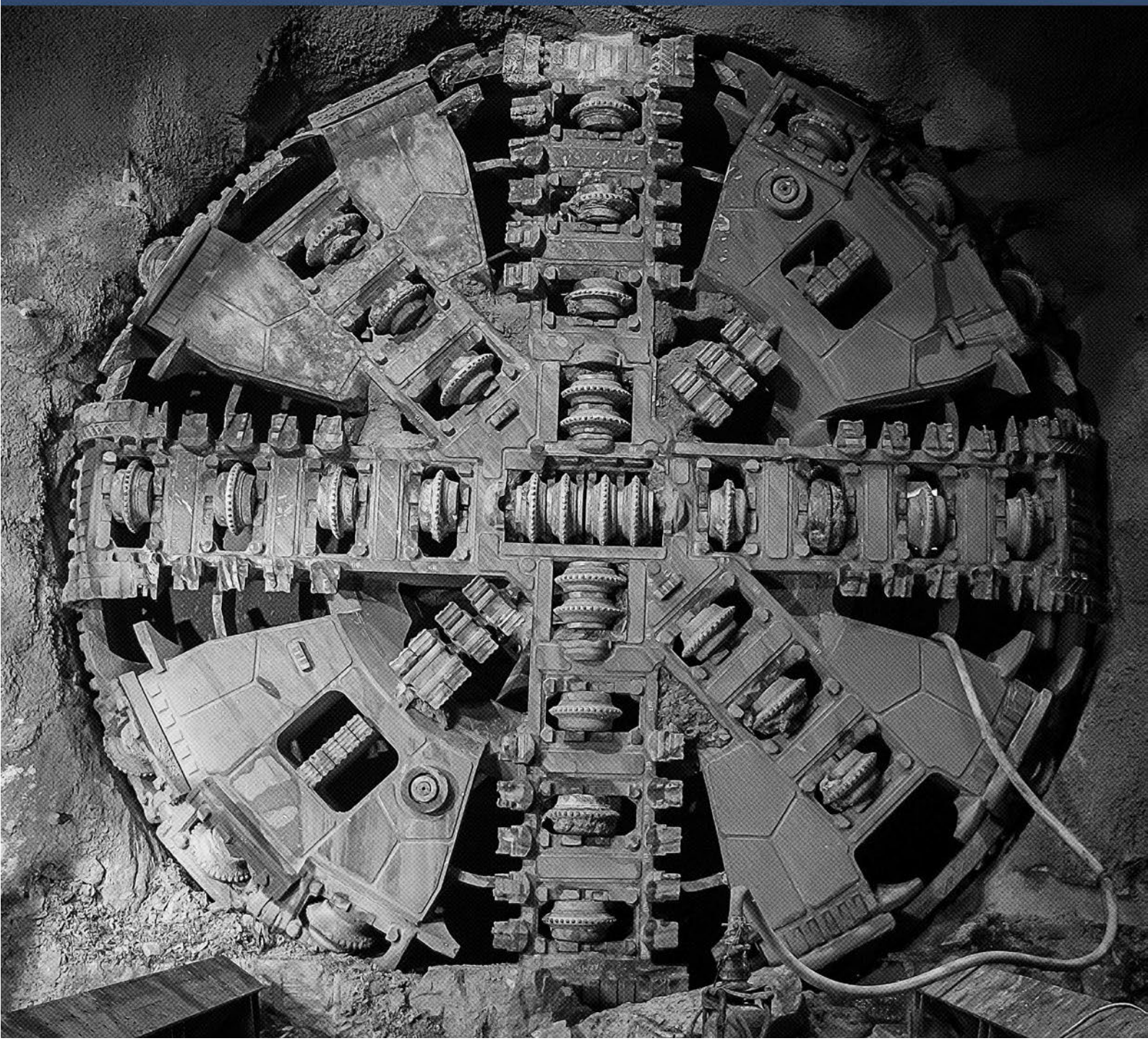


WASTE MANAGEMENT

SUB-PLAN



WASTE MANAGEMENT SUB-PLAN

Project number	7040
Document number	SMWSTETP-JCG-SWD-SW000-EM-PLN-002022

Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	8/12/2022			Draft for EPA review	
B	16/12/2022			Draft for Sydney Metro and ER review	
C	17/02/2023			Draft for Sydney Metro review and ER endorsement	
0	23/03/2023			ER Endorsement	
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-SWD-SW000-EN-PLN-002029 (Revision B). The document number of this Sub-plan has been updated to SMWSTETP-JCG-SWD-SW000-EM-PLN-002022 to comply with both the Sydney Metro ECM schema and the JCG file numbering convention (FNC). Previous comments against SMWSTETP-JCG-SWD-SW000-EN-PLN-002029 have been addressed in this version of the Sub-plan.

Compliance

Table 1: Compliance matrix

ID	Requirement ¹	Reference
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)	The requirements of this Condition are not triggered by the Waste management Sub-plan
C6	The CEMP Sub-plans must state how:	Part B, Table 18
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Part B, Table 17
	(c) the relevant conditions of this approval will be complied with; and	Part B, Table 16
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles	Section 1.2 and Table 3
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	Section 1.4

ID	Requirement ¹	Reference
	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).	

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

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Acronyms

Table 2: Acronyms

Acronym	Definition
ASS	Acid Sulfate Soil
CEMP	Construction Environmental Management Plan
DPE	Department of Planning and Environment
E&SMS	Environment and Sustainability Management System
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
ETP Works	Eastern Tunnelling Package Works
ER	Environmental Representative
GSW	General Solid Waste
IC	Independent Certifier
JCG	John Holland CPB Ghella Joint Venture
OOHW	Out-of-hours work
PASS	Potential Acid Sulfate Soil
POEO Act	Protection of the Environment Operations Act 1997
Project, the	Eastern Tunnelling Package
REMM	Revised Environmental Mitigation Measure
RRE	Resource Recovery Exemption
RRO	Resource Recovery Order
RSW	Restricted Solid Waste
SCC	Specific Contaminant Concentrations
SM	Sydney Metro
SSI	State Significant Infrastructure
STP	Slurry Treatment Plant
TBM	Tunnel Boring Machine

Acronym	Definition
VENM	Virgin Excavated Natural Material
WARR Act	Waste Avoidance and Resource Recovery Act 2001
WRAPP	NSW Government's Waste Reduction and Purchasing Policy
WMP	Waste Management Sub-plan
WTP	Water Treatment Plant

Part A: Overview

1. Introduction

1.1. Purpose

This Waste Management Sub-plan (WMP 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 minimise and manage the waste impacts of the Project.

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) (details to be added on receipt of the EPL)
- 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 (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 waste management are detailed in Table 3.

Table 3: Objectives, targets and key performance indicators

Objectives	Targets	Key Performance Indicators
Minimise waste throughout the project life cycle	100% re-use or recycling of re-usable spoil 95% recycling of construction and demolition waste	Waste disposal and diversion register
Waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: <ul style="list-style-type: none"> ▪ Avoidance of unnecessary resource consumption ▪ Resource recovery (including reuse, reprocessing, recycling and energy recovery) ▪ Disposal 	95% recycling of construction and demolition waste >90% (by volume) of inert and non-hazardous waste diverted from landfill >60% (by volume) of office waste diverted from landfill	Waste disposal and diversion register
Ensure all waste is assessed, classified, managed, transported, and disposed of in accordance with the Waste Classification Guidelines.	100% of waste classified and documented in waste management reports 100% of waste disposal records retained	Waste disposal and diversion register Compliance Reporting Audits

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.

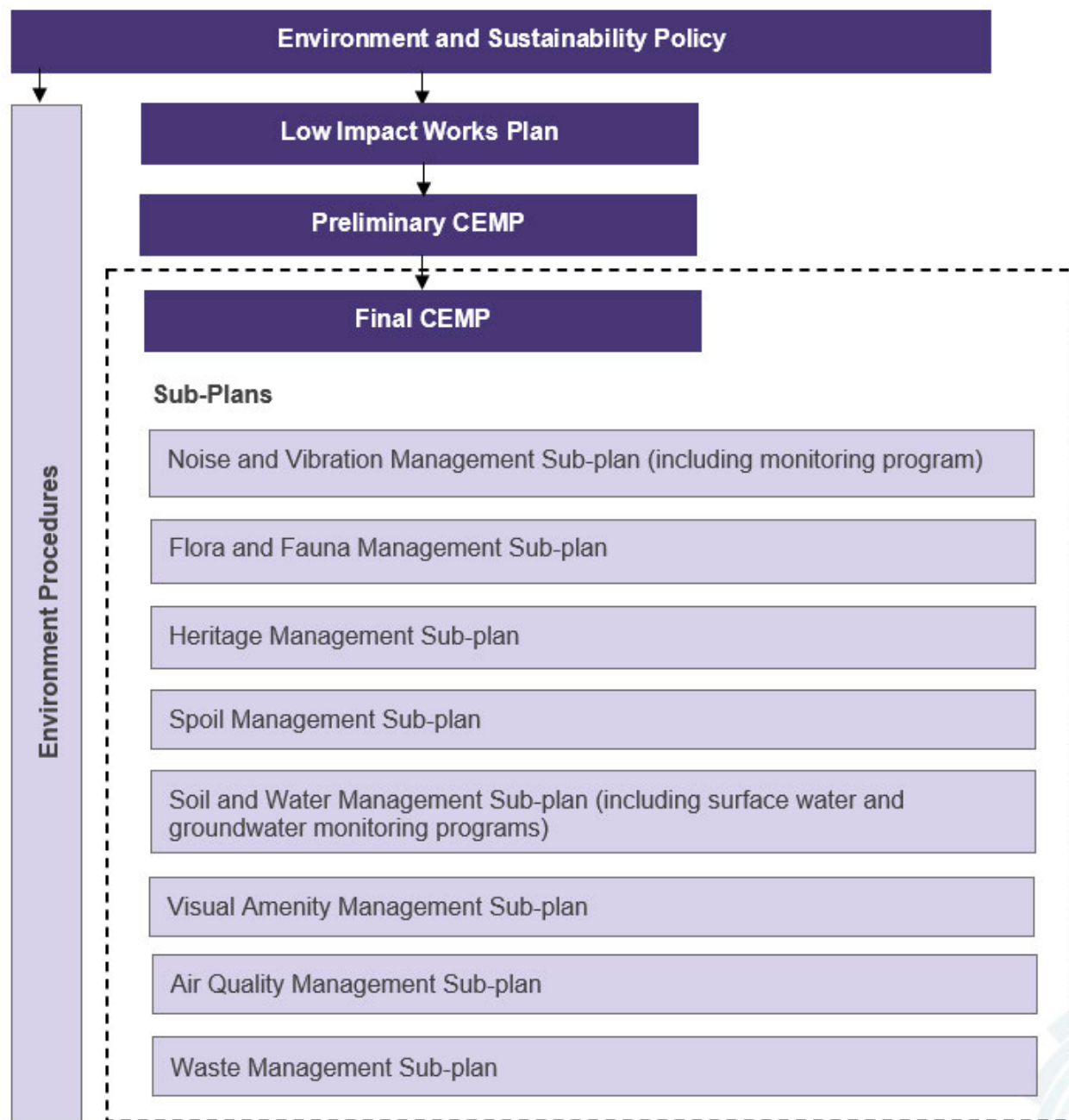


Figure 1: CEMP Framework

1.4. Consultation and approval

Reflecting the requirements of Conditions A6 and C5, there are no stakeholder consultation requirements associated with the preparation of this Sub-plan.

As nominated in the Phasing Report, this Sub-plan does not require 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: Plan structure

Part	Details
Part A: Overview	<ul style="list-style-type: none"> ▪ 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: <ul style="list-style-type: none"> ▪ Appendix A: Procedures ▪ Appendix B: Register of Disposal Sites

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 a new passenger rail infrastructure between Westmead and The Bays, 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 (this Project) includes all major civil construction work including station excavation (at the Pyrmont Station and Hunter Street Station (Sydney CBD) construction sites) and tunnelling between The Bays and Sydney CBD (Figure 2).

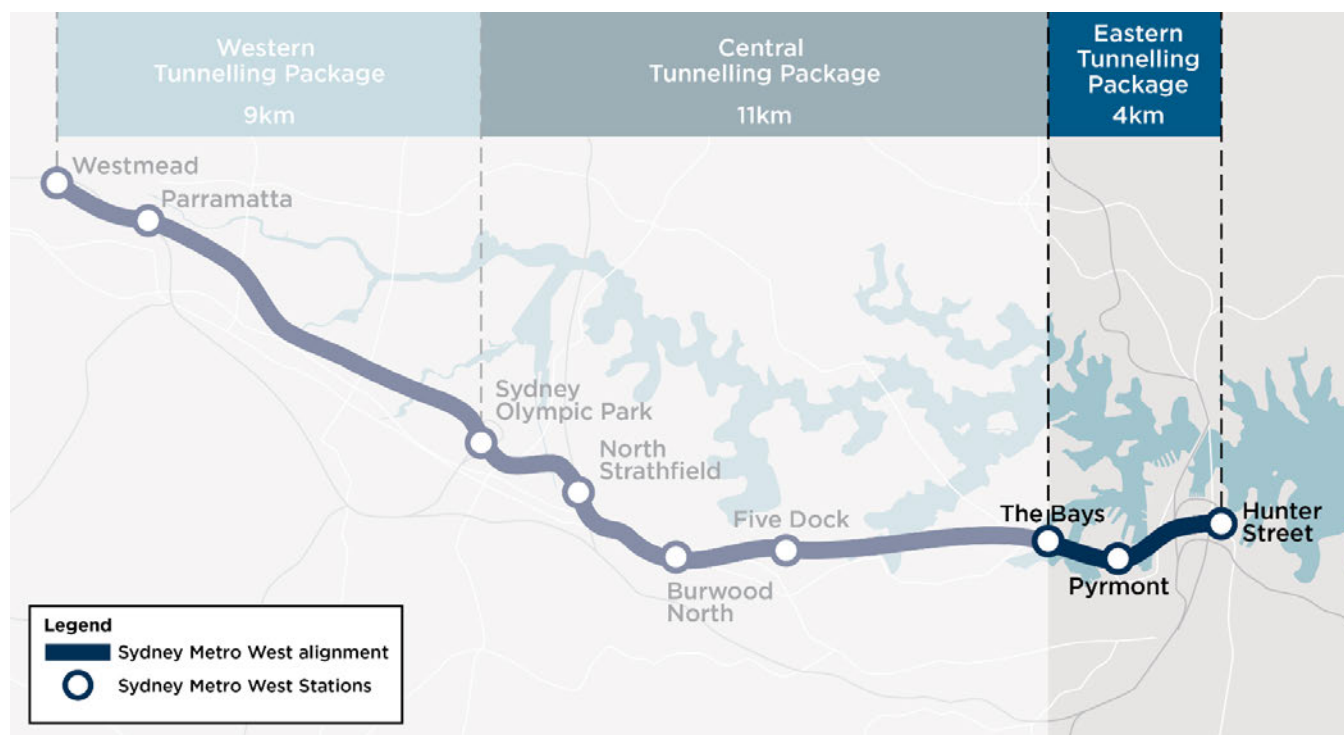


Figure 2: Overview of the Sydney Metro West alignment

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	<ul style="list-style-type: none"> ▪ Low Impact Works Plan ▪ Low Impact Works DNVIS 	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ Preliminary CEMP ▪ Environmental Procedures ▪ Hunter Street East acoustic shed works DNVIS ▪ Project-wide Out of Hours Works DNVIS 	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ CEMP ▪ Sub-plans ▪ Environmental Procedures ▪ DNVISs (TBA) 	<ul style="list-style-type: none"> ▪ Stakeholder consultation ▪ ER endorsement ▪ DPE approval (as determined by the Phasing Report)

Table 6: Overview of ETP Works 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	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Survey control, instrumentation and monitoring including installation of extensometers and piezometers (outside of standard construction hours) Geotechnical drilling (OOHW) 	<ul style="list-style-type: none"> N/A
The Bays	<ul style="list-style-type: none"> Existing Central Tunnelling Package (CTP) Worksite Existing shaft (30 metres in depth) Existing high voltage construction power supply conduits Existing temporary buildings 	<ul style="list-style-type: none"> Installation of environmental controls Use of existing offices and amenities for start-up Secure site Establishment of pedestrian bridge over site access road 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Establishment of additional temporary offices amenities and car parking Establish high voltage power supply and water supply from existing Central Tunnelling Package substation (including trenching) 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	<ul style="list-style-type: none"> Existing buildings: <ul style="list-style-type: none"> 26-32 Pymont Bridge Road, Pymont (five stories including two basement levels) 	<ul style="list-style-type: none"> Establish portable amenities Initial demolition works including: <ul style="list-style-type: none"> Hazmat investigation and structural investigation Establishment of site security and hoardings Establishment of truck access Demolition work (soft strip only) 	<ul style="list-style-type: none"> Utility adjustment works, including: <ul style="list-style-type: none"> Appropriately 20m of trenching in the northern footpath of Pymont Bridge Road (day shift) Approximately 50m of trenching in Paternoster Row (day shift) 	<ul style="list-style-type: none"> 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
		<ul style="list-style-type: none"> Five archaeological test trenches and, if triggered, salvage excavations Prepare archival recordings (subject to access) 	<ul style="list-style-type: none"> Removal of overhead cabling from the northern footpath of Pymont Bridge Road (one OOHV shift) Adjustment of property utility connections 	<ul style="list-style-type: none"> decommissioning of redundant assets (including trenching) 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	<ul style="list-style-type: none"> Existing buildings <ul style="list-style-type: none"> 37-69 Union St, Pymont (four stories with no basement) 	<ul style="list-style-type: none"> Establish portable amenities Initial demolition works including: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Detailed Site Investigation Adjustment of property utility connections 	<ul style="list-style-type: none"> 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 (including trenching) Establishment of high voltage power supply (including trenching)

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
				<ul style="list-style-type: none"> Demolition of existing buildings Contamination management based on DSI 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	<ul style="list-style-type: none"> Existing buildings <ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Establish portable amenities Archaeological investigations of DeMestre Place (if access dates allow) Initial demolition works including: <ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Establish construction access driveways at the Hunter Street East site and the Hunter Street West site Utility investigation potholes Adjustment of property utility connections 	<ul style="list-style-type: none"> Protection, adjustment and decommissioning of utility services (including trenching) 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 Excavation of station access shaft

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
Hunter Street East	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Use of existing offices and amenities Maintenance of existing temporary WTP Internal temporary fit-out within the existing Hunter St East acoustic shed: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Preliminary excavation within the existing acoustic shed (works to be conducted 24 hours each day and 7 days each week) <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Upgrade of high voltage power supply (including trenching) 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	<ul style="list-style-type: none"> Existing temporary precast facility 	<ul style="list-style-type: none"> N/A (site is not within the scope of SSI 19238057) 	<ul style="list-style-type: none"> N/A (site is not within the scope of SSI 19238057) 	<ul style="list-style-type: none"> 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)
- Waste Avoidance and Resource Recovery Act 2001 (WARR Act).

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
- Waste Classification Guidelines, Part 4: Acid Sulfate Soils
- Addendum to the Waste Classification Guidelines – Part 1: classifying waste
- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021
- NSW Government's Waste Reduction and Purchasing Policy (WRAPP).

3.3. Other environmental requirements

Other environmental requirements relevant to managing waste include the conditions of the EPL (refer to Element 4: Project Specific Requirements) and the Infrastructure Sustainability Council waste management requirements (Table 7).

Table 7: IS Rating Tool Waste Management Requirements

IS Credit	Level	IS Rating Tool Requirement	Document Reference
Was-1 Waste Management	Level 1	For achievement of Level 1: <ul style="list-style-type: none"> ▪ Predictions for waste quantities and types have been developed for construction; AND ▪ Measures to minimise waste during construction have been identified and implemented; AND ▪ Monitoring of all wastes is undertaken during construction. 	<ul style="list-style-type: none"> ▪ This Sub-plan (Element 2) ▪ Section 5 ▪ Waste disposal and diversion register
	Level 2	For achievement of Level 2, in addition to the above: <ul style="list-style-type: none"> ▪ Waste monitoring and management has been managed, reviewed, or audited by a suitably qualified professional; AND ▪ Waste handling and disposal/recycling all the way to final destination has been audited at appropriate intervals 	<ul style="list-style-type: none"> ▪ Waste audit schedule
Was-2 Diversion from Landfill (As-built only)	Level 1	For achievement of Level 1: All of the following targets for landfill diversion have been achieved or bettered: <ul style="list-style-type: none"> ▪ 70 to < 80% by volume of spoil; AND ▪ 25 to < 40% by volume of inert and non-hazardous waste; AND ▪ 25 to < 40% by volume of office waste 	<ul style="list-style-type: none"> ▪ This Sub-plan (Element 2) ▪ Waste disposal and diversion register
	Level 2	For achievement of Level 2: All of the following targets for landfill diversion have been achieved or bettered: <ul style="list-style-type: none"> ▪ 80 to < 100% by volume of spoil; AND ▪ 50 to < 90% by volume of inert and non-hazardous waste; AND 	<ul style="list-style-type: none"> ▪ This Sub-plan (Element 2) ▪ Waste disposal and diversion register

IS Credit	Level	IS Rating Tool Requirement	Document Reference
		<ul style="list-style-type: none"> 40 to < 60% by volume of office waste 	
	Level 3	<p>For achievement of Level 3: All of the following targets for landfill diversion have been achieved or bettered:</p> <ul style="list-style-type: none"> 100% by volume of spoil; AND > 90% by volume of inert and non-hazardous waste; AND > 60% by volume of office waste 	<ul style="list-style-type: none"> This Sub-plan (Element 2) Waste disposal and diversion register

4. People and collaboration

4.1. Our team

The roles and responsibilities of key JCG personnel with respect to waste management are detailed in Table 8.

Table 8: Key roles, authority and responsibility

Element	Description
Project Director	
Role	<ul style="list-style-type: none"> Manage the delivery of the Project in accordance with the ETP Deed
Authority	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Accountable for the environmental and sustainability performance of the Project Allocate sufficient resources to achieve environmental and approvals compliance
Minimum Skill Level	<ul style="list-style-type: none"> Tertiary qualification in Engineering or other associated disciplines Relevant experience on similar projects and significant project delivery experience
Project Interface	<ul style="list-style-type: none"> Lead the JCG Senior Leadership Team and interface with Sydney Metro team
Environment, Approvals and Sustainability Director	
Role	<ul style="list-style-type: none"> Manage the delivery of environment and sustainability requirements
Authority	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 waste 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Member of the JCG Senior Leadership Team and interface with Sydney Metro West Environment and Sustainability team
Environment Manager	
Role	<ul style="list-style-type: none"> Manage day-to-day environmental compliance, including waste management
Authority	<ul style="list-style-type: none"> Authority to stop works where a Hold Point has not been adequately released
Responsibility	<ul style="list-style-type: none"> Assist the Environment, Approvals and Sustainability Director in the creation of a consultative and proactive culture Manage the implementation of the CEMP, including waste management Deliver the environmental induction and training program

Element	Description
	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines Minimum of 8 years' relevant experience
Project Interface	<ul style="list-style-type: none"> Attend environment, sustainability, design and construction meetings
Sustainability Manager	
Role	<ul style="list-style-type: none"> Provide sustainability strategy and performance advice
Responsibility	<ul style="list-style-type: none"> Develop and implement the Sustainability Management System Manage the implementation, assessment and verification of waste minimisation 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Liaise with Sydney Metro to discuss sustainability performance and ensure continual improvement Attend environment, sustainability, design and construction meetings as required
Environmental Advisor	
Role	<ul style="list-style-type: none"> Support day-to-day environmental compliance, including waste management
Authority	<ul style="list-style-type: none"> Authority to stop works where a Hold Point has not been adequately released
Responsibility	<ul style="list-style-type: none"> Assist the Environment Manager in the creation of a consultative and proactive culture Support the implementation of the CEMP, including waste management 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	<ul style="list-style-type: none"> Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines Minimum of 2 years' relevant experience
Project Interface	<ul style="list-style-type: none"> Attend environment, sustainability, design and construction meetings
Site Supervisor	
Role	<ul style="list-style-type: none"> Assist the Project Director in implementing the requirements of this Sub-plan
Authority	<ul style="list-style-type: none"> Authority to stop works where a Hold Point has not been adequately released
Responsibility	<ul style="list-style-type: none"> Support the implementation of the CEMP, including waste management Deliver the environmental inductions where required Undertake environmental inspections Report and assist in incident management
Minimum Skill Level	<ul style="list-style-type: none"> Qualification in relevant trade Minimum of 5 years' relevant experience
Project Interface	<ul style="list-style-type: none"> Attend construction meetings

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.

5. Environmental aspects and impacts

5.1. Waste types

The key activities and anticipated waste streams to be generated as a result of the Project are detailed in Table 9. The indicative quantities of waste generated for each waste stream have also been included in Table 9 and will be refined during detailed design.

Table 9: ETP activities and waste streams

Activity	Waste Type	Expected Waste Classification	Indicative Quantity (m ³)	Document Reference
Demolition and construction	General construction and demolition waste	General Solid Waste (GSW) Non-Putrescible	78,000	This WMP
	Hazardous waste including Asbestos Waste or Paint Containing Lead Paint	Hazardous Waste Restricted Solid Waste Special Waste (Asbestos)		This WMP
Clearing and grubbing of vegetation	Vegetation waste	GSW (Non-Putrescible)	1,000	This WMP
Tunnelling, excavation and general earthworks	Spoil	Virgin Excavated Natural Material (VENM)/Excavated Natural Material (ENM) Resource Recovery Order/Resource Recovery Exemption (RRO/RRE) material GSW (Non-Putrescible) Special Waste Restricted Solid Waste (RSW) Hazardous Waste	859,162 m ³	Spoil from station shaft excavations and general earthworks is addressed in the Spoil Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002023). Contaminated soil including PASS and ASS is addressed in the Soil and Water Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002024).
	TBM Wastes	Resource Recovery Order/Resource Recovery Exemption (RRO/RRE) material		Spoil Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002023)
	Wastewater	N/A – Treated for discharge Liquid Waste (where discharge criteria are not met)	2,000	Soil and Water Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002024)
Dust suppression, wash down of plant and equipment, and staff amenities	Wastewater	N/A – Treated for discharge Liquid Waste (where discharge criteria are not met)	1,000	Soil and Water Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002024)
Maintenance of plant, vehicles, and equipment	Mechanical wastes including waste oil and filters	Hazardous Waste Liquid Waste	500	This WMP
Site offices and crib rooms	General Waste	GSW (Non-Putrescible) GSW (Putrescible)	6,000	This WMP

5.2. Aspects and impacts

The key aspects of the ETP Works as relevant to waste management are detailed in Table 10 together with potential environmental impacts (in the absence of controls).

Table 10: ETP aspects and impacts

Aspect	Potential Impacts
Resources	Excessive volumes of waste directed to landfill from the inadequate collection, segregation, classification and disposal of waste
Contamination	Contamination of soil, surface and/or groundwater from the inappropriate storage, transport and disposal of liquid and solid wastes
Spoil	Spoil unsuitable for reuse generated during earthworks requiring treatment/disposal
Housekeeping	Potential for waste to not be placed in appropriate bins and result in litter around the construction worksites and potential to enter stormwater drains
Weeds/Pests	An increase in vermin and spreading weed species from the incorrect storage, handling, and disposal of wastes from construction sites
Waste tracking	Non-compliance with legal requirements including not knowing where waste is being disposed, not knowing volumes of waste being disposed, illegal dumping

The waste management strategy outlined in this Sub-plan has been developed taking into consideration the potential environmental impacts detailed above. During the ETP Works, Environmental Control Maps (ECMs) will be developed which consider these potential impacts and include waste management control measures.

As detailed in Section 3.5.3 of the CEMP, ECMs provide a practical translation of environmental risks and controls for workers, including training and competency requirements. ECMs are specific to a site or activity and incorporate an illustration of the site (including significant structures, work areas, disturbance areas, exclusion area and boundaries), identify environmentally sensitive receivers and detail control measures as derived from relevant procedures. ECMs will be prepared progressively for each stage of development, endorsed by the Environment Manager or delegate, and communicated to relevant workers prior to commencing works.

6. Waste management and recycling strategy

6.1. Waste hierarchy

Waste management for the ETP Works will be prioritised according to the principles of a resource management hierarchy embodied in the WARR Act. The hierarchy is as follows:

- Avoidance of unnecessary resource consumption
- Resource recovery including reuse, reprocessing, recycling and energy recovery
- Disposal.

JCG is committed to the management of waste in accordance with the objectives of the WARR Act (refer to Section 6.3).

6.2. Waste classification

All waste generated will be assessed, classified and managed in accordance with the EPA Waste Classification Guidelines (2014) prior to re-use or disposal. This document identifies six classes of waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible) and General Solid (non-putrescible). The process to classifying waste is described in the sections that follow.

Step 1: Is it 'special waste'?

Establish if the waste should be classified as special waste. Special wastes are clinical and related, asbestos, waste tyres. Definitions are provided in the guidelines.

Note: Asbestos and clinical wastes must be managed in accordance with the requirements of Clauses 42 and 43 of the *Protection of the Environment Operations (Waste) Regulation 2005*.

Note: Where asbestos is mixed with other waste to form asbestos waste, the generator must continue to assess the waste in accordance with the remainder of the steps in this guide. Asbestos waste can only be disposed of at a waste facility that can lawfully receive asbestos and other class of waste with which it is mixed (if any).

If it is established that the waste is not special waste, progress to waste classification under step 2.

Step 2: If not special, is it 'liquid waste'?

If it is established that the waste is not special waste it must be decided if it is 'liquid waste'. Liquid waste means any waste that: has an angle of repose of less than 5° above horizontal becomes free-flowing at or below 60° Celsius or when it is transported is generally not capable of being picked up by a spade or shovel.

Liquid wastes are sub-classified into:

- Sewer and stormwater effluent
- Trackable liquid waste according to *Protection of the Environment Operations (Waste) Regulation 2005* Schedule 1 Waste to which waste tracking requirements apply
- Non-trackable liquid waste.

If it is established that the waste is not liquid waste, progress to waste classification under step 3.

Step 3: If not liquid, has the waste already been pre-classified by the NSW EPA?

The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescibles) and general solid waste (non-putrescibles). If a waste is listed as 'pre-classified', no further assessment is required.

Note: Wastes that have been classified by the EPA cannot be reclassified by any other party. A list of all the pre-classified waste streams is located in NSW EPA Waste Classification Guidelines – Part 1: Classifying Waste (pg. 7-10).

If it is established that the waste is not pre-classified waste, progress to waste classification under Step 4.

Step 4: If not pre-classified, is the waste hazardous?

If the waste is not special waste (other than asbestos waste), liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste.

Hazardous waste includes items such as explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

Waste classified as hazardous waste cannot be disposed of in NSW and must be treated prior to disposal.

If it is established that the waste is not hazardous waste, progress to waste classification under Step 5.

Step 5: If the waste does not have hazardous characteristics, undertake chemical assessment to determine classification

If the waste does not possess hazardous characteristics, it needs to be chemically assessed to determine whether it is hazardous, restricted solid or general solid waste (putrescible and non-putrescible). If the waste is not chemically assessed, it must be treated as hazardous.

Chemical assessment of waste is undertaken by a suitably qualified and experienced contaminated land professional by comparing Specific Contaminant Concentrations (SCC) of each chemical contaminant, and where required the leachable concentration using the Toxicity Characteristics Leaching Procedure (TCLP), against Contaminant Thresholds (refer to the EPA Waste Classification Guidelines (2014) for SCC and TCLP criterion). Waste samples must be analysed by a NATA-accredited laboratory.

If it is established that the waste is not hazardous or restricted waste, it is then general solid waste. Progress to waste classification under step 6 and determine whether the general solid waste is putrescible or non-putrescible.

Waste that includes paint containing lead (including scrap metal with paint containing lead) must be classified for waste disposal and handled in accordance with the ETP Deed, Schedule C01 (Particular Specification), clause 3.3.2 and Attachment H. Specifically:

- Scrap metal containing paint containing lead does not need to be tracked
- Ensure the recycling facility is licensed to receive scrap metal
- Scrap metal containing paint containing lead does not need to be segregated from scrap metal that does not contain lead paint for waste classification purposes
- Recycling facility is to be contacted regarding whether the facility has any specific requirements for segregation.

The ETP Deed is consistent with the requirements of Step 5 of the EPA Waste Classification Guidelines (2014).

Step 6: Is the general solid waste putrescible or non-putrescible?

If the waste is chemically assessed as general solid waste, a further assessment is available to determine whether the waste is putrescible or non-putrescible. The assessment determines whether the waste is capable of significant biological transformation. If this assessment is not undertaken, the waste must be managed as general solid waste (putrescible).

Further detail on the pre-classification of soils is outlined in the Waste and Spoil Management Procedure (Appendix A).

6.3. Waste avoidance and minimisation

Waste minimisation, reuse and recycling practices will be implemented in accordance with the waste hierarchy. Specific strategies to be implemented during the ETP Works to minimise the volume of waste generated and disposed are detailed in the sections that follow.

6.3.1. Reuse and recycling initiatives

To ensure the highest percentage of spoil, demolition and construction waste is re-used or recycled, JCG targets and requirements will be detailed in the Sub-contractor Tender Requirements Pack and incorporated into relevant subcontracts.

Mixed construction waste will be sorted for recyclables on site where feasible or off-site (at recycling yard) when using mixed recycling bins. Paper and cardboard recycling will be contained separately from other waste materials.

General recycling bins will be located adjacent to general waste bins in office and crib amenities blocks to maximise recycling.

Where structural demolition is required, JCG will reuse and then recycle materials to the greatest extent practicable. Site facilities and existing assets such as noise barriers, hoarding, site fencing, etc will be reused where practical between teams for the duration of the ETP Works. Those earmarked for handover upon project completion will be retained for subsequent contractors where practicable.

Dedicated office bins will be provided to maximise recycling (e.g. printer cartridges, paper and cardboard, mixed recyclables, coffee pods etc.).

JCG will continue to investigate opportunities for recycling and reuse of other non-putrescible general solid wastes, other than construction and demolition waste, and office waste. This may include onsite reuse of green waste, and recycling of items such as soft plastics, used oil, cigarette butts, and disposable ear plugs.

Waste recovery opportunities will be sought and maximised, including the application of Resource Recovery Exemptions and Orders to achieve reuse and diversion targets. Resource Recovery Exemptions and Orders of relevance to the ETP Works are detailed in Table 11.

Table 11 Waste Recovery Exemptions and Orders

Exemption/Order	Requirements
The excavated natural material exemption 2014 The excavated natural material order 2014	<p>At the time the excavated natural material is received at the premises, the material must meet all chemical and other material requirements as detailed in the 'the excavated natural material order 2014'. This includes a written sampling plan, characterisation sampling, and analytical testing in accordance with defined test methods.</p> <p>The excavated natural material can only be applied to land as engineering fill or for use in earthworks.</p> <p>The consumer must keep a written record of the following for a period of six years:</p> <ul style="list-style-type: none"> a) the quantity of any excavated natural material received; and b) the name and address of the supplier of the excavated natural material received. <p>The consumer must provide any records required to be kept under this exemption available to authorised officers of the EPA on request.</p> <p>The consumer must ensure that any application of excavated natural material to land must occur within a reasonable period of time after its receipt.</p>
The excavated public road material exemption 2014 The excavated public road material order 2014	<p>The excavated public road material can only be applied to land within the road corridor for public road related activities including road construction, maintenance and installation of road infrastructure facilities.</p> <p>The excavated public road material can only be stored within the road corridor at the site where it is to be applied to land.</p> <p>The excavated public road material cannot be applied to private land.</p> <p>The consumer must ensure that any application of excavated public road material to land must occur within a reasonable period of time after its receipt.</p> <p>Records must be retained for a period of six years.</p>
The mulch exemption 2016 The mulch order 2016	<p>The raw mulch can only be applied to land for the purposes of filtration or as a soil amendment material or used either singularly or in any combination as input material(s) to a composting process.</p> <p>At the time mulch is received at the premises, the material must meet all requirements as detailed in the 'the mulch order 2016'.</p> <p>Where written measures for the land application of mulch are required under 'the mulch order 2016', a processor must provide these to the consumer. The</p>

Exemption/Order	Requirements
	<p>consumer must apply the mulch to land in accordance with the written measures.</p> <p>The consumer must ensure that they do not cause or permit the migration of leachate from the land application site.</p> <p>The consumer must not undertake further processing of the mulch at the land application site.</p> <p>The consumer must ensure that any application of mulch to land occurs within a reasonable period of time after its receipt.</p>
<p>The recovered aggregate exemption 2014</p> <p>The recovered aggregate order 2014</p>	<p>The material must meet all chemical concentration and other material requirements for recovered aggregate under “the recovered aggregate order 2014”. This includes a written sampling plan, characterisation sampling, and analytical testing in accordance with defined test methods.</p> <p>The recovered aggregate can only be applied to land for road making activities, building, landscaping and construction works. This approval does not apply to any of the following applications:</p> <ul style="list-style-type: none"> ▪ Construction of dams or related water storage infrastructure ▪ Mine site rehabilitation ▪ Quarry rehabilitation ▪ Sand dredge pond rehabilitation ▪ Back-filling of quarry voids ▪ Raising or reshaping of land used for agricultural purposes <p>Construction of roads on private land unless: the relevant waste is applied to land to the minimum extent necessary for the construction of a road, and a development consent for the development has been granted under the relevant Environmental Planning Instrument (EPI), or it is to provide access (temporary or permanent) to a development approved by a Council, or the works undertaken are either exempt or complying development.</p>
<p>The reclaimed asphalt pavement exemption 2014</p> <p>The reclaimed asphalt pavement order 2014</p>	<p>The reclaimed asphalt pavement can only be:</p> <ul style="list-style-type: none"> ▪ applied to land for road related activities including road construction or road maintenance activities being: <ol style="list-style-type: none"> a) use as a road base and sub base b) applied as a surface layer on road shoulders and unsealed roads and c) use as an engineering fill material. ▪ used as an alternative input into thermal processes for non-energy recovery purposes in the manufacture of asphalt. <p>The consumer must ensure that any application of reclaimed asphalt pavement to land or any use of reclaimed asphalt pavement in connection with a process of thermal treatment must occur within a reasonable period of time after its receipt.</p>

6.3.2. Purchasing and procurement

Reflecting the requirements of the JCG procurement strategy, all timber formwork will be reused before the timber is recycled. Reusability and capacity for recycling will be considered in the selection of construction materials and other products purchased for the ETP Works.

JCG will negotiate packaging take-back agreements with suppliers and include this as a criterion for consideration during selection of suppliers. Bulk purchases will be preferred within tender documentation, and quantities of materials accurately calculated to limit the amount of associated packaging brought to site.

Where reasonably practicable, compostable, or at least reusable, temporary erosion sediment controls will be utilised onsite.

6.3.3. Minimising materials usage

The ETP Works will place a significant demand on a range of resources, including both primary and secondary materials that have undergone some degree of offsite processing. This demand has the potential to create a resource depletion risk. To manage this risk, JCG will adopt the waste management hierarchy as detailed in Section 6.1 and the Sustainability Management Plan, including specific strategies to sustainably manage materials use and minimise the materials footprint. This will include the accurate calculation of materials that are brought to the site and limiting materials packaging.

6.3.4. Hazardous waste

As per the EPA's Waste Classification Guidelines, the following waste types (other than special waste or liquid waste) have been pre-classified by the EPA as hazardous waste:

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

JCG will endeavour to avoid the production of hazardous waste. This will involve implementing strategies such as:

- Avoiding the procurement and use of hazardous chemicals where other alternatives are available
- Where use of hazardous chemicals cannot be avoided, they are to be procured in sizes and types of containers that will minimise material losses
- Minimising the risk of spills and leaks through implementation of the spill prevention controls detailed in the Spill Management Procedure (Appendix A)
- Sorting all contamination and waste (including separating contamination from clean materials and waste)
- Preventing the contamination of clean material by intermixing contamination or waste
- Preventing the intermixing of contamination (or different waste classifications) with clean material or any other type of contamination or waste (refer to the Soil and Water Management Sub-plan for details on the management and classification of contaminated soils)
- Delineating to the greatest extent practicable any hazardous waste spoil identified onsite and investigate opportunities to treat the material to a lower waste classification.

A hazardous material survey will be completed for those buildings and structures suspected of containing hazardous or special waste materials (particularly asbestos) prior to their demolition. If hazardous waste or special waste (e.g. asbestos) is encountered, it would be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.

6.3.5. Office furniture and items

As detailed in the Waste and Spoil Management Procedure (Appendix A), JCG will inspect buildings prior to demolition and consider opportunities to reuse or recycle abandoned furniture or items. Specifically, the Sustainability Manager (or nominated delegate) will contact relevant organisations (e.g. Re-Love, Green Furniture Hub, Sydney Recycle Office Furniture and Equipment, etc) prior to demolition works to assess the feasibility of reuse or recycling of abandoned furniture or items. JCG will also seek to reuse furniture and appliances within Project site offices.

6.4. Storage, transportation and disposal

6.4.1. On-site storage

Prior to demolition works, a collection/delivery plan process be established in collaboration with the Environment team and sub-contractors. Key requirements, including on-site separation of materials for reuse and recycling, will be communicated to the construction team through toolbox talks and pre-start meetings.

General waste and recyclables will be stored in containers/ bins and collected on a regular basis. As a minimum, ETP Worksites will have the following labelled skip bins onsite:

- General waste
- General mixed recycling
- Paper/cardboard recycling
- Scrap steel (where required for the scope of works).

Additional containers/bins that may be required during demolition works include concrete, plastic pipes/cables, damaged office furniture and fluorescent tubes.

Worksites will be free of litter and maintain good standards of housekeeping throughout construction. Regular inspections by both the Environment and Sustainability Team and the Health and Safety teams will be undertaken to ensure a high standard is maintained.

Where spoil is to be stockpiled, stockpiles will be labelled, managed, and segregated to avoid cross contamination or intermixing between different waste streams. Records of stockpile classifications and locations onsite will be kept by site teams and stockpiles will be managed in accordance with the requirements of this Sub-plan.

Waste classified as special waste or hazardous waste (EPA, 2014) will be carefully segregated (or excavated and placed as separate stockpiles) at demarcated and contained locations. These areas will be appropriately bunded and stockpiles will be covered with geotextile or impermeable plastic sheeting. Where practicable, hazardous waste will be stored in an appropriate container (e.g. a waste skip). Should the hazardous waste have the potential to produce contaminated leachate, the material will be stored in an area with an appropriate leachate collection system. All stockpiles will be clearly identified.

Specialist waste streams, including waste fuel, oils and other hazardous chemicals will be stored separately in well ventilated, bunded areas prior to removal by licenced waste contractors. Storage vessels must be compliant with relevant Australian Standards.

6.4.2. Waste transportation and disposal

Where waste produced from the ETP Works cannot be reused on site and must be disposed offsite, the most sustainable and cost-effective disposal site will be prioritised.

Waste will be transported from site using an appropriately licensed waste management contractor. Contractors will be required to provide disposal receipts, tracking documentation and reports of waste quantities in accordance with contract requirements. Specialist licenced waste contractors must be used when removing 'hazardous waste' in accordance with the *Protection of the Environment Operations (Waste) Regulation 2005*. Waste truck loads will be covered, and tailgates secured prior to trucks leaving the worksite.

Asbestos containing material will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the *Work Health and Safety Regulation 2011* and the *Protection of the Environment Operations (Waste) Regulations 2014*. In addition, all asbestos waste over 10m³ will be tracked through EPA's WasteLocate service.

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.

Prior to waste being taken to a waste facility, the Environment, Approvals and Sustainability Director (or delegate) must review and approve the proposed waste facility. Contractors will be required to submit

the relevant documentation for review including a completed copy of a Spoil Reveal Site Approval Checklist.

The locations of heavy vehicles will be monitored in real time as follows:

- JCG managed vehicles – JCG has adopted the tracking software *Virtual Superintendent Spoil Control and Management System* to provide real-time tracking of all spoil haulage vehicles and materials
- Tunnel segment transport – The haulier of tunnel segments will undertake real-time tracking of heavy vehicles and provide all records to JCG
- Concrete vehicles – Concrete supplier will undertake real-time tracking of concrete vehicles and provide all records to JCG.

Records of monitoring will be made available electronically 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.

A register of waste disposal sites and relevant documentation will be kept for the duration of the Project. The register will be reviewed and updated on a regular basis. Prior to a disposal site accepting waste from the ETP Works, the following information must be received and approved by the Environmental Manager:

- A signed Section 143 certificate
- A copy of the disposal sites EPL or other approval mechanism allowing them to accept the relevant waste stream (such as DA approval)

Some reveal facilities have licence acceptance limits for specific chemicals which exceed the acceptance limits detailed in the Waste Classification Guidelines (EPA, 2014). Site teams must gain approval from the Environment, Approvals and Sustainability Director (or delegate) prior to taking spoil to such receiving facilities.

Appendix B provides a register of licensed waste disposal sites, including details of the EPL held by each waste disposal company. Where there are changes to waste disposal locations used during the ETP Works, updates will be made to Appendix B.

6.5. Importation of waste or fill

JCG will not cause, permit or allow any waste generated outside the licensed premises to be received at the licensed premises, except:

- VENM
- As expressly permitted by a condition of the EPL
- As permitted by a resource recovery order and/or resource recovery exemption under the *Protection of the Environment Operations (Waste) Regulation 2014*.

Excavated material suitable for re-use within the premises as outlined above may be transported to another part of the premises.

Refer to the Waste and Spoil Management Procedure (Appendix A) and the Spoil Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002023) for additional details on the importation of waste or fill.

6.6. Waste tracking and reporting

JCG will keep complete, accurate and up to date digital records of all materials that are treated and reused, disposed of or otherwise removed from the ETP Worksites.

Waste (including spoil) removed from site will be tracked using a waste disposal and diversion register. This register will be completed by engineering staff at each Worksite, and will capture information including:

- Applicable waste classification report number
- Waste classification consignment authorisation (from disposal facility)
- Date transported
- Haulage contractor
- Material type
- Waste classification
- Quantity
- Source location
- Waste receipt location (see Section 6.4.2)
- Truck registration
- Docket numbers (haulage, receipt, weighbridge).

Waste classification reports and tip dockets associated with removal and disposal of waste (including spoil) from the ETP Works are to be retained and referenced in the waste disposal and diversion register. Detailed and careful records of spoil movement within the boundaries of the ETP Works will also be retained including tracking of onsite material movements.

The ETP Works spoil reuse strategy is addressed in the Spoil Management Sub-plan (SMWSTETP-JCG-SWD-SW000-EN-PLN-002023). In addition, waste reporting requirements (including reporting of spoil reuse and recycling statistics) are addressed in the Sustainability Management Plan.

JCG will supply data on waste and recycling to Sydney Metro in the agreed Sustainability Reporting template and within an agreed timeframe. It is noted that reporting will be undertaken with a one-month lag, to ensure the accuracy of data. Further records can be provided to Sydney Metro upon request.

6.7. Compliance checks

Quarterly compliance checks will be undertaken for the duration of the ETP Works to ensure that all waste is being managed, transported, reused, recycled or disposed in a lawful manner. The compliance check will take the form a desktop investigation or site inspection, each of which is described as follows:

- Desktop investigations
- Contacting reuse, recycling or disposal facilities directly
- Reviewing waste disposal dockets and waste transport tracking documentation and requirements
- Reviewing waste characterisation and classification information
- Reviewing exemption requirements against particular loads of waste

- Reviewing environment protection licences, authorisations or approvals of facilities that receive waste generated by the project)
- Site inspections to non-licenced reuse, recycling or disposal locations.

All compliance checks conducted will be recorded and provided to an authorised EPA officer upon request.

7. Compliance management

7.1. Hold points

The activity detailed in Table 12 is recognised as hold points and will not proceed without objective review and approval by the nominated authority.

Table 12: Hold points

Hold point	Sub-plan Reference	Release of Hold Point	Responsibility
Disposal of waste under a Resource Recovery Exemptions and Orders	Section 6.3.1	Preparation of the Spoil Reveal Site Approval Checklist all records in accordance with the relevant Resource Recovery Exemption and Order	Environment, Approvals and Sustainability Director (or delegate)

7.2. Complaints

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

8. Review and improvement

8.1. 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.

8.2. 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 waste 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 13: 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	<p>All personnel working on the Project will undertake a site induction, which will provide initial training on various environmental aspects, including waste management. It will cover:</p> <ul style="list-style-type: none"> Waste minimisation and resource efficiency initiatives Classification of waste Reuse of waste on-site Appropriate disposal requirements. 	<p>People and Culture Director Environment, Approvals and Sustainability Director</p>	<p>Induction presentation Training records</p>
1.2	Toolbox talks are used to reinforce key management requirements and lessons learnt	Toolbox talks on waste management requirements will be held regularly and will reinforce and reiterate information from inductions.	<p>Environmental Advisors Site Supervisor</p>	Training records

Element 2: Monitoring and reporting

Table 14: 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 Supervisor to undertake daily inspections of worksite to assess the adequacy and effectiveness of waste management controls. Weekly inspection of waste management controls will be undertaken as part of joint JCG / Sydney Metro / ER / AA inspections.	Environmental Advisors Site Supervisor	Site Diary entries Environmental Inspection reports
2.2	Waste reporting	Monthly Sustainability Reports will be prepared to detail waste generation, reuse and disposal volumes (onsite and offsite) as well as disposal locations. This reporting will be undertaken using the agreed Sustainability Reporting template and within an agreed timeframe. Note: Reporting will be undertaken with a one-month lag, to ensure the accuracy of data.	Sustainability Manager	Monthly Sustainability Reports
2.3	Monitoring records are maintained	JCG will retain the following records (at minimum) of waste generated, received or removed from the premises: <ul style="list-style-type: none"> 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 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 Keep 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 Keep 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 	Environment Manager Environmental Advisors/Coordinator	Waste disposal and diversion register Section 143 Certificates Spoil Receipt Site Approval Checklists Register of Receipt Sites Waste Classification Reports GPS Records Material tracking forms Spoil daily docket

Element 3: Auditing, review and improvement

Table 15: 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	<p>A waste non-compliance can generally be defined as a failure to comply with the conditions of the SSI 19238057 Infrastructure Approval 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).</p> <p>Where a non-compliance is raised as part of an audit or an incident or complaint investigation, the audit, incident or complaint report may be used to close out the non-compliance; it is not necessary to raise a separate non-compliance report.</p> <p>Procedures for corrective actions are addressed in Section 3.12.2 of the CEMP.</p>	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 16: 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 6.4.2	Site Supervisors Spoil Manager	Environmental Inspection Checklist	During 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 6.1	Environmental Advisors Spoil Manager Site Supervisors	Section 143 Certificates Spoil Reveal Site Approval Checklists Register of Reveal Sites Waste Classification Reports GPS Records Material tracking forms Spoil daily dockets	During construction
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.	Refer to Section 6.5	Environmental Advisors Spoil Manager Site Supervisors	Section 143 Certificates Spoil Reveal Site Approval Checklists Waste Classification Reports	During construction
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 6.4.2	Environmental Advisors Spoil Manager Site Supervisors	Section 143 Certificates Spoil Reveal Site Approval Checklists Register of Reveal Sites Waste Classification Reports GPS Records Material tracking forms	During construction

ID	Requirements (Conditions)	JCG Response	Responsibility	Deliverables	Timing
				Spoil daily docket	
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 6.2	Environmental Advisors Spoil Manager	Waste Classification Reports	During construction

Revised Environmental Mitigation Measures

Table 17: 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 6.2	Environmental Advisors Spoil Manager	Waste Classification Reports	During construction
WR2	A hazardous material survey would be completed for those buildings and structures suspected of containing hazardous or special waste materials (particularly asbestos) prior to their demolition. If hazardous waste or special waste (e.g. asbestos) is encountered, it would be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	Refer to Section 6.3.4	Project Manager	Hazardous Material Survey Reports	During construction
WR3	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	Refer to Section 6.3.3	Project Engineers	Contract documents	During construction
WR4	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Refer to Section 6.4.1	Spoil Manager Site Supervisors	Environmental Inspection Checklists	During 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 6.6	Spoil Manager Site Supervisors	Materials Tracking Documentation	During construction

Environmental Performance Outcomes

Table 18: Environmental Performance Outcomes

Key Issue	Desired Performance Outcome	Sydney Metro West Performance Outcome	Sub-plan Reference
Spoil, Waste Management and Resource Use	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 	Refer to Section 1.2 and the Water Reuse Strategy

Construction Environmental Management Framework

Table 19: Construction Environmental Management Framework

ID	Requirements (CEMF)	Sub-plan Reference
3.5 (a)	<p>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:</p> <ul style="list-style-type: none"> 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.	Appendix A
3.6 (b)	<p>The procedures will include:</p> <ul style="list-style-type: none"> 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. 	Appendix A Activity Method Statements Task Risk Assessments
14.1 (a)	<p>The following waste objectives will apply to construction:</p> <ul style="list-style-type: none"> i. Minimise waste throughout the project life-cycle; and ii. Waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: <ul style="list-style-type: none"> ▪ Avoidance of unnecessary resource consumption; ▪ Resource recovery (including reuse, reprocessing, recycling and energy recovery); and ▪ Disposal. 	Section 1.2

ID	Requirements (CEMF)	Sub-plan Reference
14.1 (b)	Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil will be provided by the Principal Contractor.	Section 1.2
14.2 (a) i	Principal Contractors will develop and implement a Waste Management Plan which will include as a minimum: i. The waste management mitigation measures as detailed in the environmental approval documentation;	Section 6
14.2 (a) ii	The responsibilities of key project personnel with respect to the implementation of the plan	Section 4.1
14.2 (a) iii	Waste management monitoring requirements	Section 6.6 Element 2: Monitoring and Reporting
14.2 (a) iv	A procedure for the assessment, classification, management and disposal of waste in accordance with Waste Classification Guidelines	Section 6.2 Section 6.6 Appendix A
14.2 (a) v	Compliance record generation and management.	Section 6.6
14.2 (b)	Principal Contractors will undertake the following waste monitoring as a minimum: i. Weekly inspections will include checking on the waste storage facilities on site; and ii. All waste removed from the site will be appropriately tracked from 'cradle to grave' using waste tracking dockets.	Section 6.6 Element 2: Monitoring and Reporting
14.2 (c)	Principal Contractors will report all necessary waste and purchasing information to Sydney Metro as required for Sydney Metro to fulfil their WRAPP reporting requirements.	Element 2: Monitoring and Reporting
14.2 (d)	Compliance records will be retained by the Principal Contractors in relation to waste management including records of inspections and waste dockets for all waste removed from the site.	Element 2: Monitoring and Reporting

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

Table 20: Environment Protection Licence

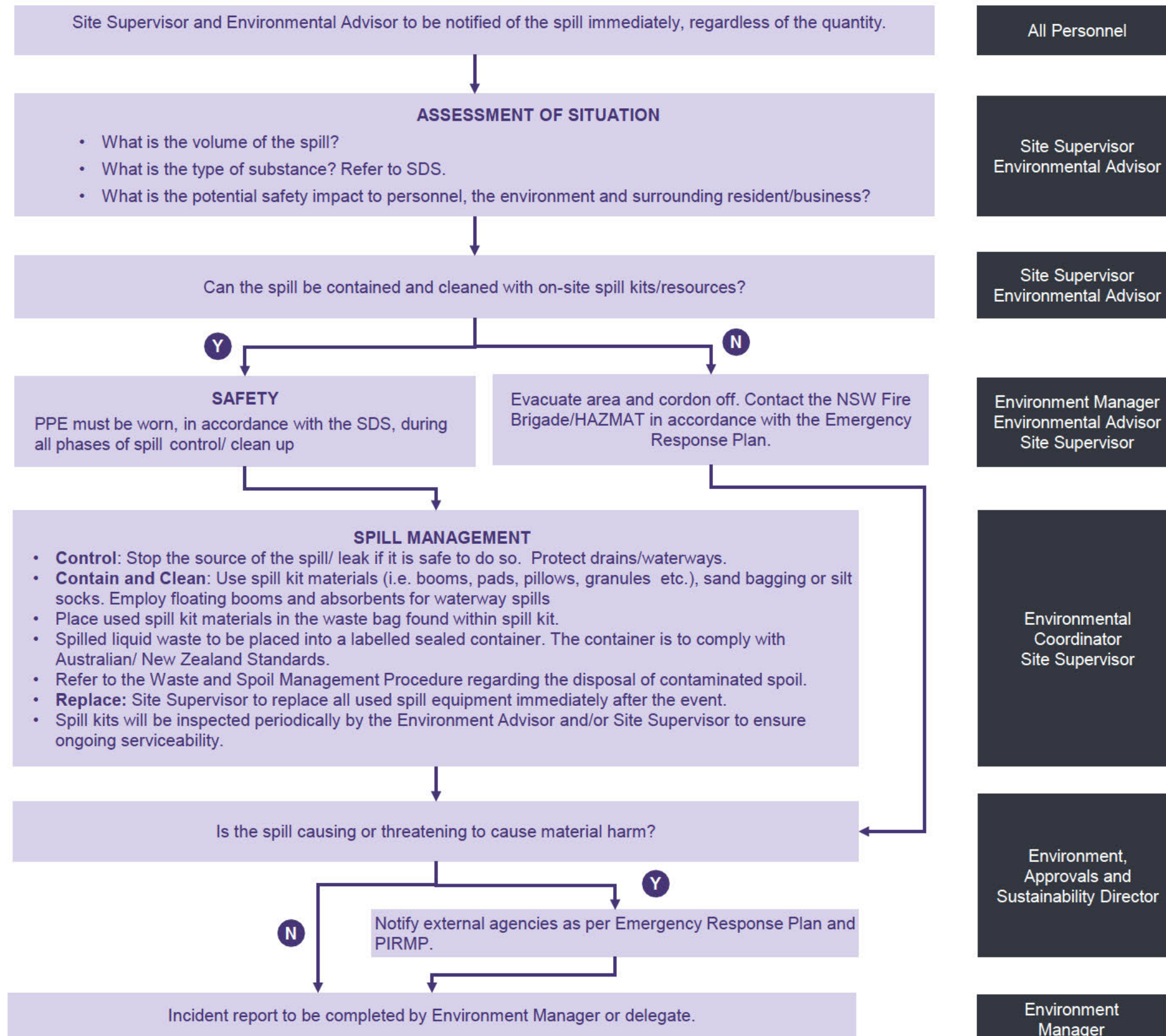
ID	Requirements (EPL)	JCG Response	Responsibility	Deliverables	Timing

Part C Annexures

Appendix A Procedures

SPILL MANAGEMENT PROCEDURE

MANAGEMENT AND RESPONSIBILITY



SPILL PREVENTION

- Store hazardous materials in accordance with Australian Standards and in bunded areas with a capacity of 110 per cent of the maximum single stored volume
- Conduct refuelling/maintenance of plant/equipment in designated and bunded areas
- Conduct preventative maintenance of plant/equipment hydraulics
- Store portable generators in bunded trays
- Establish concrete wash-out trays prior to conducting concrete works
- Implement and maintain spill kits in storage areas and work sites

SPILL KIT APPLICATION

MATERIAL	APPLICATION
Booms	Deploy booms to contain spill. Consider the need to install floating booms before starting works if there is potential for spill in waterways.
Granules/ Particulate	If the booms alone cannot absorb the spill/ leak, apply absorbent granules to soak up spilled liquid.
Pads and Pillows	Thin absorbent mats to be placed over spills or directly under a leak or drip.
Drain Covers	Covers placed over stormwater inlets to block drains and stop spills entering stormwater drains.
Sorbents	Sorbents are materials that soak up the spill. Once the absorbent material has been applied to the spill, the mixture is recovered with nets, rakes, forks or pike poles.
Manual Recovery	Manual recovery is another common method especially for areas with a high concentration of oil.
Vacuum Truck	Used to remove liquid and sludge wastes.

EMERGENCY CONTACTS

SUPERINTENDENT

ENVIRONMENT MANAGER

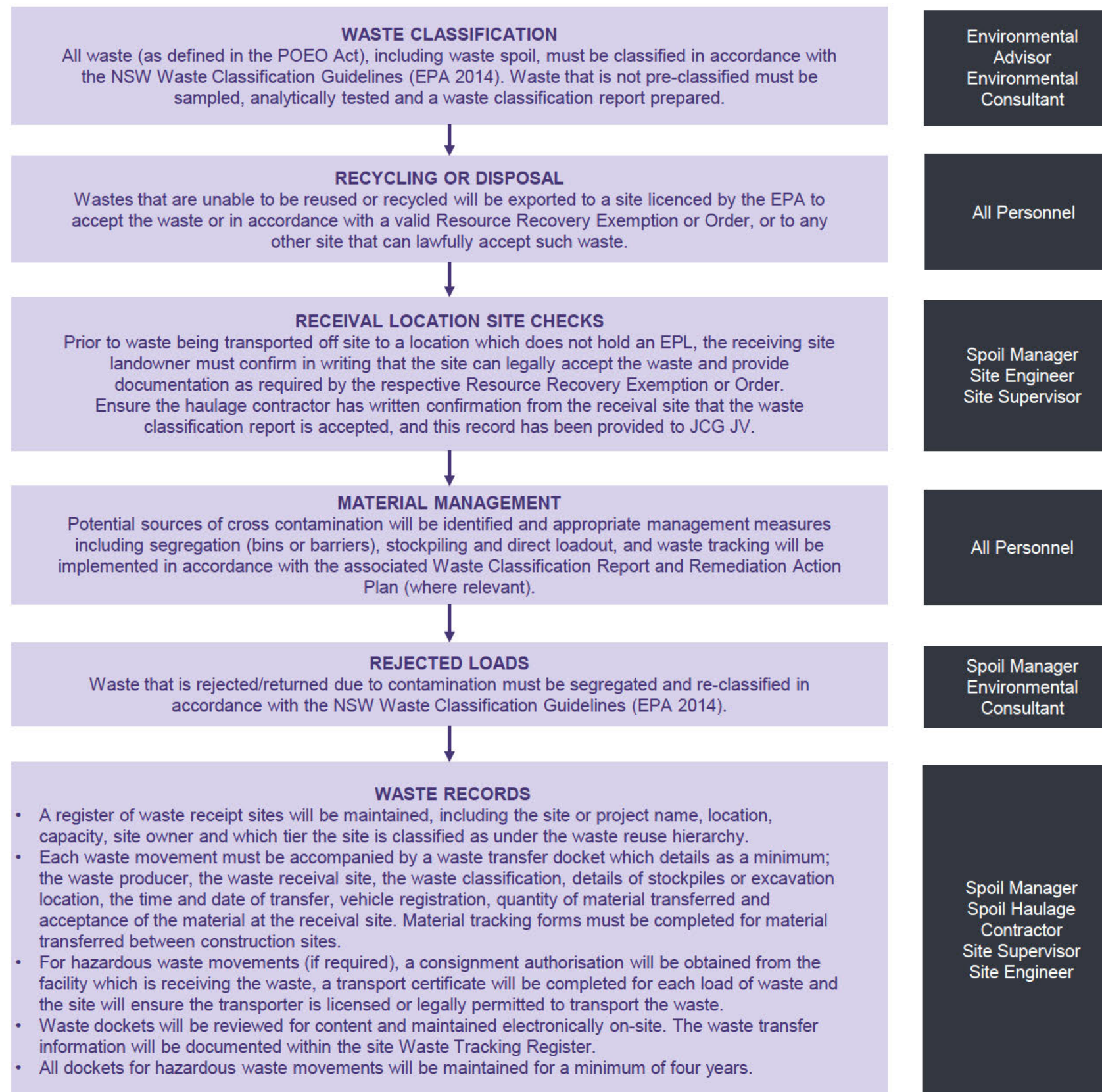
ENVIRONMENT COORDINATORS

LEAD SAFETY MANAGER

SENIOR STAKEHOLDER AND
COMMUNITY MANAGER

WASTE AND SPOIL MANAGEMENT PROCEDURE

MANAGEMENT AND RESPONSIBILITY



REQUIREMENTS

Targets

- 100% beneficial reuse of useable spoil (inclusive of topsoil)
- 95% beneficial reuse of inert and non-hazardous construction/demolition waste, excluding spoil
- Accurately calculate materials brought to site, limit packaging, prioritise products made from recycled content and investigate packaging take-back arrangements.

Management

- Minimise the generation of waste and maximise beneficial reuse through design development process. Beneficial reuse of spoil will occur in accordance with the spoil reuse hierarchy.
- Where spoil has been classified as VENM/ENM, on-site re-use options are to be investigated prior to off-site reuse.
- Waste storage locations are to be nominated on ECMs. Storage locations will be selected to minimise noise and traffic impacts associated with spoil transport.
- Provide co-mingled bins adjacent to all general waste bins. Provide separate bins for specialist waste streams including oil, electrical and electronic waste and equipment, as relevant.
- Provide sufficient on-site storage space for recyclable and general waste.
- Segregate waste streams to avoid cross-contamination of materials and maximise reuse and recycling opportunities
- Implement a materials tracking system for material transferred between Project sites and to offsite locations such as licensed waste management facilities.
- Waste generated outside the premises will not be received at the premises for use, storage, treatment, processing, reprocessing, or disposal unless expressly permitted under the Environmental Protection Licence (EPL) or relevant Resource Exemption.

Monitoring and Recording

- Monitor all waste, disposal locations, disposal records and associated volumes out for the duration of the Preliminary Works
- Report all necessary waste and purchasing information to Sydney Metro as required for Sydney Metro to fulfil their WRAPP reporting requirements.



Appendix B Register of Waste Disposal Sites

Table 21: Register of Waste Disposal Sites

Company Name	Address	Lawfully Received Waste Types (of relevant to the ETP Works)	EPL
Adderley Recycling PTY LTD	3-5 Duck Street, Auburn, NSW 2144	<ul style="list-style-type: none"> Building and demolition waste 	10935
Australian Native Landscapes Badgerys Creek	210 Martin Road, Badgerys Creek, NSW 2171	<ul style="list-style-type: none"> Food waste Wood waste Virgin excavated natural material Biosolids categorised as unrestricted use, or as restricted use 1, 2 or 3, in accordance with the criteria set out in the biosolids guidelines Garden waste 	4625
Bettergrow Pty Ltd	48 Industry Road, Vineyard, NSW 2765	<ul style="list-style-type: none"> Waste storage - other types of waste Non-thermal treatment of general waste Non-thermal treatment of hazardous and other waste Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste 	5487
Brandown Pty Ltd	Lot 90 Elizabeth Drive, Kemps Creek, NSW 2171	<ul style="list-style-type: none"> General solid waste (non-putrescible) excluding biosolids Waste tyres Asbestos waste Waste that is below licensing thresholds in Schedule 1 of the POEO Act Excavated Natural Material (soils) Asphalt waste (including asphalt resulting from road construction and waterproofing works) Virgin Excavated Natural Material Building and demolition waste Garden waste Wood waste Concrete slurry Soils (Arsenic 40mg/kg; Cadmium 2mg/kg; Copper 200mg/kg; Mercury 1.5mg/kg; Zinc 600mg/kg; Petroleum Hydrocarbons C6-C9 150mg/kg; Petroleum Hydrocarbons C10-C36 1600mg/kg; Polycyclic aromatic hydrocarbons 80mg/kg; Polychlorinated biphenyls (individual) 1mg/kg. No Acid Sulfate Soil or Potential Acid Sulfate Soil is to be received at the Premises.) 	5186 and 12618
Cleanaway Co. Pty Ltd	40 Christie Street, St. Marys, NSW 2760	<ul style="list-style-type: none"> Non-thermal treatment of hazardous and other waste Recovery of general waste 	12628
Cleanaway Co. Pty Ltd	42-46 Charles Street, St. Marys, NSW 2760	<ul style="list-style-type: none"> Contaminated soil treatment Non-thermal treatment of hazardous and other waste 	20271

Company Name	Address	Lawfully Received Waste Types (of relevant to the ETP Works)	EPL
Cleanaway Erskine	85-87 Quarry Road, Erskine Park, NSW 2759	<ul style="list-style-type: none"> General solid waste (putrescible) General solid waste (non-putrescible) 	20986
Cleanaway Homebush Bay Liquid Treatment Plant	Corner of Pondage Link and Hill Rd, Homebush Bay, NSW 2127	<ul style="list-style-type: none"> Sewage sludge and residues Encapsulated, chemically-fixed, solidified or polymerised wastes Waste mineral oils unfit for their original intended use Waste oil/hydrocarbons mixtures/emulsions in water Waste tarry residues 	4560
Cleanaway Resource Co	35-37 Frank Street, Wetherill Park, NSW 2164	<ul style="list-style-type: none"> Synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics), but excluding asbestos waste Wood waste Glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal Paper or cardboard Building and demolition waste (as defined in Schedule 1 of the POEO Act) 	20937
Concrete Recyclers	14 Thackeray St, Camellia, NSW 2142	<ul style="list-style-type: none"> General or Specific exempted waste Building and demolition waste Virgin excavated natural material 	6664
Demast Pty Ltd	7 Long Street, Smithfield, NSW 2164	<ul style="list-style-type: none"> Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste Non-thermal treatment of liquid waste 	20875
DIAL-A-DUMP (EC) Pty Ltd	Genesis Facility, Honeycomb Drive, Eastern Creek, NSW 2766	<ul style="list-style-type: none"> Asbestos waste General solid waste Waste tyres 	13426
DIAL-A-DUMP (EC) PTY LTD	Honeycomb Drive, Eastern Creek, NSW, 2766	<ul style="list-style-type: none"> Composting Recovery of general waste Waste storage - other types of waste 	20121
Doyle Bros (Faralga Pty Limited)	87-91 Lisbon Street, Fairfield East, NSW, 2165	<ul style="list-style-type: none"> Metal Waste Plastic Paper or Cardboard 	20646
Downer EDI Works PTY LTD	12 Grand Avenue, Camellia, NSW 2142	<ul style="list-style-type: none"> Asphalt waste 	306
Dump It Recycling Centre Pty Ltd	13 Long Street, Smithfield, NSW 2164	<ul style="list-style-type: none"> Building and demolition waste Virgin excavated natural material Asphalt waste (including asphalt resulting from road construction and waterproofing works) 	12661

Company Name	Address	Lawfully Received Waste Types (of relevant to the ETP Works)	EPL
		<ul style="list-style-type: none"> Paper, plastics, glass, and metal 	
Davin Pty Limited	55 Shepherd Street, Ryde, NSW 2112	<ul style="list-style-type: none"> Concrete, brick and asphalt 	4578
Eco Cycle Materials Pty Ltd	155 Newton Road, Wetherill Park, NSW 2164	<ul style="list-style-type: none"> Concrete, brick and asphalt 	10699
Enviroguard Pty Limited	4 Quarry Road, Erskine Park NSW 2759	<ul style="list-style-type: none"> Asbestos waste General solid waste Waste tyres 	4865
Glenfield Waste Services	Cambridge Avenue, Glenfield, NSW 2167	<ul style="list-style-type: none"> Asbestos waste General solid waste Waste tyres Wood waste Garden waste 	4614
Greenwaste Only Pty Ltd (Trading as North West Recycling Centre)	132 Burfitt Road, Riverstone, NSW 2765	<ul style="list-style-type: none"> Composting 	11620
Hi-Quality Waste Management Pty Ltd	37 Lee Holm Street, St Marys, NSW 2760	<ul style="list-style-type: none"> Asphalt Building and demolition waste Soils (that meet the CTI thresholds for General Solid in Table 1 of the Waste Classification Guidelines as in force from time to time with the exception of the maximum threshold values for contaminants specified in the 'Other Limits' column) – also referred to as 'GSW-Recyclable' 	5857
MET Recycling Pty Ltd	134 Newton Street North at the corner of Carnarvon Street, Silverwater, NSW 2128	<ul style="list-style-type: none"> Virgin Excavated Natural Material Concrete, brick and asphalt Building and demolition waste Soils (that meet the CTI thresholds for General Solid in Table 1 of the Waste Classification Guidelines as in force from time to time with the exception of the maximum threshold values for contaminants specified in the 'Other Limits' column) – also referred to as 'GSW-Recyclable' 	20948
SIMS Group Australia Holding Limited (trading as SIMS METAL)	76 - 100 Christie Street, St Marys, NSW 2760	<ul style="list-style-type: none"> Scrap metal processing 	6934

Company Name	Address	Lawfully Received Waste Types (of relevant to the ETP Works)	EPL
Simmons Civil Contracting Pty Ltd	15 Menangle Road, Menangle NSW & 45 Stevens Road, Menangle NSW	<ul style="list-style-type: none"> Excavated Natural Material Virgin Excavated Natural Material 	N/A*
SUEZ Kemps Creek Resource Recovery	1725 Elizabeth Drive, Kemps Creek, NSW 2178	<ul style="list-style-type: none"> General solid waste (non-putrescible) including waste which is subject to general or specific immobilisation approvals which have a restriction that they may only be disposed of at waste disposal facilities which have currently operating leachate collection systems Asbestos waste Waste tyres Restricted solid waste (including wastes assessed as Restricted Solids Wastes which are also subject to general or specific immobilisation approvals which have a restriction that they may only be disposed of at waste disposal facilities which have currently operating leachate collection systems) 	4068
SUEZ Lucas Heights Resource Recovery Park	New Illawarra Rd, Lucas Heights, NSW 2234	<ul style="list-style-type: none"> General solid waste (putrescible and non-putrescible) Asbestos waste Tyres (only where the tyre has a diameter of 1.2 metres or more and/or the tyre has been shredded or had its wall removed) Any waste that is below licensing thresholds in Schedule 1 of the POEO Act 	5065
Sunset Power International Pty Ltd	Vales Point Power Station and Coal Unloader, Vales Point Road, Mannering Park, NSW 2259	<ul style="list-style-type: none"> Sandstone (The Sydney Metro Harbour Tunnel Sandstone RRO/RRE) Organics Excavated Natural Material Virgin Excavated Natural Material 	761
Veolia Environmental Services	37 Grand Avenue, Camellia, NSW 2142	<ul style="list-style-type: none"> General solid waste (non-putrescible) 	4806
Veolia Environmental Services Clyde Transfer Terminal	Parramatta Road, Clyde, NSW 2142	<ul style="list-style-type: none"> General solid waste (putrescible) as defined in Schedule 1 of the POEO Act General solid waste (non-putrescible) as defined in Schedule 1 of the POEO Act 	11763
Veolia Environmental Services Horsley Park Waste Management Facility,	Wallgrove Road, Horsley Park, NSW 2175	<ul style="list-style-type: none"> Waste that is below licensing thresholds in Schedule 1 of the POEO Act Asbestos waste Waste tyres 	11584
Waste Science Pty Ltd Soil Recycling Facility	17 Turners Lane, Cootamundra, NSW	<ul style="list-style-type: none"> Contaminated soil treatment (heavy metals, total polycyclic aromatic hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPHs), Phenols, cresols and Benzene, Toluene, Ethylbenzene, Xylene (BTEX) and Cyanide) 	13413

Company Name	Address	Lawfully Received Waste Types (of relevant to the ETP Works)	EPL
Wallerawang Power Station	1 Main Street, Wallerawang NSW 2825	<ul style="list-style-type: none"> ▪ Excavated Natural Material ▪ Virgin Excavated Natural Material 	766

* Acceptance of ENM and VENM is subject to a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014

Appendix C Environmental Representative Endorsement

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

23 March 2023

REF: 201208 (G) WMP_Rev 0

Dear [REDACTED]

RE: Sydney Metro West Stage 2 – Eastern Tunnelling Package: Waste Management Sub-Plan (Rev 0)

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 of the Sydney Metro West – The Bays to Sydney CBD Approval (SSI 19238057) which was approved by the Department of Planning and Environment (DPE) on 24 August 2022:

- Sydney Metro West, Eastern Tunnelling Package Waste Management Sub-Plan Rev 0 dated 22 March 2023 (SMWSTETP-JCG-SWD-SW000-EM-PLN-002022).

It is noted that:

- The Waste Management Plan (WMP Rev 0) has been prepared by John Holland CPB Ghella JV (JCG) to address the requirements of Condition C1 of the Infrastructure Approval.
- Previous versions of the document have been reviewed and updated following comments from the ER.
- Sydney Metro has reviewed and commented on previous versions of the document.

Following the above reviews, the document is considered to contain information required by the Conditions of Approval (SSI 19238057) in relation to the Waste Management Sub-Plan.

As the approved Environmental Representative for the Sydney Metro West and as required by Conditions A32(d) and C8, on the basis of the above, the Waste Management Sub-Plan (Revision 0) is endorsed.

Yours sincerely

[REDACTED]

Environmental Representative – Sydney Metro West – Eastern Tunnelling Package
CC: [REDACTED].