-plans and monitoring programs as illustrated in Figure 1. Implementation of the E&SMS is achieved through tools, checklists and forms as detailed in the CEMP.

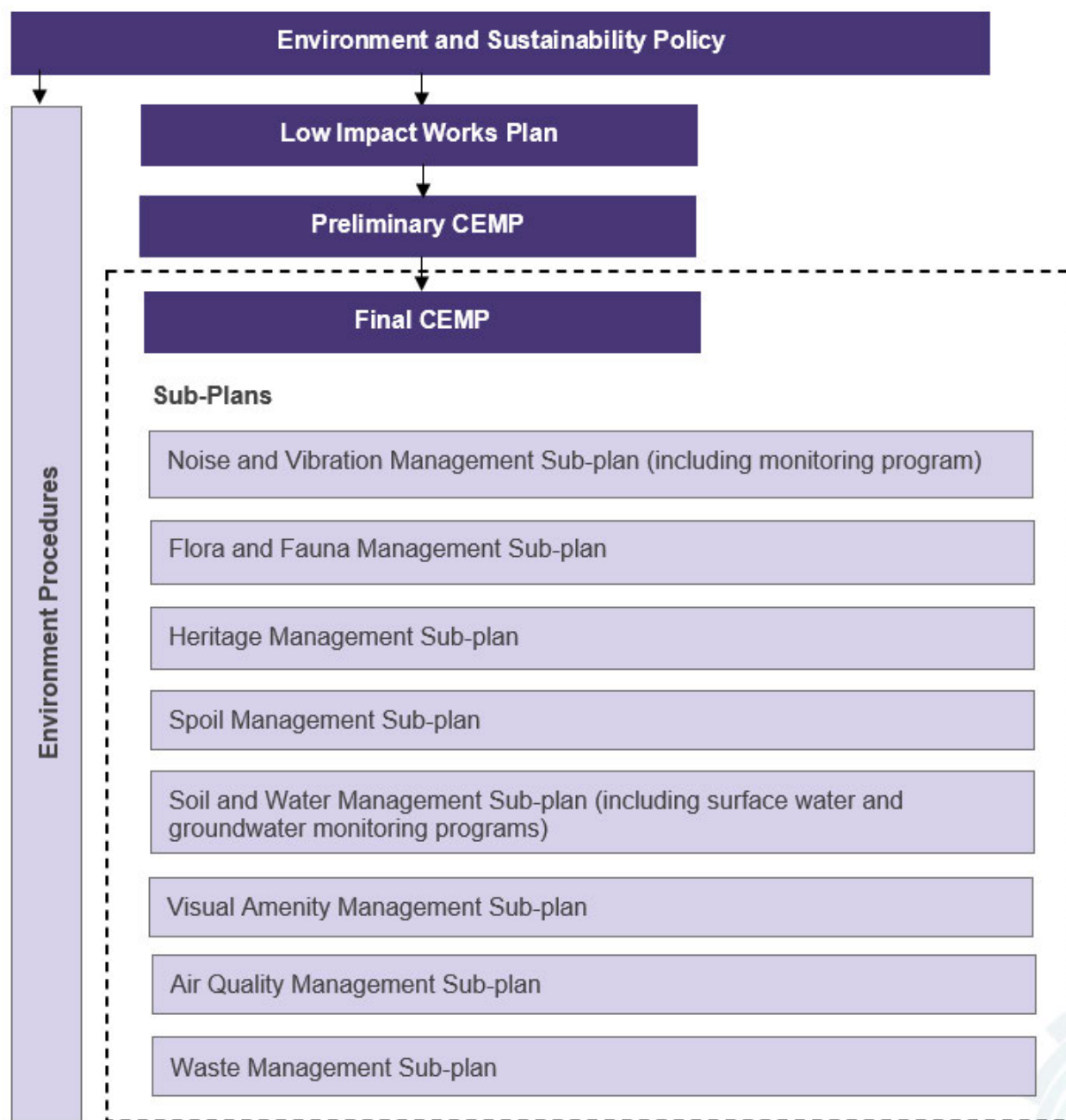


Figure 1: CEMP Framework

1.4. Consultation and approval

Reflecting the requirements of Conditions A6 and C5, this Sub-plan will be prepared in consultation with City of Sydney Council and Inner West Council. A detailed consultation report, including matters raised by stakeholders and JCG responses, will be provided in Appendix A.

In accordance with the Phasing Report, the SPMP will be endorsed by the Environmental Representative (ER) and then submitted to the Planning Secretary for approval at least one month

before the commencement of the Tunnelling, Excavation and Associated Works phase (refer to Section 2.3).

The CEMPs, Sub-plans and monitoring programs not requiring the Planning Secretary's approval will be endorsed by the ER as being in accordance with the conditions of approval and all relevant undertakings made in the EIS and Submissions Report. The CEMP, Sub-plans and monitoring programs will be submitted to the ER no later than one month before the relevant construction phase.

Construction will not commence until the CEMPs, Sub-plans and monitoring programs have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable). The CEMPs, Sub-plans and monitoring programs, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, will be implemented for the duration of the Project. In accordance with the Sydney Metro Phasing Report, construction of a phase will not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or endorsed by the ER upon nomination by the Planning Secretary (whichever is applicable).

1.5. Sub-Plan structure

Table 4: Sub-plan structure

Part	Details
Part A: Overview	▪ Project overview ▪ Legal and other requirements ▪ People and collaboration ▪ Existing environment ▪ Environmental aspects and impacts ▪ Environmental control measures ▪ Compliance management ▪ Review and improvement
Part B: Implementation Systems and Tools	This section summarises the systems and tools that will be implemented to achieve compliance with the Infrastructure Approval, REMMs, CEMF and EPL.
Part C: Annexure	Further documents and information that support this Sub-Plan include: ▪ Appendix A – Consultation Report ▪ Appendix B – Environmental Representative Endorsement

2. Project overview

2.1. Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979* (EP&A Act).

Stage 1 of the development, the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (SSI-10038 Schedule 2), was approved on 11 March 2021 and includes:

- Construction of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure, including stations and surrounding areas
- Ancillary development.

Stage 2 of the planning approval process, the ETP Works, includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD (Figure 2).

It is noted that the existing Sydney Metro West precast facility at Eastern Creek will be utilised in the delivery of the ETP Works. The facility, which was assessed by Sydney Metro in a Review of Environmental Factors (REF) and approved on 11 March 2021, is outside of the scope of the SPMP.

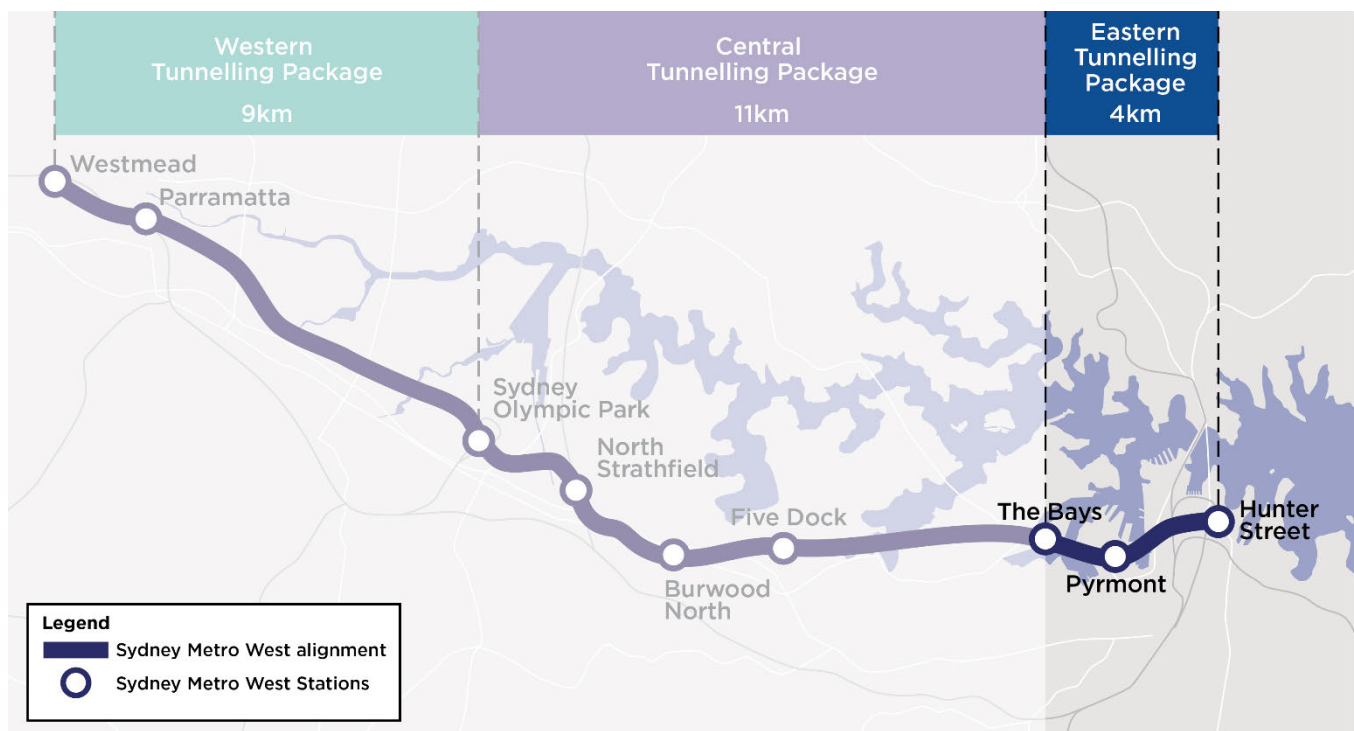


Figure 2: Overview of the Sydney Metro West between The Bays and Sydney CBD (Source: EIS)

2.2. Project scope

The ETP Works (construction) involves the delivery of:

- Enabling works such as demolition, utility supply to construction sites, utility adjustments and modifications to the existing transport network
- Mined crossover cavern construction

- 4.2 km of TBM tunnel excavation, 650m of mined tunnels and 7 cross passage excavation, from The Bays to Sydney CBD
- Excavation for two new underground metro stations at Pyrmont and Hunter Street
- Construction of a turnback, crossover tunnels and caverns at the eastern end of the tunnel section
- A concrete segment facility for use during construction located at Eastern Creek (outside of the scope of this Sub-plan).

2.3. Project phasing

Reflecting the outcomes of a detailed environmental risk assessment, the ETP Works will be delivered through a phased approach. This approach, detailed in the Phasing Report, includes Low Impact Works as defined under the SSI 19238057 Infrastructure Approval and the activity-based phases for construction (Table 5). Additional details on the phasing of construction activities at each worksite is provided in Table 6.

Table 5: Overview of ETP Works phasing

Phase	Description	Indicative timing	Environmental documentation	Consultation and approvals
Low Impact Works	Activities defined as Low Impact Works under SSI 19238057 Infrastructure Approval, including survey work, investigations, utility relocations, installation of environmental controls and initial demolition works	Project award to May 2023	▪ Low Impact Works Plan ▪ Low Impact Works DNVIS	▪ ER endorsement
Preliminary Works	Including works within the existing Hunter Street East acoustic shed, and critical enabling works which are required to be conducted outside of standard hours	March to May 2023	▪ Preliminary CEMP ▪ Environmental Procedures ▪ Hunter Street East acoustic shed works DNVIS ▪ Project-wide Out of Hours Works DNVIS	▪ Stakeholder consultation (refer to Section 1.4) ▪ ER endorsement
Tunnelling, Excavation and Associated Works (addressed in this Sub-plan)	Including the Preliminary Works (not completed prior to approval of the final CEMP), demolition of existing industrial premises, site establishment, piling and shaft excavation, tunnelling, and decommissioning	May 2023 onward	▪ CEMP ▪ Sub-plans ▪ Environmental Procedures ▪ DNVISs (TBA)	▪ Stakeholder consultation ▪ ER endorsement ▪ DPE approval (as determined by the Phasing Report)

Table 6: Overview of construction activities by worksite and work phase

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
Project wide design survey and investigations	N/A	- Survey control, instrumentation and monitoring including installation of benchmarks and installation of optical survey targets - Geotechnical drilling (locations to be confirmed in Environmental Control Maps)	- Survey control, instrumentation and monitoring including installation of extensometers and piezometers (outside of standard construction hours) - Geotechnical drilling (OOHW)	N/A
The Bays	- Existing Central Tunnelling Package (CTP) Worksite - Existing shaft (30 metres in depth) - Existing high voltage construction power supply conduits - Existing temporary buildings	- Installation of environmental controls - Use of existing offices and amenities for start-up - Secure site - Establishment of pedestrian bridge over site access road	N/A	- Establishment of additional temporary offices amenities and car parking - Establish high voltage construction power supply and water supply from existing Central Tunnelling Package substation - Nozzle enlargements and TBM launch stub tunnels - TBM assembly, launch and tunnelling support works from an existing shaft - Cross passage construction - Segment storage, temporary Water Treatment Plant (WTP) and Slurry Treatment Plant (STP) - Principal spoil handling facility for ETP Works
Pymont West	- Existing buildings: 26-32 Pymont Bridge Road, Pymont (five stories including two basement levels)	- Establish portable amenities - Initial demolition works including: - Hazmat investigation and structural investigation - Establishment of site security and hoardings - Establishment of truck access - Demolition work (soft strip only)	- Utility adjustment works, including: - Appropriately 20m of trenching in the northern footpath of Pymont Bridge Road (day shift) - Approximately 50m of trenching in Paternoster Row (day shift)	- Establish site including new construction access driveways, site hoardings, instrumentation and monitoring - Utility works, including establishment of temporary construction services, investigation and protection of existing assets, and

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
		- Five archaeological test trenches and, if triggered, salvage excavations - Prepare archival recordings (subject to access)	- Removal of overhead cabling from the northern footpath of Pymont Bridge Road (one OOHW shift) - Adjustment of property utility connections	- decommissioning of redundant assets - Demolition of existing buildings - Archaeological monitoring during basement slab removal and investigations (if required) - Establishment and use of temporary offices and amenities - Excavation of temporary shaft within the station shaft footprint - Installation of acoustic shed with gantry crane and steel bridging deck for excavation of station shaft, pedestrian and service adits and spoil handling for cross over cavern - Permanent concrete lining of cavern and adit connections - Installation of acoustic shed will support material handling outside standard hours of work
Pymont East	- Existing buildings 37-69 Union St, Pymont (four stories with no basement)	- Establish portable amenities - Initial demolition works including: - Hazmat investigation and structural investigation - Establishment of site security and hoardings - Establishment of truck access - Demolition work (soft strip only) - Detailed Site Investigation - Street tree removal	- Detailed Site Investigation - Adjustment of property utility connections	- Establish site including new construction access driveways, site hoardings, instrumentation and monitoring - Decommissioning of existing electricity kiosk - Utility works, including establishment of temporary construction services, investigation and protection of existing assets, and decommissioning of redundant assets - Establishment of high voltage construction power supply - Demolition of existing buildings

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
				- Contamination management based on DSI - Establishment of high voltage construction power supply - Establishment and use of temporary offices and amenities - Excavation of temporary shaft within the station shaft footprint - Installation of acoustic shed with gantry crane and steel bridging deck for excavation of station shaft and cavern - Permanent concrete lining of station cavern and nozzle enlargements - Installation of acoustic shed will support material handling outside standard hours of work
Hunter Street West	- Existing buildings 7-13 Hunter St, Sydney (9 Hunter St) (21 stories including one basement level) 5 Hunter St, Sydney (304-408 George St, Sydney) (16 stories, including two basement levels) 298-302 George St, Sydney (16 stories, including one basement level) 312 George St, Sydney (one story with no basement) 314-318 George St, Sydney (nine stories, including one basement level) - Heritage building at 296 George St directly (adjacent to Hunter Street West site)	- Establish portable amenities - Archaeological investigations of DeMestre Place (if access dates allow) - Initial demolition works including: - Hazmat investigation and structural investigation - Establishment of site security and hoardings - Establishment of truck access - Demolition work (soft strip only) - Demolition soft strip - Prepare archival recordings (subject to access)	- Establish construction access driveways at the Hunter Street East site and the Hunter Street West site - Utility investigation potholes - Adjustment of property utility connections	- Protection, adjustment and decommissioning of utility services - Temporary services investigation and installation at DeMestre Place - Relocate street lighting pole to allow site access - Establish site including new construction access driveways, site hoardings, instrumentation and monitoring - Demolition of existing buildings - Archaeological monitoring during basement slab removal and investigations (if required) - Establishment and use of temporary offices and amenities

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
Hunter Street East	- Site hoarding - Existing acoustic shed, spoil handling facilities and truck access - Existing excavation within acoustic shed (approximately 5 metres below road level) - Existing temporary WTP and high voltage power supply - Existing temporary office and amenities - Existing buildings: 28-34 O'Connell St, Sydney (19 stories, including three basement levels) 44-48 Hunter St, Sydney (16 stories, including one basement level) 37 Bligh St, Sydney (16 stories, including one basement level) 33 Bligh St, Sydney (steel shed, appropriately 20m in height)	- Use of existing offices and amenities - Maintenance of existing temporary WTP - Internal temporary fit-out within the existing Hunter St East acoustic shed: - Reticulate high voltage power supply ready for decline excavation - Site adjustments within the acoustic shed to facilitate the high voltage construction power reconfiguration - Establish (including assembly) road header, dust scrubber, shotcrete and bolting equipment - Site establishment within existing offices and amenities - Initial demolition works including: - Hazmat investigation and structural investigation - Establishment of site security and hoardings - Establishment of truck access - Demolition work (soft strip only) - Street tree trimming/removal - Prepare archival recordings (subject to access)	- Preliminary excavation within the existing acoustic shed (works to be conducted 24 hours each day and 7 days each week) - Temporary declines using a road header - Ventilation-duct bores - Ventilation adits using a Brock excavator - Approximately 50 truck movements per day (conducted in accordance with a Construction Traffic Management Plan) - Use of existing WTP (subject to the inclusion of alternative discharge criteria in the EPL) - Load-out of excavated spoil - Utility investigation potholes - Adjustment of property utility connections	- Excavation of station access shaft - Upgrade of high voltage construction power supply - Excavation of station cavern, nozzle enlargements and turnbacks from within an existing acoustic shed - Establish site including new construction access driveways, site hoardings, instrumentation and monitoring - Tree trimming and removal - Demolition of existing high-rise buildings and excavation of stage 1 of station access shaft - Archaeological monitoring during basement slab removal and investigations (if required) - Backfill of temporary decline prior to decommissioning - Demolition of existing acoustic shed and amenities and excavation of stage 2 of station access shaft - Concrete lining of station cavern and turnbacks - TBM disassembly and retrieval
Eastern Creek	Existing temporary precast facility	N/A (site is not within the scope of SSI 19238057)	N/A (site is not within the scope of SSI 19238057)	N/A (site is not within the scope of SSI 19238057)

3. Legal and other requirements

3.1. Legislation

This Sub-plan has been prepared in accordance with the:

- EP&A Act
- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Contaminated Land Management Act 1997* (CLM Act)
- *Waste Avoidance and Resource Recovery Act 2001*
- *Roads Act 1993*.

Additional details on legislative requirements are provided in Section 3.3 of the CEMP

3.2. Guidelines

The main guidelines, specifications and policy documents of relevance to this Sub-plan include:

- Waste Classification Guidelines, Part 1: Classifying Waste (EPA November 2014)
- Addendum to the Waste Classification Guidelines (2014), Part 1: Classifying Waste (EPA, October 2016)
- Waste Classification Guidelines, Part 4: Acid Sulfate Soils (EPA November 2014)
- Australian and New Zealand Guidelines for Assessment and Management of Contaminated Sites (ANZECC/NHMRC 1992)
- Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (EPA 1998)
- Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA 1997a)
- Contaminated Sites: Sampling Design Guidelines (EPA 1995b)
- Acid Sulfate Soil Manual (NSW Acid Sulfate Soil Management Advisory Committee 1998)

3.3. Other environmental requirements

Other environmental requirements relevant to managing spoil including the Project Approvals, REMMs and the CEMF which are addressed Element 4: Project Specific Requirements.

4. People and collaboration

4.1. Our team

The roles and responsibilities of key JCG personnel with respect to environmental management are detailed in Table 7. Additional roles of relevance to spoil management are summarised in Table 8.

Table 7: Key roles, authority and responsibility

Element	Description
Project Director	
Role	Manage the delivery of the Project in accordance with the ETP Deed
Authority	- Hold the authority to direct personnel or subcontractors to carry out actions to avoid or minimise unintended environmental impacts - Act as the Contractor's Representative
Responsibility	- Accountable for the environmental and sustainability performance of the Project - Allocate sufficient resources to achieve environmental and approvals compliance
Minimum Skill Level	- Tertiary qualification in Engineering or other associated disciplines - Relevant experience on similar projects and significant project delivery experience
Project Interface	Lead the JCG Senior Leadership Team and interface with Sydney Metro team
Environment, Approvals and Sustainability Director	
Role	Manage the delivery of environment and sustainability requirements
Authority	- Authority to produce any correspondence and documentation necessary for approvals, and environmental and sustainability management - Authority to take all reasonable steps to achieve environmental compliance
Responsibility	- Accountable for environmental and sustainability performance - Lead the creation of a consultative and proactive culture that ensures environmental compliance and 'No Harm' as a driver of work behaviour - Lead and manage the development and implementation of a risk-based EMS - Ensure environmental and sustainability participation at Value Engineering Workshops - Provide specialist spoil management advice to the Project Director and other functional managers to facilitate design and construction - Oversee the preparation of environmental assessments on design changes and obtain any necessary planning approvals - Oversee the reporting, investigation and response to environmental incidents or complaints - Liaise with Sydney Metro and external stakeholders on performance and continual improvement - Engage with the Environment Protection Authority (EPA) to obtain an EPL
Minimum Skill Level	- Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated discipline - Recent relevant experience in environmental management on a similar project - Minimum of 15 years' environmental management experience and 5 years' sustainability management
Project Interface	Member of the JCG Senior Leadership Team and interface with Sydney Metro West Environment and Sustainability team
Environment Manager	
Role	Manage day-to-day environmental compliance, including spoil minimisation and management
Authority	Authority to stop works where a Hold Point has not been adequately released
Responsibility	- Assist the Environment, Approvals and Sustainability Director in the creation of a consultative and proactive culture - Manage the implementation of the CEMP, including spoil management

Element	Description
	- Deliver the environmental induction and training program - Undertake environmental site monitoring and inspections - Facilitate site inspections with Sydney Metro, the ER and the Acoustic Advisor (AA) - Report and assist in incident management
Minimum Skill Level	- Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines - Minimum of 8 years' relevant experience
Project Interface	Attend environment, sustainability, design and construction meetings
Sustainability Manager	
Role	Provide sustainability strategy and performance advice
Responsibility	- Develop and implement the Sustainability Management System - Manage the implementation, assessment and verification of spoil minimisation and reuse initiatives and report on progress - Provide sustainability advice to the Environment, Approvals and Sustainability Director and other functional managers - Manage the sustainability induction and training program - Assist the Commercial Director in the delivery of sustainable procurement, including subcontractor fulfillment of sustainability obligations - Assist the Stakeholder and Community Relations Manager in the development and implementation of community education strategies with respect to sustainability.
Minimum Skill Level	- Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines and IS Accredited Professional certification - Minimum 10 years' relevant experience in sustainability management
Project Interface	- Liaise with Sydney Metro to discuss sustainability performance and ensure continual improvement - Attend environment, sustainability, design and construction meetings as required

Table 8: Key roles, authority and responsibility specific to spoil management

Role	Responsibility for spoil management
Traffic and Logistics Manager	- Identify and assess spoil reuse opportunities in consultation with the Environment, Approvals and Sustainability Director - Report on spoil extraction and reuse against sustainability targets - Contribute to the continual improvement of this Sub-plan - Oversee the development of haulage routes in consultation with the Spoil Manager
Construction Managers	Ensure compliance with this Plan
Environmental Advisors	- Assist the Environment, Approvals and Sustainability Director and Construction Managers in implementing this Sub-plan - Oversee spoil management including issuing VEMN certificates and documentation to achieve compliance with Resource Recovery Exemptions and Orders
Project Managers Project Engineers Site Supervisors	Assist the construction managers in implementing this Sub-plan.

4.2. Collaboration with Sydney Metro, the ER and the AA

The Environment, Approvals and Sustainability team will openly communicate and consult with Sydney Metro, the ER and the AA. This will include:

- Working collaboratively to ensure appropriate strategies are identified and implemented
- Holding regular meetings with the Sydney Metro Environment Team to provide updates on the construction process and receive any feedback
- Facilitating regular inspections with Sydney Metro, the ER and the AA

- Recording and responding appropriately to environmental complaints and enquiries and reporting them to Sydney Metro and other stakeholders including the ER, the AA and the EPA in a timely manner
- Providing comprehensive information to manage incidents including details on preventative actions to avoid re-occurrence.

In addition, as detailed in the CEMP, JCG will attend the Traffic and Transport Liaison Group to ensure all traffic and transport stakeholders are consulted on our spoil haulage strategy and required management documents.

5. Existing environment

5.1. Soil types

Soil Landscape Mapping (NSW Department of Environment, Climate Change and Water's Soil Landscapes of Sydney 1:100,000 Sheet, Chapman et al., 2009) identify the following soil landscape types within the study area:

- Residual soils associated with the Gymea and Lucas Heights soil landscapes. These are derived from weathered siltstone and sandstone rock, except where formed by erosion. The residual soils derived from shale typically comprise stiff to hard clay of medium to high plasticity, gravelly clay, sandy clay and silt. The residual soils derived from sandstone typically comprise thin (less than 1.5 metres thick) medium plasticity silty clay to sandy clay
- Alluvial/fluvial soils associated with the Deep Creek soil landscape
- Disturbed terrain.

5.2. Salinity

Salinity is caused by the accumulation of salts within soil, surface water and groundwater from natural conditions that has been accelerated in areas by anthropogenic activities. A review of the Salinity hazard report for Catchment Action Plan upgrade – Sydney Metropolitan CMA (Winkler et al, 2012) was carried out during development of the EIS to identify areas where salinity may be present within the soils study area. This mapping identifies that there is a very high salinity hazard where potential acid sulfate soils are mapped.

Known areas of acid sulfate soils and saline soils include:

- Within natural marine sediments at depth at The Bays tunnel launch and support site.
- Near the surface of the Pyrmont East construction site.

Figure 3 provides an overview of the salinity risk for the Project.

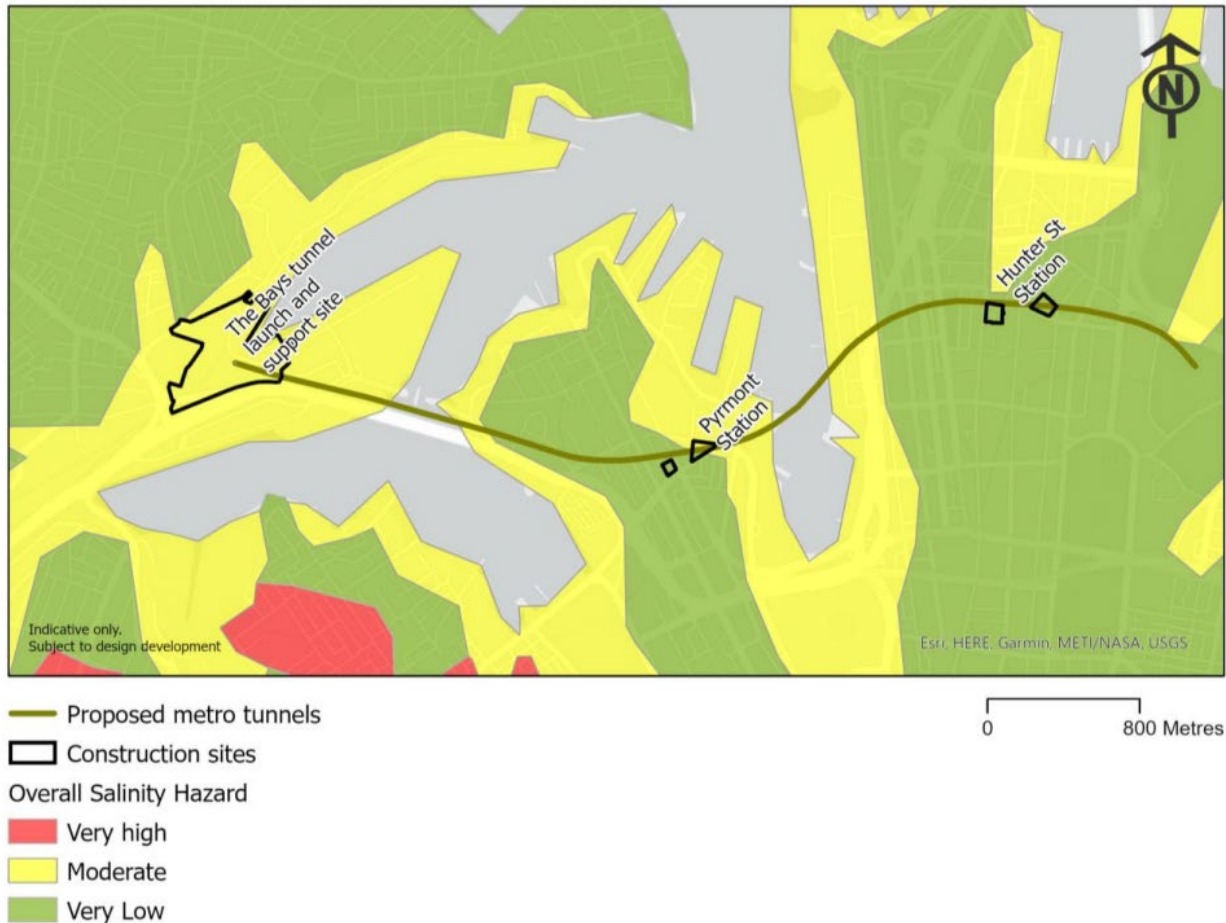


Figure 3 Soil salinity risk for the ETP Works

5.3. Contamination

The following Sections summarise the previously identified contamination issues within the Project alignment. Additional details on contamination, including control measures, are detailed in the Soil and Water Management Sub-plan.

5.3.1. The Bays Tunnel Launch and Support Site

The Bays has a long history of industrial use which included coal storage and processing, railway tracks, land reclamation and demolition of former buildings. Whilst the EIS assessed the area as low risk, it is noted that asbestos-containing materials (ACM) have been identified in previous investigations in addition to exceedances of the human health criteria for lead, benzo(a)pyrene (BaP), total recoverable hydrocarbons (TRH), and benzene in soil.

Within the groundwater, exceedances of metals and ammonia have been identified. In addition, perfluoroalkyl and polyfluoroalkyl substances (PFAS) and TRH have been identified in the vicinity of the power station to the west of the site. The groundwater flow direction is anticipated to be to the northeast.

As the ETP excavations at the site are limited, it is proposed to assess each excavation area based on the existing information. In the event of a data gap, additional sampling will be undertaken to adequately characterise the material. As such, it is considered that further investigation in the form of a DSI is not required.

5.3.2. Pyrmont West

Whilst Pyrmont has an industrial history, the EIS assessed all contamination risks as low or very low except for Acid Sulfate Soils (ASS) and groundwater which were assessed as moderate risk. Based on the geology and the site elevation, it is considered that the risk of ASS on the site is low. The groundwater risk appears to be related to the former power station to the north of the site.

As archaeological investigations are required to be undertaken on this site, it is proposed to undertake contamination sampling concurrently. This sampling will inform the waste classifications of the fill to be removed from site during the construction of the shaft.

5.3.3. Pyrmont East

Similar to Pyrmont West, the EIS assessed the contamination risks of Pyrmont East as low or very low apart from ASS and groundwater which were assessed as moderate risk. Based on the geology and the site elevation, it is considered that the risk of ASS is low.

The groundwater risk appears to be related to the former power station to the north of the site. Contaminative historical uses on the site have included a timber yard (1930s to 1960s) and a service station (1960s to 1980s). As there have been no previous investigations on the site it is proposed that further investigations (DSI) are undertaken to assess if contamination of the soil and / or groundwater has occurred.

5.3.4. Hunter Street West

The Hunter Street West site is located in the heart of the CBD with a mainly commercial past. The EIS assessed the risk of contamination (soil and groundwater) as low or very low. Recognising the potential for on-site dry cleaning at 7 Hunter Street and diesel storage for backup generators, a site walkover will be undertaken to assess if these potential contaminative sources are present.

As archaeological investigations are required for this site, it is proposed to undertake contamination sampling concurrently. This sampling will form the basis of waste classifications of the fill to be removed from site for the construction of the shaft. Reflecting the risk of the site, a DSI is not required.

5.3.5. Hunter Street East

The Hunter Street East site is located in close proximity to the Hunter Street West site and has a similar history of commercial land uses. The EIS assessed the risk of contamination (soil and groundwater) as low or very low. There is the potential for diesel storage for backup generators and as such, a site walkover will be undertaken to assess if this potential contaminative source is present.

The northern part of the site has been demolished to basement level and the southern part has a basement car park. Given the potential for fill material beneath the basement slabs, it is proposed to sample the material for waste classification purposes once the buildings have been demolished. Further investigations in the form of a DSI are not required.

5.3.6. Mainline Tunnels

The tunnels are located at depths of between approximately 30 m and 50 m below ground level (bgl). Reflecting the EIS assessment, it is unlikely that soil and groundwater contaminants have impacted the rock at the proposed tunnel depths. On this basis, JCG will apply for a site-specific Resource Recovery Order (RRO) / Resource Recovery Exemption (RRE) to enable tunnel spoil to be beneficially reused off-site. Refer to the Spoil Management Sub-plan for additional details on RROs and RREs.

5.4. Acid Sulfate Soils

ASS is the common name given to a range of soil types that react when exposed to air to form sulfuric acid, which can damage built structures and harm animals and plants.

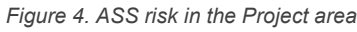
A review of the Environmental Planning Instrument – Acid Sulfate Soils (Department of Planning, Industry and Environment mapping, 2021) completed for the EIS indicates that:

- ASS is likely to be found on and below the natural ground surface on the eastern side of Johnstons Bay, eastern side of Pyrmont Bay and eastern side of Darling Harbour (Class 1)
- ASS is likely to be found below the natural ground surface to the south of the Project area along Darling Harbour and Johnstons Bay (Class 2)
- ASS is not typically found in other areas of the tunnel alignment (Class 5).

The areas of known ASS risk are mapped in Figure 4.

The risk of ASS to be present in the tunnelling areas is low. The underlying geology of the area is largely comprised of Hawkesbury Sandstone which is not known to generate acid.

Soil investigations will be undertaken prior to construction to assess the identified potential ASS areas where excavations are to be undertaken. ASS would be assessed in accordance with ASSMAC (1998) guidelines (and national guidelines where applicable) if greater than one tonne of ASS would be disturbed. If the action criteria are exceeded, an ASS Management Plan will be prepared to control earthworks, establish treatment processes, and identify appropriate receiving sites for spoil re-use or disposal.



6. Environmental aspects and impacts

6.1. Overview

Reflecting the requirements of the CEMF (3.1(b)(v)), this Section details the spoil risks associated with the Tunnelling, Excavation and Associated Works. The controls to manage the identified risks (Section 8) have been developed in consideration of the SMART Principles – Specific, Measurable, Achievable, Relevant and Time-based. Ongoing risk assessments undertaken throughout the development of the EIS and Submissions Report have informed the identification of REMMs. On this basis, the control measures are considered to be relevant and achievable for the Project and will be monitored against specific, measurable and time-based targets through the compliance management processes (refer to 1.2).

Additional details on the environmental risk assessment procedure are provided in the CEMP (Section 3.5).

6.2. Construction activities and potential impacts

Key aspects of the Project that could result in adverse environmental impacts arising from spoil management are detailed in Table 9.

Table 9: ETP aspects and impacts (soil and water)

Construction activities (aspects)	Potential impact
- Establishment of site compounds and excavation works - Stockpiling, handling and transport of spoil - Operation of wheel wash facilities	- Potential for sediment laden/contaminated runoff to enter drainage systems and/or directly into receiving waters, causing pollution - Potential road user safety risks from sediment and gravel on roads - Potential for sediment to be washed into drainage systems and/or directly into receiving waters, causing pollution - Potential for dust to be generated off site through tracking
Excavation of soils and tunnelling	- Potential non-compliance with legal requirements arising from inappropriate transport, disposal or reuse of spoil - Failure to adequately manage ASS stockpiles and treatment resulting in low pH water entering local surface waters - Potential air quality impacts arising from dust generation - Potential to generate spoil that is unsuitable for reuse
Unexpected finds of contaminated spoil or asbestos	- Potential impacts on worker health - Failure to adequately manage contaminated soils, including asbestos
Known contaminated sites and spoil	- Potential impacts on worker health - Failure to adequately manage contaminated soils, including asbestos - Potential for contaminants to enter drainage systems and result in degradation of aquatic habitat and water quality

7. Spoil quantities and management

The indicative spoil quantities and handling processes are outlined in Table 10.

Table 10: Indicative spoil quantities and management (last revision Jan'24)

ETP worksite	EIS anticipated quantity (m ³)	JCG anticipated quantity (m ³)	Indicative on-site storage volume (m ³)	Indicative spoil handling	Indicative haulage times and truck sizes		
					Day	Evening	Night
The Bays	306,000	185,886	5,000	- Roadheader spoil – kibble hoisted to stockpile area within spoil shed - TBM spoil transported via slurry pipelines to separation plant and spoil shed - Loader to road trucks	Rigid truck and dog trailer	Nil	Nil
Pymont West	90,530	123,610	0 ¹	- Spoil stockpiled at loading zone on shaft floor - BulkX Bin will be loaded via excavator - BulkX Bin will be hoisted to the surface platform by crane and loaded into storage hopper - Storage hopper to discharge directly to trucks	Single unit truck	Single unit truck	Nil
Pymont East	190,250	111,740	0 ¹		Single unit truck	Single unit truck	Nil
Hunter Street West	123,100	65,962	0 ¹		Single unit truck	Single unit truck	Nil
Hunter Street East	396,200	306,707	500		Single unit truck	Single unit truck	Single unit truck
TOTAL	1,106,080	791,905	5,500				

NOTES:

1. No surface storage area available at worksite.

8. Spoil management strategy and control measures

8.1. Overview

Reflecting the outcomes of the risk assessment, relevant spoil management control measures are detailed in the Sections that follow and within Table 12.

8.2. Reducing spoil generation through design development

Due to contractual requirements of the ETP Works, including specifications for tunnel diameter, cross passages and station box minimum clear openings, there is limited scope to reduce spoil volumes through design development. Notwithstanding, options to minimise spoil generation have been identified and are detailed in the Sections that follow.

8.2.1. Optimising TBM segmental lining thickness to reduce TBM tunnel excavation diameter

Adopting the concept of twin bore tunnels, in place of options to use a single, larger bore tunnel to house both tracks, will generate significantly less spoil. The required profile for a Metro project, which is a single track square vehicle envelope, lends itself to a TBM excavation method. The circular profile allows for the train pathway while providing space for services and optimising ventilation requirements. The result is one of the more efficient profiles in terms of spoil generation.

8.2.2. Use of shielded TBMs with single pass excavation and lining process

The use of precast segments negates the need for separate primary and secondary linings, thus reducing the cut profile for a single support lining, which in turn reduces spoil generation. Eliminating the need for a primary lining also improves spoil quality, due to the absence of construction-related contaminants associated with other types of TBMs (e.g. main beam/open shield).

8.2.3. Optimising the turnback caverns

By realigning the turnback caverns at Hunter Street, the overall length of cavern and cavern profiles have been reduced.

8.2.4. Reduction in cross passages

By increasing the spacing between cross passages from 250m to 500m, JCG have reduced the overall number of cross passages from 10 to 6, providing a reduction of circa 4,000t of spoil generation.

8.3. Spoil characteristics

The spoil produced during the ETP Works will largely be Virgin Excavated Natural Material (VENM) which is comprised of about 97.7% sandstone, 2.1% fill and 0.2% alluvium.

8.4. Maximising beneficial spoil reuse

The strategy for management of spoil material will be guided by the hierarchy in Table 11.

8.4.1. Spoil reuse hierarchy

Table 11: Spoil management hierarchy

Priority	Reuse	Possible reuse options	Assessment
1	Within the Project	Reuse spoil on the ETP Works for site levelling, embankments and mounds within a short haulage distance of the source.	Preferred, but limited to small volumes due to current land uses and time constraints. Subject to spoil chemical characterisation.
		Reuse spoil within landscape mounding and gabion wall features.	Not pursued. These features are not currently included in the ETP Works scope. Should these features be later incorporated into the design, site won materials will be used where possible.
2	Environmental works	Reuse spoil within flood protection works.	Preferred and will be further assessed during delivery subject to availability of adequate and safe storage space.

Priority	Reuse	Possible reuse options	Assessment
3	Other development projects	Reuse topsoil on other landscaping projects.	Preferred. JCG will further investigate the potential for topsoil to be used on other projects during delivery. If reuse on a specific project cannot be arranged, topsoil will be transported to a Construction Waste Recycling Facility where the material will be processed for reuse.
		Reuse spoil for fill embankments and mounds on projects within a financially feasible transport distance to the ETP Works.	Preferred option.
4	Land restoration	Reuse spoil to fill disused facilities (for example mines and quarries), to enable future development or site rehabilitation.	Potential option.
5	Landfill management	Reuse as capping material in restoration works.	Potential option.

8.4.2. Potential spoil receival sites

Reflecting compliance obligations, JCG has undertaken a detailed evaluation to assess spoil reuse opportunities for the ETP Works. An overview of the assessment methodology is provided below:

- Consideration of spoil characteristics
- Identification of possible reuse sites where spoil can be legally accepted
- Screening of possible reuse opportunities, including consideration of the following criteria:
 - Spoil management hierarchy
 - Distance from the excavation sites to the re-use site
 - Land use, planning approval status and relevant licence conditions
 - Availability of the site to accept spoil from the ETP Works
 - Practicality of the method of reuse
 - Safety of stockpiling locations
 - Cost.

There are numerous potential spoil disposal sites that JCG are considering for the disposal of excavated material, including:

- Sydney Gateway Project
- M12 Central Project
- M12 West Project
- Penrith Lakes Development
- Kemps Creek Industrial developments.
- WSA
- Moorebank
- Western Sydney Parklands Trust
- MR512 Heathcote Rd Upgrade
- Horsley Park
- MCL7 Project
- M7-M12 Project
- Elevations Greystanes
- Boral Recycling
- Elford's - Badgerys Creek Rd
- Oran Park

8.4.3. Ongoing refinement of spoil reuse strategy

Potential spoil reuse opportunities outlined in the Sections above will continue to be investigated throughout the ETP Works. Emphasis will be placed on selecting reuse options which rank highly in the spoil reuse hierarchy wherever practicable.

8.5. Spoil testing and classification

The classification of spoil will be undertaken in line with the Waste Classification Guidelines, Part 1: Classifying Waste (NSW EPA November 2014), the Waste Management Sub-Plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002029) and the Sydney Metro Waste Classification Procedure. Classifications will be prepared by a suitably qualified and experienced contaminated land professional. Spoil will be classified as:

- VENM – generally there are no restrictions on reuse options of VENM, however some receival sites may be governed by site-specific reuse requirements, e.g. salinity requirements of some Western Sydney councils
- Excavated Natural Material (ENM) – beneficial reuse will be undertaken in line with the Excavated Natural Material Order/Exemption 2014. Some receival sites may be governed by site-specific reuse requirements in addition to those detailed in the Order/Exemption
- General Solid Waste, Restricted Waste, Special Waste and Hazardous Waste – requires management or disposal in line with EPA guidelines (refer to the Waste Management Sub-Plan, SMWSTETP-JCG-SWD-SW000-EN-PLN-002029) Waste will only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*, or to any other place that can lawfully accept such waste.

The classification of material will be managed at each extraction site and a material tracking system will be implemented for spoil transferred between worksites and off-site. The relevant engineer at each worksite will manage the stockpiling of excavated material for testing as outlined above and ensure stockpile management requirements are implemented, including the following procedural requirements:

- Separate differently classified materials to avoid cross-contamination and maximise reuse and recycling opportunities
- Avoid the contamination of clean material by intermixing contamination or waste
- Avoid the intermixing of contamination (or difference waste classifications) with clean material or any other type of contamination or waste
- Delineate to the greatest extent practicable any hazardous waste spoil onsite and investigate opportunities to treat the material to a lower waste classification
- Avoid placement of stockpiles in drainage lines, channels or paths
- Establish adequate measures to prevent erosion and transportation of sediments (refer to the Soil and Water Management Sub-Plan SMWSTETP-JCG-SWD-SW000-EN-PLN-002026).

8.6. Resource recovery exemptions

The POEO Act defines 'waste' for regulatory purposes and establishes management and licensing requirements for waste classification, resource recovery exemptions, general immobilisation approvals and requirements for immobilisation of wastes.

The POEO Waste Regulation (2014) enables the EPA to issue resource recovery orders and exemptions for material that does not meet the definition of VENM or ENM if it can be shown that the material can be used for another purpose, rather than being disposed of.

The EPA may also issue specific orders and exemption to enable the reuse or recycling of identified materials at specified locations, subject to an application process. The EPA will issue a resource recovery exemption and order only where the intended use will be beneficial and cause no harm to the environment or human health.

Where possible, the disposal of excavated material under resource recovery orders will be prioritised over disposal to landfill. Relevant orders include the Excavated Natural Material Order 2014, Reclaimed

Asphalt Pavement Order 2014, Recovered Aggregate Order 2014, and Treated Drilling Mud Order 2014.

JCG will identify and assess specific resource recovery opportunities in consultation with Sydney Metro and apply to the EPA for specific orders and exemptions where relevant. Opportunities identified that may be subject to EPA application for a specific order and exemption include the beneficial reuse of excavated material from the TBM slurry.

TBM spoil will be processed through a STP at The Bays to remove as much of the moisture content and bentonite as possible from the spoil laden slurry. The process produces spoil in a truckable consistency and recycles the bentonite slurry back into the TBM slurry circuit.

Refer to the Waste Management Sub-Plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002029) for additional details on resource recovery exemptions and orders.

8.7. Spoil haulage

JCG have developed a spoil haulage strategy using detailed constructability analysis, along with vehicle movement studies and noise impact assessments. To maintain effective spoil removal while minimising impacts on pedestrians, traffic, and sensitive receivers, JCG will implement the following procedure:

- Review site access and haulage routes based on time periods/truck size and frequency
- Consider flexible alternate scheduling
- Implement truck marshalling to reduce wait times and truck idling at ETP worksites
- Select the most direct route from local roads to the closest arterial and motorway network
- Ensure traffic controllers (or other appropriate treatment supported by a road safety risk assessment) are engaged when spoil trucks are required to cross a public footpath when exiting a site.

In addition, a truck weighbridge will be installed, operated and maintained at all spoil removal sites to manage mass compliance of all heavy vehicles released onto the public road network. Where there is limited space within the respective worksites, alternative means of mass management will be implemented, including; load scales fitted to the Conquip BulkX truck loading system, Loadrite or similar system fitted to the loaders, and the use of public weighbridges if required.

The locations of all heavy vehicles used for spoil haulage will be monitored in real time through telemetry systems such as Virtual Superintendent. Records of monitoring will be made available electronically to the Planning Secretary and the EPA on request for a period of one year following the completion of the ETP Works.

Table 12: Environmental control measures

ID	Control Measures	Responsibility	Deliverables
SP 1	The locations of all heavy vehicles used for spoil haulage will be monitored in real time and the records of monitoring will be made available to the Planning Secretary and the EPA upon request for a period of no less than one year following the completion of the ETP Works.	Logistics Manager Traffic Manager	GPS records
SP 2	Waste generated during construction and operation will be dealt with in accordance with the following priorities: (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Logistics Manager	Resource Recovery Order and/or Exemption records Waste tracking records Monthly reports (including waste quantities)
SP 3	Waste will only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Logistics Manager Environmental Advisors	Waste tracking records Waste disposal records
SP 4	All waste spoil would be assessed, classified, managed, transported and disposed of in accordance with the Waste Classification Guidelines and the Protection of the Environment Operations (Waste) Regulation 2014.	Logistics Manager Site Supervisors Environmental Advisors	Waste tracking records Waste disposal records
SP 5	Spoil waste streams will be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Site Supervisors Logistics Manager Environmental Advisors	Waste tracking records Waste disposal records
SP 6	A materials tracking system will be implemented for material transferred between Sydney Metro West sites and to offsite locations such as licensed waste management facilities.	Logistics Manager Site engineers	GPS records
SP 7	Unexpected contamination or asbestos will be managed in accordance with the Unexpected Contamination Finds Procedure (Appendix C of the Soil and Water Management Sub-plan).	Environment, Approvals and Sustainability Director	Unexpected contamination finds records
SP 8	For sites where potential contamination risk is moderate, high or very high, a further review of data (if available), including a DSI, will be carried out in accordance with the Soil and Water Management Sub-plan. The outcomes of the DSI will inform the excavation, stockpiling, classification, reuse and movement of spoil. Refer to the Soil and Water Management Sub-plan for specific control measures relating to the management of contaminated soils.	Environment, Approvals and Sustainability Director	Detailed Site Investigations
SP 9	Prior to ground disturbance in areas of potential acid sulfate soil occurrence, testing will be carried out to determine the presence of actual and/or potential acid sulfate soils. If acid sulfate soils are encountered, they will be managed in accordance with the Acid Sulfate Soil Manual (ASSMAC, 1998). Refer to the Soil and Water Management Sub-plan for additional details.	Site Supervisor Environmental Advisor	Waste Classification Reports ASS Management Plan
SP 10	Prior to ground disturbance in high probability salinity areas, testing will be carried out to determine the presence of saline soils. If salinity is encountered, excavated soils will not be reused or would be managed in accordance with Book 4 Dryland Salinity: Productive Use of Saline Land and Water (NSW DECC, 2008b). Erosion controls will be implemented in accordance with the 'Blue	Site Supervisor Environmental Advisor	Technical Report

ID	Control Measures	Responsibility	Deliverables
	Book' (Landcom, 2004). Refer to the Soil and Water Management Sub-plan for additional details.		
SP 11	Prepare an Environmental Control Map (ECM) for all construction activities. The ECM should include all spoil risks and controls, including an illustration of the site showing stockpile locations, spoil handling locations, significant structures, work areas, boundaries and exclusion zones. ECMs must be endorsed by the Environment, Approvals and Sustainability Director, or delegate, and communicated to relevant workers, including sign-off for the appropriate procedures prior to commencing works on the specific site and/or activity.	Environment, Approvals and Sustainability Director	ECM

9. Compliance management

9.1. Hold points

The activity detailed in Table 13 is a recognised hold points and will not proceed without objective review and approval by the nominated authority.

Table 13: Hold points

Hold point	Sub-plan reference	Release of Hold Point	Responsibility
Use of local roads by heavy vehicles	CEMP, Traffic and Transport	Road Dilapidation Report	Appropriate Professional nominated by JCG
Disposal of spoil	CEMP, Spoil MP, Traffic and Transport	Approved waste classification S143 Certificates Spoil Receiving Site Approval Checklist	Environmental team Logistics Manager

9.2. Complaints

Environmental complaints will be recorded and managed in accordance with the process detailed in Section 3.7 of the CEMP.

10. Review and improvement

10.1. Continual improvement

The continual improvement process will be undertaken in accordance with Section 3.15 of the CEMP. The intent of the process is to:

- Identify opportunities for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

10.2. Sub-plan review

The processes described in Section 3.6 of the CEMP may result in the need to update or revise this Sub-plan. This will occur as needed, in accordance with Section 3.14.2 of the CEMP.

A copy of the updated Sub-plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

Part B: Implementation Systems and Tools

Part B of this Sub-plan explains how the spoil impacts of the Project will be minimised. All relevant mitigation measures from the Infrastructure Approval, REMMs, CEMF and EPL are addressed in this Section. Compliance with these requirements is required at all times to minimise the risk of unauthorised environmental harm.

Part B contains the following:

- **Expectations and Requirements:** These describe what is required of the Project to implement the objectives of the Environment and Sustainability Policy and achieve the intended environmental performance outcomes.
- **JCG Response:** These are the specific actions that will be performed to demonstrate compliance with the Elements and Requirements.
- **Responsibility:** These are the people responsible for achieving compliance with the Expectations and Requirements. The key contributor is identified in bold font.
- **Deliverables:** These are the tangible outcomes that will be produced to demonstrate compliance with the Expectations and Requirements.

Element 1. Training

Table 14: Element 1: Training

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
1.1.	All personnel have completed an induction containing relevant environmental information before they are authorised to work on the Project	All personnel working on the Project will undertake a site induction, which will provide initial training on various environmental aspects, including spoil management. Where required, additional role-specific training will be delivered to heavy vehicle operators (in accordance with the training matrix detailed in Section 3.8 of the CEMP). The following spoil management requirements will be addressed in training: ▪ Relevant licence and approval conditions ▪ Permissible hours of work and peak hour restrictions ▪ Environmental incident procedures ▪ Project specific controls to manage the risk of spills during haulage ▪ Nominated heavy vehicle haulage routes (as per the CTMP) and truck marshalling areas ▪ Site access and egress points ▪ Communications protocols ▪ Noise management controls ▪ Parking restrictions and vehicle idling ▪ Dust suppression measures ▪ Safe driving practices ▪ Site layouts ▪ Stockpile management ▪ Sensitive receiver locations ▪ Roles and responsibilities.	People and Culture Director Environment, Approvals and Sustainability Director	Induction presentation Training records
1.2.	Toolbox talks are used to reinforce key management requirements and lessons learnt	Toolbox talks on spoil management requirements will be held regularly and will reinforce and reiterate information from inductions.	Environmental Advisors Site Supervisor	Training records

Element 2. Monitoring and reporting

Table 15: Element 2: Monitoring and reporting

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
2.1.	Worksites are regularly inspected to ensure the adequacy of controls	Site Supervisors to undertake daily inspections of worksites to assess the adequacy and effectiveness of spoil management controls. Weekly inspection of spoil management controls will be undertaken by JCG and as part of joint JCG / Sydney Metro / ER / AA inspections.	Environmental Advisors Site Supervisor	Site Diary entries Environmental Inspection reports
2.2.	Heavy vehicle inspections	All heavy vehicles used on the project will be inspected by a competent heavy vehicle inspector prior to being deployed. JCG will validate all inspections and approve (or reject) the use of the heavy vehicle on the project. All approved vehicles will be issued with/identified by a project specific approval sticker which will be revalidated monthly in conjunction with a vehicle inspection. In addition to the onboarding and monthly truck inspections, heavy vehicles will be monitored via GPS tracking software to ensure compliance with nominated haulage routes, speed zones, mass management and driver hours.	Logistics Manager	Heavy vehicle inspection reports GPS tracking records
2.3.	Material is transported to approved receival sites	Verification that material has been transported from the ETP Worksites to an approved receival site will be carried out through: ▪ Review of spoil daily dockets ▪ Review of haulage vehicle GPS tracking systems ▪ Conducting random spot checks.	Logistics Manager Environmental Advisors Environmental Coordinator	Spoil Management Reports Spoil Receival Site Approval Checklist S143 Certificates Spoil daily dockets GPS records
2.4.	Detailed records are retained of waste generated, received or removed from the premises	JCG will retain the following records (at minimum) of waste generated, received, beneficially reused or removed from the premises ▪ Waste classification reports ▪ Details of all waste transporters and the addresses and facility/business names of destination location(s) for all waste generated and transported off the premises for any purpose (including recycling, reuse, processing, treatment and disposal) ▪ Documented evidence (such as a licence) from each place of disposal that they can lawfully receive and manage (store, process, reuse, dispose) the types of waste proposed to be transported there ▪ Details of all waste received on the premises or transported off the premises that is subject to a Resource Recovery Order and/or	Engineers Environmental Advisors	ETP Waste Facilities Register EPLs of disposal facilities (or documented evidence that waste can be legally received) Resource Recovery Order and/or Exemption records Waste tracking records

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
		Exemption under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>, and demonstration that the waste meets the requirements of the Order and/or Exemption ▪ Legible copies of all documents/records evidencing that all waste transported from the premises was taken to and received at a facility/premises that lawfully accept and process the waste as intended (including tip dockets where relevant) ▪ Legible copies of any waste tracking documentation required for the offsite transport of the waste to demonstrate the waste was tracked in accordance with NSW legislation.		Monthly reports (including waste quantities)

Element 3. Auditing, review and improvement

Table 16: Element 3: Auditing, review and improvement

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
3.1.	Review this Sub-plan to ensure compliance with the EPL	On receipt of the EPL, this Sub-plan will be updated to include relevant conditions of the EPL. The review of this Sub-plan will be undertaken in accordance with the process outlined in Section 3.14.2 of the CEMP.	Environment, Approvals and Sustainability Director	Updates to this Sub-plan if required during delivery
3.2.	Audits are undertaken to ensure compliance with the requirements of this Sub-plan	Audits will be performed in line with Section 3.12 of the CEMP, and this Sub-plan will be updated if required.	Environment, Approvals and Sustainability Director	Audit Reports
3.3.	All non-compliances are reported and actioned	A spoil non-compliance can generally be defined as a failure to comply with the Infrastructure Approvals or the EPL. Where a non-compliance is also an environmental incident, JCG will implement the relevant notification procedures for both non-compliances and incidents (refer to Sections 3.10 and 3.12.2 of the CEMP). Non-compliances will not be automatically raised as the result of an identified issue from an environmental inspection or audit. Issues identified during an environment inspection or audit will be closed-out as part of the inspection or audit reporting process. Procedures for corrective actions are addressed in Section 3.12.2 of the CEMP.	Environment, Approvals and Sustainability Director Environmental Advisors	Corrective Action Reports Complaint Reports Incident Reports Audit Reports

Element 4. Project specific requirements

Infrastructure Approval (SSI 19238057)

Table 17: Infrastructure Approval (SSI 19238057)

ID	Requirements (Conditions)	JCG Response	Responsibility	Deliverables	Timing
A49	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available to the Planning Secretary and the EPA upon request for a period of no less than one year following the completion of construction.	Refer to Section 8.7, and Element 2, item 2.2	Logistics Manager	GPS records	Construction
D23(d)iii	Notwithstanding Conditions D21 and D22 work may be undertaken outside the hours specified in the following circumstances: (iii) haulage of spoil except between the hours of 10:00 pm and 7:00 am to / from the Pymont construction site; or	The requirements of this condition are addressed in the Noise and Vibration Management Sub-plan	Environment, Approvals and Sustainability Director	OOHW Permits	Construction
D71	The locations of all heavy vehicles used for spoil haulage for the CSSI must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Refer to Section 8.7, and Element 2, item 2.2	Logistics Manager	GPS records	Construction
D77(e)	All vehicles associated with the CSSI (including light vehicles and heavy vehicles) must be managed to: (e) ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the CTMP	Refer to Table 14 (1.1)	Logistics Manager	CTMP Induction records GPS Records	Construction
D90	Waste generated during construction and operation must be dealt with in accordance with the following priorities: (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Refer to Section 8.4	Logistics Manager	Resource Recovery Order and/or Exemption records Waste tracking records Monthly reports (including waste quantities)	Construction

ID	Requirements (Conditions)	JCG Response	Responsibility	Deliverables	Timing
D91	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of the current EPL for the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, as the case may be.	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste is addressed in the Waste Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002029).			
D92	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Refer to Section 8.5	Logistics Manager Environmental Advisors	Waste tracking records Waste disposal records Spoil Register S143 Certificates Spoil Reveal Site Approval Checklist	Construction
D93	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Refer to Section 8.5	Logistics Manager Environmental Advisors	Waste tracking records Waste disposal records	Construction

Revised Environmental Mitigation Measures

Table 18: Revised Environmental Mitigation Measures

ID	Requirements (REMM)	JCG Response	Responsibility	Deliverables	Timing
WR1	All waste would be assessed, classified, managed, transported and disposed of in accordance with the Waste Classification Guidelines and the Protection of the Environment Operations (Waste) Regulation 2014.	Refer to Section 8.5 and Table 12	Logistics Manager Site Supervisors Environmental Advisors	Waste tracking records Waste disposal records	Construction
WR4	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Refer to Section 8.5 and Table 12	Site Supervisors Logistics Manager Environmental Advisors	Waste tracking records Waste disposal records	Construction
WR5	A materials tracking system would be implemented for material transferred between Sydney Metro West sites and to offsite locations such as licensed waste management facilities.	Refer to Section 8.7, Element 2, item 2.2 and Table 12	Logistics Manager	GPS records	Construction
C1	For sites where potential contamination risk is moderate, high or very high, a further review of data (if available), including a detailed site inspection, would be carried out. Where this Environmental Impact Statement or the additional data review provides sufficient information to confirm that contamination conditions are likely to have a very low or low impact to receivers at a construction site, the site would then be managed as part of construction and in accordance with the relevant subplan in the Construction Environmental Management Framework (the Soil and Water Management Plan). This would typically occur where there is minor, isolated contamination that can be readily remediated through standard construction practices such as excavation and off-site disposal.	The requirements of this REMM are addressed in the Soil and Water Management Sub-plan and Table 12.	Environment, Approvals and Sustainability Director	DSI Technical Memo (Data Review)	Construction
SSWQ1	Prior to ground disturbance in areas of potential acid sulfate soil occurrence, testing would be carried out to determine the presence of actual and/or potential acid	The requirements of this REMM are addressed in the Soil and Water Management Sub-plan and Table 12.	Site Supervisor Environmental Advisor	Waste Classification Reports	Construction

ID	Requirements (REMM)	JCG Response	Responsibility	Deliverables	Timing
	sulfate soils. If acid sulfate soils are encountered, they would be managed in accordance with the Acid Sulfate Soil Manual (ASSMAC, 1998).			ASS Management Plan	
SSWQ2	Prior to ground disturbance in high probability salinity areas, testing would be carried out to determine the presence of saline soils. If salinity is encountered, excavated soils would not be reused or would be managed in accordance with Book 4 Dryland Salinity: Productive Use of Saline Land and Water (NSW DECC, 2008b). Erosion controls would be implemented in accordance with the 'Blue Book' (Landcom, 2004).	The requirements of this REMM are addressed in the Soil and Water Management Sub-plan and Table 12.	Site Supervisor Environmental Advisor	Technical Report	Construction

Environmental Performance Outcomes

Table 19: Environmental Performance Outcomes

Key Issue	Desired Performance Outcome	Sydney Metro West Performance Outcome	Sub-plan reference
Spoil, Waste Management and Resource Use	Spoil generated during the construction is effectively stored, handled, treated (if necessary), reused, and/or disposed of lawfully and in a manner that protects environmental values.	100 per cent of useable spoil is reused in accordance with the spoil reuse hierarchy - A minimum 95 per cent recycling target is achieved for construction and demolition waste - Products made from recycled content are prioritised - The use of potable water for non-potable purposes is avoided if non-potable water is available. The reuse of water is maximised, either on site or off site	Section 8.4 Refer also to the Waste Management Sub-plan and the Water Reuse Strategy.

Construction Environmental Management Framework

Table 20: Construction Environmental Management Framework

ID	Requirements (CEMF)	Sub-plan reference
3.5 (a)	Subject to Section 3.4(b) the Principal Contractors will prepare issue-specific environmental sub plans to the CEMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include as a minimum: i. Spoil management; ii. Groundwater management; iii. Noise and vibration management; iv. Heritage management; v. Flora and fauna management; vi. Visual amenity management; vii. Soil and water management; viii. Air quality management; and ix. Waste management.	This Sub-plan
3.6 (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 Sydney Metro if a reasonable risk based justification can be made and the sub plan is not a requirement of any approval.	Refer to the Waste Management Sub-plan for relevant procedures.
3.6 (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.	Refer to Activity Method Statements and Task Risk Assessments.
6.1 (a)	The following spoil management objectives will apply to the construction of the project: i. Minimise spoil generation where possible; ii. The project will mandate 100% reuse or recycling (on or off-site) of usable spoil; iii. Spoil will be managed with consideration to minimising adverse traffic and transport related issues; iv. Spoil will be managed to avoid contamination of land or water; v. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers; and vi. Site contamination will be effectively managed to limit the potential risk to human health and the environment.	Spoil management objectives, targets and key performance indicators are detailed in Section 1.2.

ID	Requirements (CEMF)	Sub-plan reference
6.2 (a) i	Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum: i. The spoil mitigation measures as detailed in the environmental approval documentation	Sections 8.5, 8.6 and 8.7 Part B, Table 18
6.2 (a) ii	The responsibilities of key project personnel with respect to the implementation of the plan	Section 4
6.2 (a) iii	Procedures and methodologies for the haulage and disposal locations, storage and stockpiling arrangements, including those for virgin excavated natural material, contaminated and unsuitable material;	Section 8
6.2 (a) iv	Procedures for the testing, excavation, classification, handling and reuse of spoil	Section 8.5
6.2 (a) v	Measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the Contractor's Activities, including how spoil generation is minimised through the design development process	Sections 8.2 and 8.4
6.2 (a) vi	Details, links or references to where traffic movements in relation to spoil are described, and measures that will be implemented to minimise traffic and noise impacts associated with haulage and disposal of spoil	Section 8.7
6.2 (a) vii	Quantities for reuse of spoil within the Construction Site, for beneficial reuse of spoil off site and for spoil disposal	Section 7
6.2 (a) viii	Processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse	Section 8
6.2 (a) ix	A register of spoil receipt sites that includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy	Section 8.4.2
6.2 (a) x	Spoil management monitoring requirements	Part B, Table 15
6.2 (a) xi	Compliance record generation and management.	Part B, Table 15
6.2 (b)	Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include: i. Records detailing the beneficial re-use of spoil either within the project or at off-site locations; and ii. Waste dockets for any spoil disposed of to landfill sites.	Part B, Table 15

Environment Protection Licence [To be completed on receipt of EPL]

Table 21: Environment Protection Licence

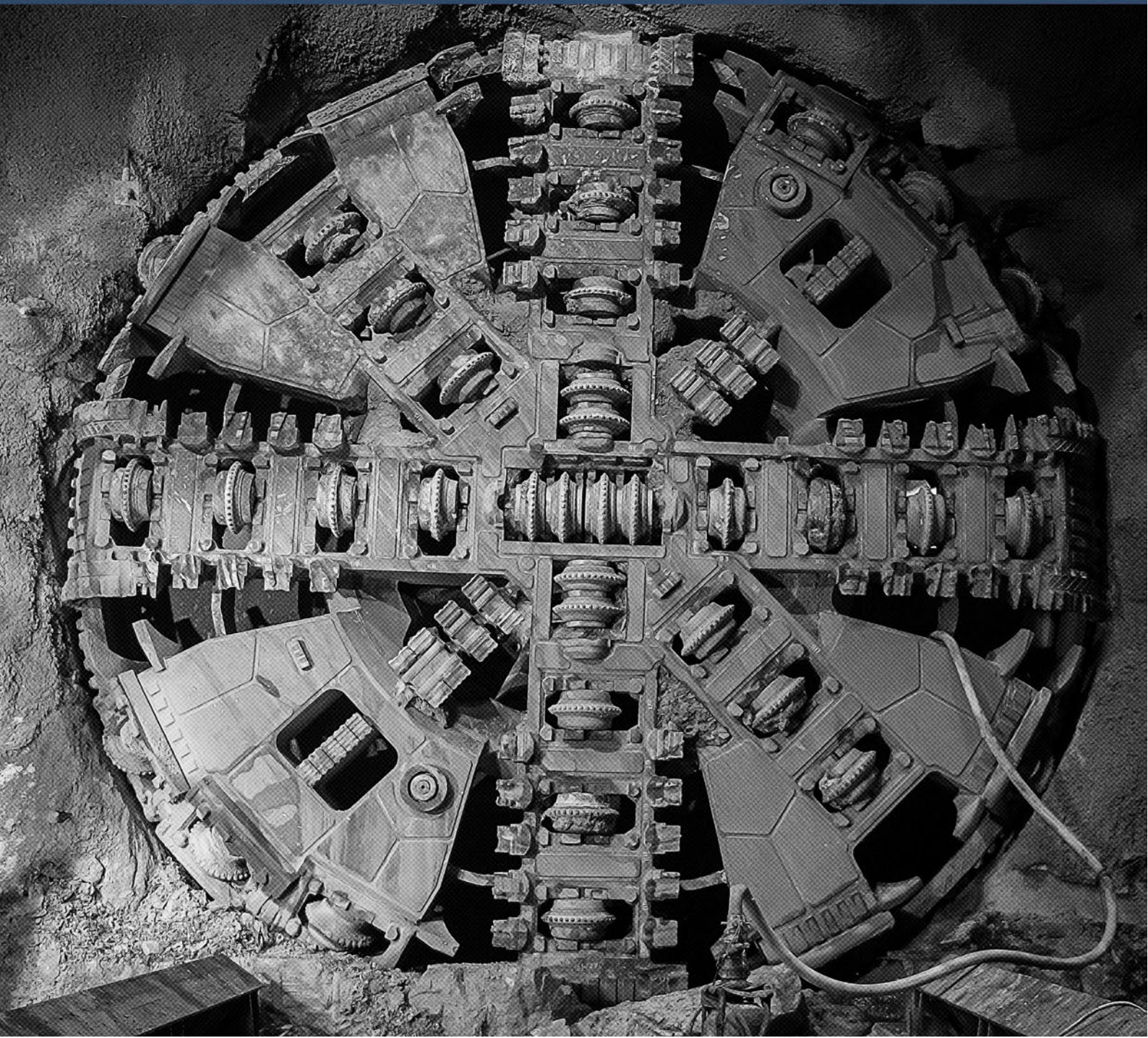
ID	Requirements (EPL)	JCG Response	Responsibility	Deliverables	Timing
L5.10	24hr Works – Haulage of spoil is permitted 24/7 with the exception between the hours of 10:00pm and 7:00am to/from the Pymont construction sites		Logistics Manager Environmental Advisors	OOHW Permit	Start of spoil haulage at Pymont

Part C Annexures

Appendix A Consultation Report

Consultation Report

Spoil Management Sub-plan



CONSULTATION REPORT

Spoil Management Sub-plan

Project number	7040
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Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	13/02/2023			For submission to the ER for endorsement	
Signature:					
B					
Signature:					

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1. Introduction

1.1. Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979* (EP&A Act). Stage 2 of the planning approval process, the Eastern Tunnelling Package (ETP Works or Project), includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD.

The Project was approved by the Minister for Planning on 24 August 2022 (SSI 19238057) under section 5.19 of the EP&A Act and will be delivered by the John Holland CPB Ghella Joint Venture (JCG).

1.2. Report scope

Reflecting the requirements of the SSI 19238057 Planning Approval, this report has been prepared to provide the evidence of consultation with the identified parties during the development of the Spoil Management Sub-plan (Subject Document).

2. Consultation requirements

2.1. SSI 19238057 Planning Approval

The Conditions of Approval relevant to stakeholder consultation on the Subject Document are listed in Table 1.

Table 1: Conditions of Approval

Ref	Condition
A6	Where the conditions of this approval require a document or monitoring program to be prepared, or a review to be undertaken, in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: (a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; (b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them; (c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that the party(s) has none or has failed to provide feedback after repeated requests; (d) outline of the issues raised by the identified party(s) and how they have been addressed; and (e) a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed. <i>Note: *Consultation with the community and businesses will be undertaken in accordance with the Overarching Community Communication Strategy required under Condition B1.</i>
C5	Of the CEMP Sub-plans required under Condition C1, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: (a) Noise and vibration: Place Management NSW (in respect of The Bays) and Relevant Council(s) (b) Flora and fauna: DPE Environment and Heritage Group, DPI Fisheries, and Relevant Council(s) (c) Heritage (Non-Aboriginal and Aboriginal): Heritage NSW, Place Management NSW (in respect of The Bays) and Relevant Council(s) (d) Spoil: Relevant council(s) (e) Soil and water: DPE Water and Relevant Council(s)

2.2. Revised Environmental Mitigation Measures

There are no Revised Environmental Mitigation Measures (REMMs) relevant to stakeholder consultation on the Subject Documents.

3. Consultation summary

In accordance with the SSI 19238057 Planning Approval, the Subject Document has been prepared in consultation with the identified parties. A summary of the consultation is provided in Table 2.

Table 2: Stakeholder consultation summary

Stakeholder	Consultation Summary	Status	Reference
City of Sydney Council	Stakeholder confirmed that there are no issues with the Subject Document.	No action required.	Appendix A
Inner West Council	Issues raised have been adequately addressed in the Subject Document; there are no outstanding issues.	Addressed and closed.	Appendix B

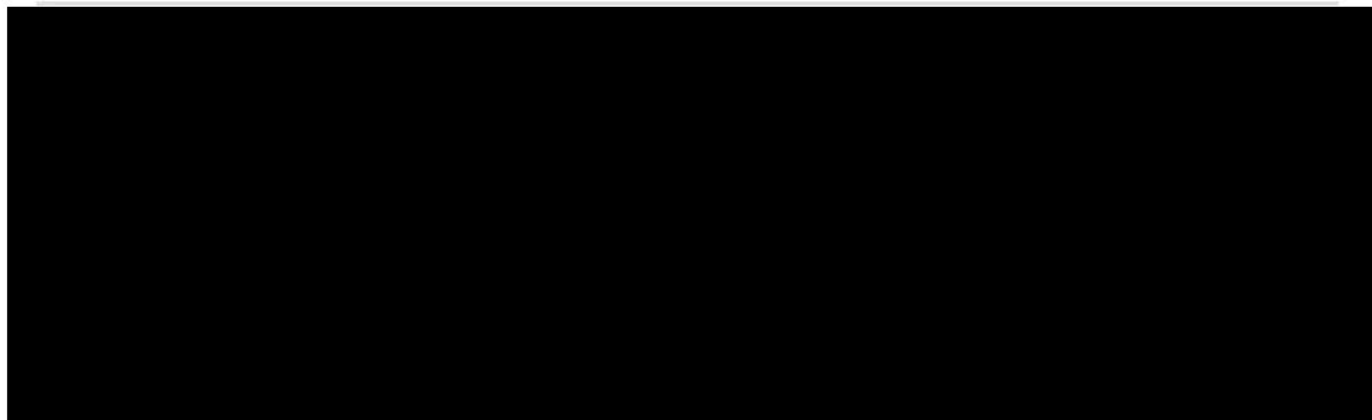
Appendix A City of Sydney Council Consultation Evidence

Table 3: Consultation Log

In/Out	Date	Medium	Details of Contact
Out	13 December 2022, 5:36pm	Email	Sydney Metro issues Subject Document to Tegan Mitchell (Manager Major Transport Projects) and specifies dates of review period.
In	14 December 2022, 3:00pm	Email	Tegan Mitchell (Manager Major Transport Projects) acknowledges receipt of Subject Document.
Out	15 December 2022, 7:42pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder.
Out	10 January 2023, 1:22pm	Email	Sydney Metro follows up with Nathan English (Planning Coordinator, Major Transport Projects) regarding progress of Subject Document review. Sydney Metro offers to set up a meeting to clarify any outstanding questions and provide additional information.
In	12 January 2023, 11:17am	Email	Stakeholder advises they do not have any questions regarding the Subject Document.
Out	18 January 2023	Phone call	Sydney Metro requests update on the subject document review and reminds stakeholder that feedback is due 27/1/2023. Sydney Metro confirms that consultation includes DPE.
Out	24 January 2023	Phone call	Sydney Metro clarifies with stakeholder the process for returning feedback comments. Sydney Metro confirms that stakeholder has been granted an extension until 1/02 to provide feedback.
In	27 January 2023, 10:50am	Email	Stakeholder confirmed that there are no issues with the Subject Document.

Table 4: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Spoil Management Sub-plan			
1	No comments to add - this document seems fine and in line with previous ones the City has seen for Metro.	No action required.	N/A



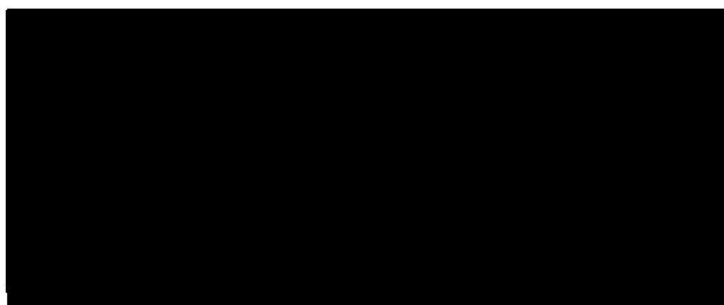
Sydney Metro is providing City of Sydney with environmental management plans for review as part of the consultation process for the preparation of these plans.

These plans are required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.





13 December 2022

[REDACTED]
Manager Major Transport Projects
City of Sydney
PO Box 1591
SYDNEY NSW 2001

[REDACTED]
Sydney Metro SSI 19238057 – Eastern Tunnelling Package – John Holland CPB Ghella Joint Venture – Construction Flora and Fauna Management Sub-plan; Heritage Management Sub-plan; Noise and Vibration Management Sub-plan; Noise and Vibration Monitoring Program; Soil and Water Management Sub-plan; Spoil Management Sub-plan; Surface Water Quality Monitoring Program

The Eastern Tunnelling Package (ETP) Package was recently awarded to John Holland CPB Ghella Joint Venture (JCG). These works form part of the Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval.

The planning approval requires the preparation of environmental management plans prior to construction commencing. Please find attached the ETP:

- Construction Flora and Fauna Management Sub-plan
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan
- Noise and Vibration Monitoring Program
- Soil and water Management Sub-plan
- Spoil Management Sub-plan
- Surface Water Quality Monitoring Program

Prepared by JCG and issued to the City of Sydney for consultation in accordance with SSI 19238057 Conditions of Approval C5 and C14.

We are commencing a 6-week consultation process with you as of 13 December 2022 with this submission. In recognition of the Christmas holiday period, an extended consultation period has been nominated to allow sufficient time for review of the document(s). It is requested that comments (or confirmation of no comments) are provided by **27 January 2023**. In addition, if you would like to discuss the sub-plan details, please advise and we can arrange a specific meeting.

Should you have any questions or comments on the attached, please do not hesitate to contact Ari Stypel, Manager Environment on ari.stypel@transport.nsw.gov.au or 0450 737 536.

Sydney Metro
Level 43, 680 George Street, Sydney NSW 2000 | PO Box K659, Haymarket NSW 1240
T 02 8265 9400 | sydneymetro.info | ABN 12 354 063 515

Yours sincerely,

[REDACTED]

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Thanks for sending through various sub plans etc.. – we will make every attempt to provide feedback by 27th, as I said yesterday the City is 150% supportive of the Metro project.

Yesterdays meeting was constructive , there are many issues still to discuss. Nathan will set up meetings as discussed 31 Jan.

Can you please confirm whether you will be sending through actions from yesterdays meeting?
I recall 4 actions (Other than the response to your plans) :

1. JV requested an up to date list of property owners for area around the Pymont station
2. JV request assistance in passing on quality furniture to charity organisations (JV to provide pack with details of items etc..)
3. City to provide contact details of Homeless unit
4. City to provide assistance with first nations artists to potentially prepare art for the wall for the Hunter connection food court.

The City asked for information about impacts to trees to be provided as soon as possible, noting trimming also has an impact on tree health and the City has ambitious tree canopy targets .

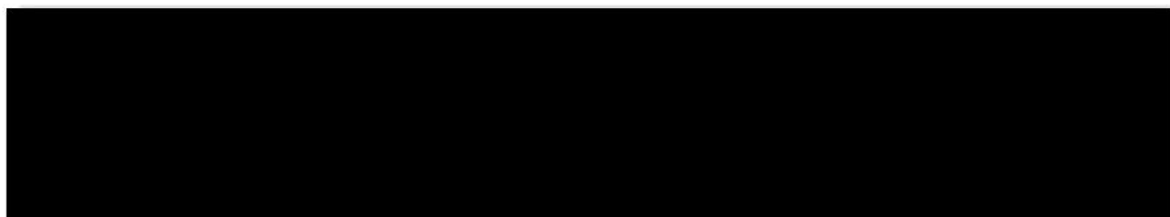
Please let me know if I have missed anything?

Can you please confirm this with the JV?

Many Thanks

Happy Christmas

[REDACTED]



Subject: Review of Environmental Management Plans - Sydney Metro West - Eastern Tunnelling Package

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Hi 

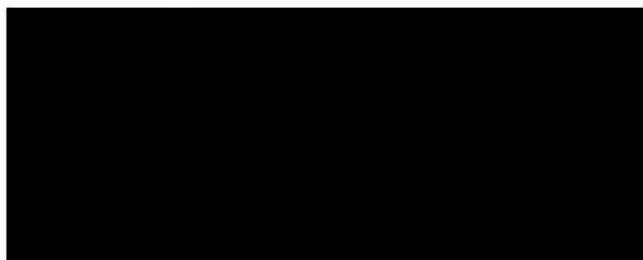
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The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.



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Not sure yet – I'll get back to you.

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Hi Nathan,

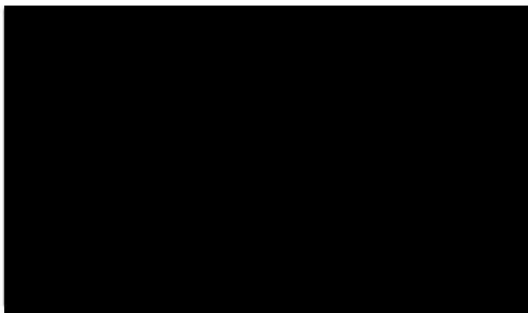
I'm just following up on the review of the documents sent before Christmas. Just wondering if the reviewers have any questions on the documents transmitted. I'm happy to set up a meeting with the reviewers if they would like clarification or have any questions.



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Hi Marion,

I don't think anyone has any questions as yet regarding the Sub Plans for ETP. Since I went on leave, have any further elements been released? I've not received anything to my knowledge...



[REDACTED]

Subject: Feedback from City re: Sydney Metro Eastern Tunnelling Package Environmental Management sub plans Jan 2023

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Please find attached feedback from City staff regarding the Environmental Management Sub

plans attached in 6 spread sheet documents

- Construction Flora and Fauna Management Sub-plan (Comments across two spread sheets)
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan (includes comments on - Noise and Vibration Monitoring Program)
- Soil and water Management Sub-plan (Also contains comments on Surface Water Quality Monitoring Program)
- Spoil Management Sub-plan

Additional comments regarding feedback:

1. City staff have not provided feedback regarding ground water contamination – we require a few additional days to source this feedback. **ACTION:** City will update Metro Monday 30 Jan 2022.
2. City staff have emphasised that the removal of trees should be *minimised*. The City considers that mature trees have benefits for native and non-native fauna. In addition the Community place *a significant value on the amenity and shade* provided by these mature trees. **ACTION:** The City requests Mero reconsider the blanket removal of trees, and minimise impacts wherever possible. The City can provide advice on what measures can be taken to protect trees if requested.

Please let me know if you have any questions, I will pass on the next series of feedback as soon as it is completed.

Apologise for not providing the complete suite of responses, I will contact you on Monday with an update.

[REDACTED]
Manager Major Transport Projects
City Access

 REVIEW COMMENTS SHEET Transport for NSW							
DOCUMENT NO.	DATE	COMP	RAISED BY	DOCUMENT RE	COMMENTS / RESPONSE	COMMENT CATEGORY	CLOSED OUT
SMWSTETP-JCG-1NL-EN-PLN-000003	22.12.22	City of Sydney	Construction Liaison Coordinator	Full document	No comments to add - this document seems fine and in line with previous ones the City has seen for Metro.		

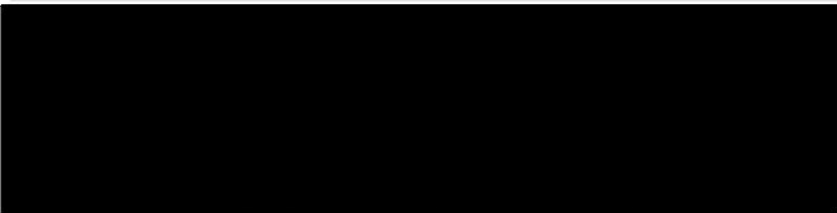
Appendix B Inner West Council Consultation Evidence

Table 5: Consultation Log

In/Out	Date/Time	Medium	Details of Contact
Out	13 December 2022, 5:42pm	Email	Sydney Metro issues Subject Document to [REDACTED] (Team Lead – Strategic Transport Planning) and specifies dates of review period.
Out	15 December 2022, 7:42pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder
Out	10 January 2023, 1:18pm	Email	Sydney Metro follows up with [REDACTED] (Road Access Engineer) regarding progress of Subject Document review. Metro offers to set up a meeting to clarify any outstanding questions and provide additional information.
Out	13 January 2023	Phone call	Sydney Metro follows up with stakeholder regarding progress of Subject Document review and offers to clarify any questions.
In	24 January 2023	Phone call	Stakeholder confirms they are on-track to provide comments by 27/01/2023.
In	30 January 2023, 10:51am	Email	Stakeholder issues comments on the Subject Document back to Sydney Metro.

Table 6: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Spoil Management Sub-plan			
2	It is noted that spoil would be productively used for a range of projects mainly located in western Sydney.	Comment noted.	Section 8 (Spoil management strategy and control measures)
3	It is noted that spoil haulage will be guided by a number of criteria to maintain effective spoil removal while minimising impacts on pedestrians, traffic, and sensitive receivers. These criteria are supported.	Comment noted.	Section 8.6 (Spoil haulage)



Subject: Review of Environmental Management Plans - Sydney Metro West - Eastern Tunnelling Package

Hi 

Sydney Metro is providing Inner West Council with environmental management plans for review as part of the consultation process for the preparation of these plans.

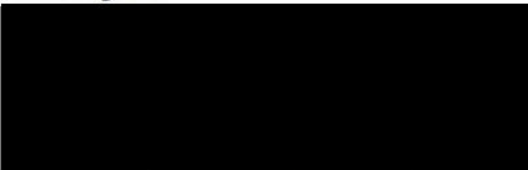
These plans are required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.

Best regards



Level 43, 680 George Street, Sydney NSW 2000
PO Box K659, Haymarket NSW 1240



13 December 2022

[REDACTED]
Team Leader Transport Planning
Inner West Council
PO Box 14
PETERSHAM NSW 2049

Dear [REDACTED]

Sydney Metro SSI 19238057 – Eastern Tunnelling Package – John Holland CPB Ghella Joint Venture – Construction Flora and Fauna Management Sub-plan; Heritage Management Sub-plan; Noise and Vibration Management Sub-plan; Noise and Vibration Monitoring Program; Soil and Water Management Sub-plan; Spoil Management Sub-plan; Surface Water Quality Monitoring Program

The Eastern Tunnelling Package (ETP) Package was recently awarded to John Holland CPB Ghella Joint Venture (JCG). These works form part of the Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval.

The planning approval requires the preparation of environmental management plans prior to construction commencing.

Please find attached the ETP:

- Flora and Fauna Management Sub-plan
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan
- Noise and Vibration Monitoring Program
- Soil and Water Management Sub-plan
- Spoil Management Sub-plan
- Surface Water Quality Monitoring Program.

Prepared by JCG and issued to the Inner West Council for consultation in accordance with SSI 19238057 Conditions of Approval C5 and C14.

Sydney Metro

Level 43, 680 George Street, Sydney NSW 2000 | PO Box K659, Haymarket NSW 1240
T 02 8265 9400 | sydneymetro.info | ABN 12 354 063 515

OFFICIAL

We are commencing a 6-week consultation process with you as of 13 December 2022 with this submission. In recognition of the Christmas holiday period, an extended consultation period has been nominated to allow sufficient time for review of the document(s). It is requested that comments (or confirmation of no comments) are provided by **27 January 2023**. In addition, if you would like to discuss the sub-plan details, please advise and we can arrange a specific meeting.

Should you have any questions or comments on the attached, please do not hesitate to contact [REDACTED] Manager Environment on [REDACTED]
[REDACTED]

Yours sincerely

[REDACTED]

Director, Project Environment, Sustainability & Planning
Metro West
Sydney Metro

Cc: Ajnesh Sharma

[REDACTED]

Subject: RE: Meeting with JCG JV & Sydney Metro

Hi [REDACTED]

Happy new year and hope you enjoyed some time off over the holiday season.

I'm following up on the review of the documents you received before Christmas. Do you or Brigid have any questions on the documents transmitted by JCG JV. Let me know how you are going and if you would like to set up a meeting to discuss the review.

Many thanks

[REDACTED]

A/Senior Manager, Stakeholder Engagement
Sydney Metro West

[REDACTED]

Subject: FW: Meeting with JCG JV & Sydney Metro

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Please find email from Brigid below. I am available from 3rd January onwards.

Have a great Christmas.

Regards

[REDACTED]

[REDACTED]

Subject: Meeting with JCG JV & Sydney Metro

Hi [REDACTED]

I hope you're well. Can I just ask if you had any luck setting up the meeting around mid-January with your team. I'll need to have a few different dates and times to offer the contractor.

Many thanks

Marion

Stakeholder engagement manager

Sydney Metro West

This email is intended only for the addressee and may contain confidential information. If you receive this email in error please delete it and any attachments and notify the sender immediately by reply email. Transport for NSW takes all care to ensure that attachments are free from viruses or other defects. Transport for NSW assume no liability for any loss, damage or other consequences which may arise from opening or using an attachment.

 Consider the environment. Please don't print this e-mail unless really necessary.

From: [REDACTED]
Sent: Monday, 30 January 2023 12:42 PM
To: [REDACTED]
Subject: Fw: Review Sydney Metro sub plans

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi Marion,

Hope you are well.

Apologies for sending this in late.

Please find a set of comments below from Inner West Council.

Thanks

[REDACTED]

[REDACTED]

Sent: 30 January 2023 10:51

[REDACTED]

Subject: RE: Review Sydney Metro sub plans

Hi [REDACTED]

Thanks for co-ordinating. I was able to access the files from your link to SharePoint (and I assume others can too), so no need to put them on the common drive. Apologies for not sending this to you last Fri. I was allowing time to run this by Ken, who has been the key Council person working on Metro West planning, but Ken is off sick this week.

I've had a quick look through all the plans, and am pleased to say that in general terms I can't see any significant impacts for our council area. That's not to say there are no impacts at all, and it needs to be kept in mind that the Rozelle/Balmain area continues to be subject to significant cumulative impacts from multiple major projects & activities. Unlike WestConnex & Western Harbour Tunnel, Metro West is public transport, so is supported at a strategic level by our council.

As these plans are concerned only with tunnel & station excavation from The Bays through to the CBD, the only construction activity within our council area is from one site within The Bays precinct. Most of this activity is underground and covered by acoustic sheds (which helps minimise impacts) and fortunately there doesn't appear to be any residential or other sensitive land uses within very close proximity to the construction site at The Bays. It's a different story over the border within the City of Sydney, where there are multiple construction sites with a variety of sensitive uses in very close proximity.

I also note that all spoil haulage will be along main roads like City West Link, not local roads. I'm pleased to see there's a condition of approval preventing spoil trucks operating from The Bays from using Robert Street (except in emergencies), which means they'll all be using James Craig Road to access City West Link.

As a transport planner I've focused on traffic/transport issues, but have included a few brief comments below on other topics based on my experience with WestConnex.

Hope these comments are useful, and happy to discuss any time - Kendall

Comments on the *Overarching Construction Traffic Management Plan*

- Table 5 shows that peak daily traffic movements for both heavy & light vehicles to be significant, although impacts should be minimised by Consent Condition D70, which requires all these movements to be via James Craig Road, not Robert Street. Council would like confirmation that there will not be unacceptable congestion along James Craig Road and at its intersection with City West Link. This confirmation should be part of the further assessment in the forthcoming site-specific Construction Traffic Management Plan (CTMP). This assessment will

need to consider cumulative impacts from other projects & activities in and around the precinct.

- Council supports the requirement that pedestrian movement plans be developed and implemented, although these plans should include cycling routes.
- It is noted that worker parking will be provided in White Bay (137 spaces) and that public transport and car-pooling encouraged to reduce worker parking demand. As there have been significant issues with worker parking demand from WestConnex, Council would like to see a firm commitment to provision of these spaces and incentives/penalties to ensure parking demand is minimised. This commitment should be detailed within the forthcoming *Construction Parking & Access Strategy* required by Consent Condition D78.
- It is noted that a truck marshalling area is to be created on Glebe Island to minimise impacts of trucks parking and idling. Based on its experience with significant impacts from WestConnex trucks parking and idling, Council would like to see a firm commitment to this action. The marshalling area would likely be located within the City of Sydney, so it is important that the City is satisfied that trucks would not affect any residential areas or other sensitive uses.
- It is noted that all spoil haulage routes for The Bays component of the project would be on main roads, with none on local roads within the inner West

Comments on the *Noise & Vibration Management Sub-plan*

- It is noted in Table 10 that there many out-of-hours (OOH) work periods are scheduled for The Bays precinct. Although (fortunately) most works will be underground, the main worksite will be covered by acoustic sheds and dwellings and other sensitive uses are not in very close proximity, noise from these works will add to existing night-time ambient noise, e.g. noise from cruise ship terminal. Cumulative noise impacts therefore need to be considered, particularly for OOH works.
- The 'additional mitigation measures' are noted. Council would like to see a generous approach to offering residents relief from noise impacts if needed, such as alternative accommodation.
- It is noted that Figure 3 shows there are many potential residential receivers in Balmain & Rozelle area

Comments on the *Soil & Water Management Sub-plan*

- Council has previously raised concerns about tunnel-related groundwater drawdown in relation to WestConnex. The assessment of this impact will need to consider cumulative impacts from the extensive tunnelling activity in this area.

Comments on the *Spoil Management Sub-plan*

- It is noted that spoil would be productively used for a range of projects mainly located in western Sydney
- It is noted that spoil haulage will be guided by a number of criteria to maintain effective spoil removal while minimising impacts on pedestrians, traffic, and sensitive receivers. These criteria are supported.

No comments or issues are raised with the *Flora & Fauna Management Sub-plan*

and the *Heritage Management Sub-plan*.

Appendix B Environmental Representative Endorsement

Mr [REDACTED]
Director Sustainability, Environment and Planning
Metro West
Sydney Metro
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

3 April 2024

REF: 201208 (G) SPOIL_Rev 1

Dear [REDACTED]

RE: Sydney Metro West Stage 2 – Eastern Tunnelling Package: Spoil Management Sub-Plan (Rev 1)

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 and C5 of the Sydney Metro West – The Bays to Sydney CBD Approval (SSI 1923805) which was approved by the Department of Planning and Environment (DPE) on 24 August 2022:

- Sydney Metro West, Eastern Tunnelling Package Spoil Management Sub-Plan Rev 1 dated 8 March 2024 (SMWSTETP-JCG-SWD-SW000-EN-PLN-002019).

It is noted that:

- The original Spoil Management Plan (SMP Rev B) was prepared by John Holland CPB Ghella JV (JCG) to address the requirements of Condition C1 and C5(d) of the Infrastructure Approval. This revision of the Plan was approved by DPE on 22 March 2023.
- Revision 1 of the Spoil Management Plan is an update of Rev C as part of an annual review of management plans by JCG.
- Previous versions of the document have been reviewed by the ER.
- Sydney Metro has reviewed and commented on previous versions of the document.

Following the above reviews, the revised document is considered to have minor amendments that are consistent with the version approved by DPE in March 2023.

As the approved Environmental Representative for the Metro West and as required by Conditions A32(j) based on the above, the Spoil Management Sub-Plan (Revision 1) is approved.

Yours sincerely

[REDACTED]

[REDACTED]

Environmental Representative – Sydney Metro West – Eastern Tunnelling Package

CC: [REDACTED]