



Australian Government

**Department of Infrastructure, Transport,
Regional Development, Communications and the Arts**

Cath Snelgrove
Director Environment
Sydney Metro
PO Box K659
Haymarket NSW 1240

Dear Ms Snelgrove

I write to notify you that, in accordance with Condition 39 of the Airport Plan, I have today approved the Construction (Rail) Plan and nine CEMPs submitted by Sydney Metro on 13 July 2023, namely:

- Noise and Vibration CEMP
- Biodiversity CEMP
- Soil and Water CEMP
- Traffic and Access CEMP
- Air Quality CEMP
- Aboriginal Cultural Heritage CEMP
- European and Other Heritage CEMP
- Waste and Resources CEMP
- Visual and Landscape CEMP

The requirements set out with the original notice of approval of the nine CEMPs continue to apply to the revised approved CEMPs. Sydney Metro is required:

- a. To take reasonable steps to ensure that each person involved in carrying out a development that is part of the Rail Development is informed of, and complies with, the CEMP (Condition 45(3) of the Airport Plan).
- b. To maintain accurate records demonstrating implementation of, and compliance with, the approved CEMPs, and other applicable conditions contained in Section 3.11.6 of the Airport Plan. Records must be made available to the Infrastructure Department on request (Condition 46 of the Airport Plan).
- c. To publish information in a report about its compliance with the conditions set out in section 3.11.6 of the Airport Plan (Rail Conditions) and its implementation of the approved CEMPs (Condition 47 of the Airport Plan).



Australian Government

Department of Infrastructure, Transport, Regional Development, Communications and the Arts

- d. To ensure that an independent audit of its compliance with the conditions set out in section 3.11.6 (except Condition 44), and condition 46 of the Airport Plan (Rail Conditions) is conducted, by an approved independent auditor, in respect of the 12-month period commencing with commencement of Rail Construction Works. The independent audit report must be submitted to the Infrastructure Department, with a copy provided to the Environment Department, within six months of the end of the period in respect of which the audit was conducted (Condition 48 of the Airport Plan).
- e. To ensure that any Rail Development is not carried out inconsistently with any of the approved Rail CEMPs (Condition 39 of the Airport Plan).
- f. Unless otherwise agreed by an Approver, to publish the approved plans on its website (Condition 50 of the Airport Plan).

If you have any queries in relation to this letter, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'David Jansen', written over a horizontal line.

David Jansen

Assistant Secretary

Western Sydney Airport Regulatory Policy Branch

14 August 2023



Sydney Metro Western Sydney Airport Waste and Resources Construction Environmental Management Plan

Sydney Metro Integrated Management System (IMS)

Applicable to:	Airport Rail Development
Document Owner:	Sydney Metro
System Owner:	-
Status:	Draft
Version:	Rev06
Date of issue:	13 July 2023
Review date:	-
© Sydney Metro 2023	

Table of contents

1.	Introduction	9
1.1.	Sydney Metro	9
1.2.	Sydney Metro Western Sydney Airport	11
1.3.	Background/ Context	11
1.4.	Document purpose	13
1.5.	Consistency	14
1.6.	Sydney Metro environmental management system overview	15
1.7.	Consultation requirements of this plan	16
1.8.	Certification and approval	16
1.9.	Distribution.....	16
2.	Scope of works	18
2.1.	Overall Project scope.....	18
2.2.	Preparatory activities	20
2.3.	Construction sites	20
3.	Objectives and targets	22
3.1.	Objectives.....	22
3.2.	Targets and Performance objectives.....	22
4.	Legal and other requirements	26
4.1.	Relevant legislation and guidelines	26
4.1.1.	Legislation	26
4.1.2.	Guidelines and standards	29
4.2.	Approvals and other specifications	30
4.3.	Airport Plan Conditions	30
4.4.	Environmental impact statement requirements	35
4.4.1.	WSA EIA requirements	35
4.4.2.	SM-WSA EIA requirements.....	35
5.	Waste and resources aspects and impacts.....	41
5.1.	Construction waste streams and resources consumptions.....	41
5.2.	Spoil volumes	43
5.3.	Impacts.....	43
5.4.	Risk assessment.....	44
6.	Waste and resources management.....	54
6.1.	Classification of waste streams.....	54
6.2.	Waste management.....	55
6.2.1.	Spoil management.....	56
6.2.2.	Management of other construction wastes.....	57
6.2.3.	Reuse, Recovery and Recycling	57
6.3.	Waste handling and storage	58
6.4.	Waste disposal	59

6.5.	Energy conservation	59
6.6.	Contaminated materials	60
6.7.	Imported material management	60
6.8.	Waste management hierarchy	62
6.9.	Waste exemptions	63
6.10.	Contamination	63
7.	Environmental Control Measures.....	64
8.	Environmental roles and responsibilities.....	75
9.	Environmental inspection, monitoring, auditing and reporting.....	77
9.1.	Environmental inspections	77
9.1.1.	Sydney Metro environmental inspections.....	77
9.1.2.	Contractor environmental inspections	77
9.1.3.	Pre-start inspection	78
9.2.	Waste and resources monitoring	78
9.3.	Environmental auditing	79
9.4.	Environmental reporting.....	79
9.5.	Review of approved plans.....	80
9.6.	Environmental incidents and complaints management.....	80
10.	Competence training and awareness.....	82
	Appendix A – Waste management procedure.....	83
	Appendix B – Example waste management register	86
	Appendix C – Illegal dumping prevention strategy	88

Figures

Figure 1-1	Sydney Metro Western Sydney Airport alignment	10
Figure 1-2	SM-WSA Environmental Management System and CEMP context.....	16
Figure 2-1	SM-WSA construction footprint and key construction sites.....	19
Figure 2-2	Indicative main construction program for the project	20
Figure 2-3	Indicative construction activities at proposed action construction sites	21
Figure 6-1	Works and responsibilities for imported materials	62
Figure 6-1	Waste Management Hierarchy.....	63

Tables

Table 1-1	Waste and Resources CEMP relationship with other CEMP documentation	13
Table 3-1	Construction waste stream targets for the WSA	23
Table 4-1	Principal legislation and relevance within CEMP	26
Table 4-2	Relevant guidelines and standards.....	29
Table 4-3	Conditions of approval relevant to waste and resources management	31
Table 4-4	Summary of SM WSA EIA waste and resources requirements applicable to this CEMP	36
Table 5-1	Indicative types of waste generated during construction of the proposed action.....	42
Table 5-2	Indicative Railway Development quantity of resource requirements	42



Table 5-3 Indicative Railway Development cut and fill volumes.....	43
Table 5-4 Risk assessment.....	45
Table 6-1 Waste Classification process (EPA, 2014)	54
Table 6-2 Development classification of potential waste streams.....	55
Table 7-1 Waste and resources management and mitigation measures	65
Table 8-1 Roles and responsibilities for the management of asbestos	75
Table 9-1 Waste and resources monitoring requirements	78
Table 9-2 Waste and resources reporting	79

Document Control

Title	Sydney Metro Western Sydney Airport Waste and Resources Construction Environmental Management Plan
Document No/Ref	SM-21-00033426

Version Control

Revision	Date	Description
01	18 June 2021	Draft for Tender
02	17 August 2021	Draft for WSA review
03	1 November 2021	Issue for DITRDC
04	24 January 2022	Final for DITRDC
05	18 February 2022	Final
06	11 July 2023	Draft for WSA Review
06	13 July 2023	Issued for DITRDC

Terms and Definitions

Terms	Definitions
The Act	Airports Act 1996 (Cth) (Airports Act)
AEPR	Airports (Environment Protection) Regulations 1997
AEW	Advanced and Enabling Works
Airport	The airport located at the Airport Site. Note: The Airport is referred to in the Act as Sydney West Airport and is commonly known as Western Sydney International (Nancy-Bird Walton) Airport
Airport Lease	An airport lease for the Airport granted under section 13 of the Act
Airport Lessee Company	The company that is granted a lease over the Airport Site
Airport Plan	Means the September 2021 approved Airport Plan which includes the Variation for the SM-WSA Rail Development on the WSI airport and which otherwise means airport plan for the Airport Site as determined by the Infrastructure Minister under section 96B of the Airports Act in December 2016 as varied from time to time in accordance with the Airports Act.
Airport Site	The site for Sydney West Airport as defined by the Airports Act.
CCS	Community Communication Strategy
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CIZ	Construction Impact Zone
CNVIS	Construction Noise and Vibration Impact Statement
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
CTMF	Construction Traffic Management Framework
Cwth	Commonwealth
DAWE	Department of Agriculture, Water and the Environment (Cwth)
DECC	NSW Department of Environment and Climate Change
DITRDC	Department of Infrastructure, Transport, Regional Development and Communications
DPIE	Department of Planning, Industry and Environment
ECM	Environmental Control Map
EESG	NSW Environment, Energy and Science Group (formerly OEH)
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
EP&A Act	Environment Planning and Assessment Act 1979 (NSW)
EPA	NSW Environment Protection Authority
EPBC Act	Environment Protection and Conservation Act 1999 (Cwth)
EPL	Environment Protection Licence under the POEO Act
EPO	Environmental Performance Outcome
ER	Environmental Representative

Terms	Definitions
EWMS	Environmental Works Method Statement
E&SMS	Environment and Sustainability Management System
IMS	Sydney Metro Integrated Management System
Infrastructure Department	The department responsible for administering the Airports Act, currently the Australian Government Department of Infrastructure, Transport Regional Development and Communications (DITRDC)
ISO	International Standardization Organisation
KPI	Key Performance Indicator
OCCS	Overarching Community Communication Strategy
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
Preparatory Activities	<p>Preparatory Activities mean the following:</p> <ul style="list-style-type: none"> a. day to day site and property management activities; b. site investigations, surveys (including dilapidation surveys), monitoring, and related works (e.g. geotechnical or other investigative drilling, excavation, or salvage); c. establishing construction work sites, site offices, plant and equipment, and related site mobilisation activities (including access points, access tracks and other minor access works, and safety and security measures such as fencing but excluding bulk earthworks); d. enabling preparatory activities such as: <ul style="list-style-type: none"> i. demolition or relocation of existing structures (including buildings, services, utilities and roads); ii. the disinterment of human remains located in grave sites identified in the European and other heritage technical report in volume 4 of the EIS; and iii. application of environmental impact mitigation measures; and e. any other activities which an Approver determines are Preparatory Activities for this definition
Project	The Sydney Metro Western Sydney Airport Construction and operation as approved by the EPBC and Airport Plan as the Action or Rail Development within the Rail Construction Impact Zone on-airport, being the WSI airport, in agreeance with the Deed between SM-WSA and WSA Co.
Proponent	The person or organisation identified as the proponent in Schedule 1 of the planning approval. In this case Sydney Metro Authority
RCIZ	Rail Construction Impact Zone
REMM	Revised Environmental Mitigation Measure
RMS	NSW Roads and Maritime Services
SBT	Station Boxes and Tunnelling Works
SCAW	Surface and Civil Alignment Works
SCO	Sydney Coordination Office
SEMF	Site Environmental Management Framework
Site Occupier	<p>Site Occupier means:</p> <ul style="list-style-type: none"> (a) before an Airport Lease is granted – the Commonwealth; and <p>Note: Where a condition specifies an activity to be carried out by the Commonwealth, the Infrastructure Department will be responsible for carrying out the activity on behalf of the Commonwealth (unless stated otherwise).</p>

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Terms	Definitions
	(b) after an Airport Lease is granted – the ALC.
SM	Sydney Metro
SM-WSA	Sydney Metro - Western Sydney Airport
SM-WSA EIA	SM-WSA EIS Appendix J: EPBC Act Draft Environmental Impact Assessment of On-airport proposed action (EPBC 2019/8541)
SMP	Sustainability Management Plan
SSI	State Significant Infrastructure
SSTOM	Stations, Systems, Trains, Operations and Maintenance
SWMS	Safe Works Method Statement
TfNSW	Transport for New South Wales
VENM	Virgin Excavated Natural Material
WRCEMP	Waste and Resources Construction Environmental Management Plan
WSA	Western Sydney Airport Co (ACN 618 989 272), the entity responsible for constructing and operating the Airport in accordance with the Airport Plan. For the purposes of the Airports Act 1996 (Cth), WSA is the “airport-lessee company” for WSI
WSI airport	Western Sydney International (Nancy-Bird Walton) (WSI) Airport

1. Introduction

1.1. Sydney Metro

Sydney Metro is Australia's biggest public transport project. Services between Rouse Hill and Chatswood started in May 2019 on the new stand-alone metro railway system. The Sydney Metro network and program of work includes the Metro North West Line (which opened in May 2019), Sydney Metro City & Southwest (which is currently under construction and due to open in 2024), Sydney Metro West (with construction due to start in 2020) and Sydney Metro – Western Sydney Airport (SM-WSA) (Project). Potential future extensions to Schofields/Tallawong in Rouse Hill in the north and to Macarthur in the south are under consideration and are being safeguarded but do not form part of the Project.

The Project is shown in Figure 1-1 and would become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) (WSI airport) and the growing region.

The Project is being delivered under the Western Sydney City Deal, a partnership between the NSW Government, Australian Government and eight councils of the Western Parkland City. The NSW and Australian Governments have a shared objective of having the rail line operational when WSI airport is planned to open for passenger services.

The new railway line will service Greater Western Sydney and the new WSI airport. It will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The Project will link residential areas with job hubs from St Marys through to the new airport and the Western Sydney Aerotropolis.

It will provide a major economic stimulus for Western Sydney, supporting more than 14,000 jobs during construction for the NSW and national economies, including more than 250 new apprenticeships. The project comprises components that are located outside WSI airport (off-airport) and components that are located within WSI airport (on-airport).

The approval process for the off-airport and on-airport components of the project are different and are outlined below. One outcome of the on-airport approval is that a condition of working on the WSI airport site will require the Project to produce and have approved, a series of Construction Environmental Management Plans (CEMP) prior to the SM-WSA commencing construction on-airport. This Waste and Resources CEMP (WRCEMP) is one of a series of nine CEMPs for the Project which will be consistent with the WSI airport CEMPs and address all on-airport environmental components of the Project.

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)

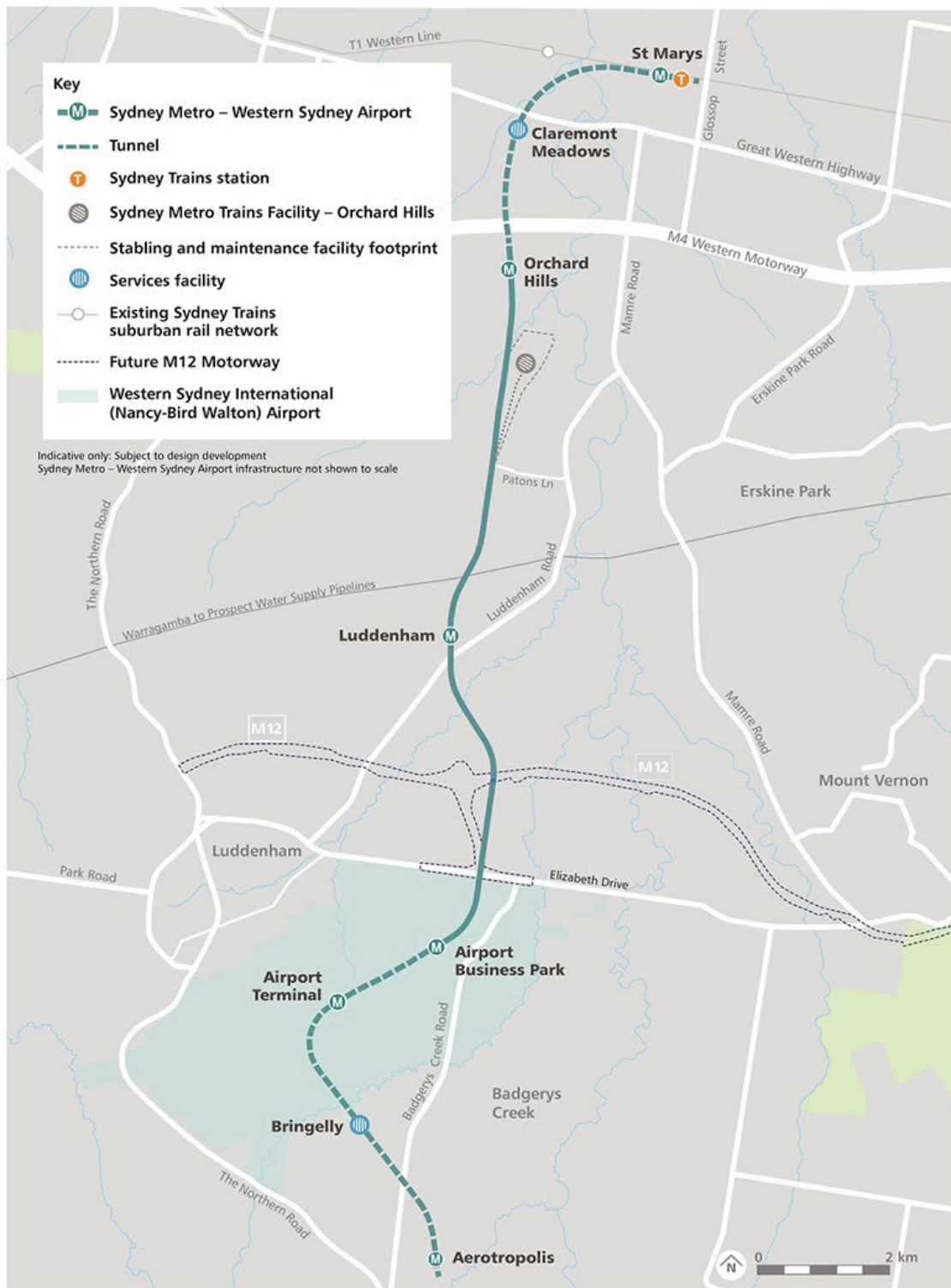


Figure 1-1 Sydney Metro Western Sydney Airport alignment

1.2. Sydney Metro Western Sydney Airport

The Western Sydney Airport Plan sets out the vision for the development and operation of Western Sydney International and provides authorisation for Stage 1 of the airport. The construction of Stage 1 of the airport is expected to be completed to enable operations to commence in 2026 and will comprise a single runway, a terminal and other relevant facilities to accommodate around 10 million passengers annually as well as air freight traffic. Interface with Western Sydney International Rail access to Western Sydney International Airport would contribute to the success of the airport and the Western Parkland City, as it would facilitate passengers' and workers' journeys, reduce road congestion and support the economic viability of the airport.

The Project is proposed to enter the WSI airport site from the north and would include the Airport Business Park Station and the Airport Terminal Station. The rail line would travel through the airport, before exiting the airport site beneath Badgerys Creek in the southeast. Sydney Metro has been, and will continue, working closely with WSI airport to ensure design development and construction planning of the Project is coordinated with the construction and operation of WSI airport.

1.3. Background/ Context

The Airport Plan for the WSI airport was determined in December 2016, following preparation and exhibition of an Environmental Impact Statement (EIS), and incorporates the conditions specified by the Commonwealth Environment Minister. The delivery of the Project on the WSI airport site has been authorised through a variation of the Airport Plan (September 2021) by the Commonwealth Infrastructure Minister, taking into account advice from the Commonwealth Environment Minister.

In September 2019, the Commonwealth Infrastructure Minister referred the On-airport components of the Project to the Commonwealth Environment Minister. In December 2019, the delegate of the Commonwealth Environment Minister decided that advice is required under section 160 of the Environment Protection and Biodiversity Conservation (EPBC) Act as the proposed action is likely to have a significant impact on the environment and will require further assessment (EPBC 2019/8541).

The following documents were prepared as part of the SM-WSA EIS, to respond to the Request for Further Information, and were published, in accordance with the Direction to Publish, from 21 October to 18 November 2020:

SM-WSA EPBC Act Final Environmental Impact Assessment of on-airport proposed action (EPBC 2019/8541)

- SM-WSA EIS Technical Paper 3: Biodiversity Development Assessment Report
- SM-WSA EIS Appendix F: Construction Environmental Management Framework.
- An EPBC Act Final Environmental Impact Assessment of on-airport proposed action.

(EPBC 2019/8541) and an updated Biodiversity Development Assessment Report were approved by the Commonwealth Department of Agriculture, Water and the Environment (DAWE) and formed part of the conditions of the Airport Plan which was lodged with the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) and approved by the Commonwealth Environment Minister on 15 September 2021.

The Commonwealth Infrastructure Minister decided to vary the Airport Plan on September 15 2021 taking into account advice received from the Commonwealth Environment Minister.

This Sydney Metro WRCEMP (this Plan) has been prepared to satisfy the requirements of the Waste and Resource CEMP set out in the Conditions for the Project of the Western Sydney International (Nancy-Bird Walton) (WSI) Airport detailed in Section 3.11.6 of the Airport Plan.

Condition 39 (2(h)) of the Airport Plan requires that a Sydney Metro Waste and Resource CEMP be approved under the Airport Plan prior to the commencement of the Project.

It provides the management approach and requirements for managing waste and resource related matters during construction of the Project. This Plan forms one of nine CEMPs which are collectively covered by the Sydney Metro Construction Environmental Management Framework (SM CEMF). To ensure the environmental resources, responsibilities and management measures are implemented during the construction activities, the SM CEMF and WSA WR CEMP will be included within the SM-WSA Construction (Rail) Plan.

The implementation of the Sydney Metro Construction (Rail) Plan and the CEMF are aligned with Project level management plans including the Community and Stakeholder Engagement Plan and the Sustainability Plan as illustrated in Figure 1-2.

The Sydney Metro Construction (Rail) Plan, including the SM CEMF and nine CEMPs provide the environmental management approach and requirements and therefore should not be read in isolation to each other due to interconnecting management outcomes and objectives. Specifically, for the WRCEMP, it is considered that the following management plan linkages can be made:

- Biodiversity CEMP – removal / stripping of topsoils and vegetation will require specific management and disposal of identified noxious weed species. This Waste and Resources CEMP provides mitigation measures and controls with regards to the management and disposal of green waste, with a cross-reference provided to the Biodiversity CEMP for the specific management of noxious weed species.
- Soil and Water CEMP – soil and water quality have the potential to be impacted if waste and resource management is ineffective, specifically with regard to waste tracking, contamination management and the potential associated water quality impacts from site run-off.
- Visual and landscape CEMP – management of waste (and to a lesser extent resources) is a direct link to the management of visual and landscape features with regards to the general visual amenity and associated impacts if not managed correctly. Furthermore, it is noted that one of the proposed mitigation measures to be implemented as part of the Illegal Dumping Prevention Strategy (Appendix C) is the use of lighting as a deterrent. Any use of lighting should be undertaken in a manner so as not to impact the visual amenity of potentially sensitive receptors and should be managed in accordance with the Visual and Landscape CEMP.
- Community communications strategy – it is anticipated that the surrounding community and stakeholders will be sensitive to waste generation, resource management and associated impacts, including the impacts of traffic generation / management and odours.
- Sustainability Plan – maximising the beneficial reuse of potential waste products and minimisation of waste disposal off-site and resource usage are key drivers for both the sustainability and the waste and resource management objectives and targets. Design for

the Airport are based on designing out waste and optimising the in-built efficiency of the building's structure, materials and services.

Where relevant, linkages to other CEMPs and management objectives have been included in the risk assessment and the environmental control measures, Section 5.3 and Section 7 respectively. Table 1-1 highlights relationships and linkages of this Waste and Resources CEMP with other CEMPs and management plans, including key cross-referencing to Airport Plan and EIS requirements.

Table 1-1 Waste and Resources CEMP relationship with other CEMP documentation

CEMP	Airport Plan (3.11.6)	SM - WSA EIA Table 8-1: On-airport environmental management framework requirements	SM - WSA EIA Table 8-3: Mitigation measures
Aboriginal Cultural heritage	39 2(f)	CEMF5	AH8
Air quality	39 2(e)	CEMF10	AQ1-3
Biodiversity	39 2(b)	CEMF6	FF1, 3, 5, 6, 9-11 HR2
Community and stakeholder engagement plan	40	N/A	N/A
European and other heritage	39 2(g)	CEMF5	NAH9
Noise and vibration	39 2(a)	CEMF4	NV1
Soil and water	39 2(c)	CEMF3 CEMF8	HYD1 WQ1-2 GW4-6 SC1,5-9, 11 HR1,3
Sustainability plan	41	N/A	SUS1-3 GHG1
Traffic and access	39 2(d)	CTMF	T1,3 ,4,6
Visual landscape	39 2(i)	CEMF7	LV1-3
Waste and resources	39 2(h)	CEMF9 CEMF11	WR1-3

Key

Moderate to high relevance to this CEMP

Some relevance to this CEMP

1.4. Document purpose

The purpose of this Plan is to provide the foundation for the management of waste and resources impacts in accordance with best practice and legal requirements (including environmental

mitigation measures, controls, monitoring and reporting) during the construction phase of the Project based on the assessment undertaken as part of the SM-WSA EIA.

This Plan details the waste and resources management requirements that must be satisfied in order to demonstrate compliance with the conditions of approval as set out in Condition 39 (2) of Section 3.11.6 of the Airport Plan for the construction of the Project.

Legal and other requirements are identified and maintained in a register within the CEMF (refer CEMF Chapter 2). Mitigation measures (specific to waste and resources) required to satisfy these requirements are derived from the EIS and through risk assessment processes (refer to Section 5.3) and included within this CEMP (refer Section 7).

Implementation of these measures is ensured through monitoring, training and competence, inspection, audit and reporting actions detailed in Sections 9 and 10, with the responsibilities for implementation identified in Section 8. Continual improvement processes in relation to compliance with regulatory requirements and the achievement of better environmental management outcomes are detailed in the CEMP Section 3.18.

In summary, this plan sets out to achieve the following:

- Provision of details for the management and mitigation measures to be implemented, including timing and responsibilities;
- Ensuring the commitments of the Conditions (as set out in the Airport Plan) and regulatory requirements are met and satisfied by both Sydney Metro and contractors;
- Provision of process for monitoring implementation, reporting, and auditing of waste and resources related management and compliance related issues;
- Commitment to meeting the requirements of AS/NZS ISO 14001: 2016 Environmental Management Systems including the need for continual improvement;
- Provision of a process to be implemented for the management of complaints, for stakeholder engagement, and for the management of emerging environmental issues as they arise; and
- Provision of a system including procedures, plans and documentation for implementation by Sydney Metro personnel and contractors to enable Project completion in accordance with the environmental requirements.

Effective implementation of this plan will assist Sydney Metro and relevant contractors to achieve compliance with necessary environmental regulatory and policy requirements in a systematic manner with an outcome of continual environmental management performance.

1.5. Consistency

A major requirement of these plans is for Sydney Metro to maintain consistency with the already approved WSA CEMPs. This consistency requirement results in SM not needing to undertake consultation as is the requirement of WSA for their plans.

SM approached the development of these plans to meet the requirements of the Airport Plan, ensure compliance with Tables 8-1, 8-2 and 8-3 of the EPBC 2019/8541 and remain consistent with the WSA CEMPs.

SM have achieved this consistency through the following:

- Consistent format
- Consistent language
- Consistent existing environment with the addition of the SM – WSA RCIZ existing environment
- Consistent aspects and impacts but removing those not applicable and adding specific SM – WSA aspects and impacts
- Consistent mitigation measures but removing those not applicable and adding SM – WSA specific mitigation measures
- Consistent monitoring with the addition of any SM – WSA specific monitoring requirements
- Consistent auditing and reporting
- References to SEMF replaced with consistent CEMF requirements.

1.6. Sydney Metro environmental management system overview

Sydney Metro operates in general accordance with AS/NZS ISO 14001 – Environmental management systems. A copy of the Sydney Metro environmental policy is provided in Appendix A of the CEMF.

The Railway Development will be undertaken in accordance with the Construction Plan including the CEMF and the associated CEMPs (including this Plan).

The CEMF forms an appendix to the Construction Plan and is the overarching environmental plan for the implementation of the nine CEMPs. It provides a structured and systematic approach to environmental management and provides an expectation and guidance with regards to environmental management for the overall construction of the Airport Railway Development.

The structure of the environmental management system for the Project is shown in Figure 1-2.

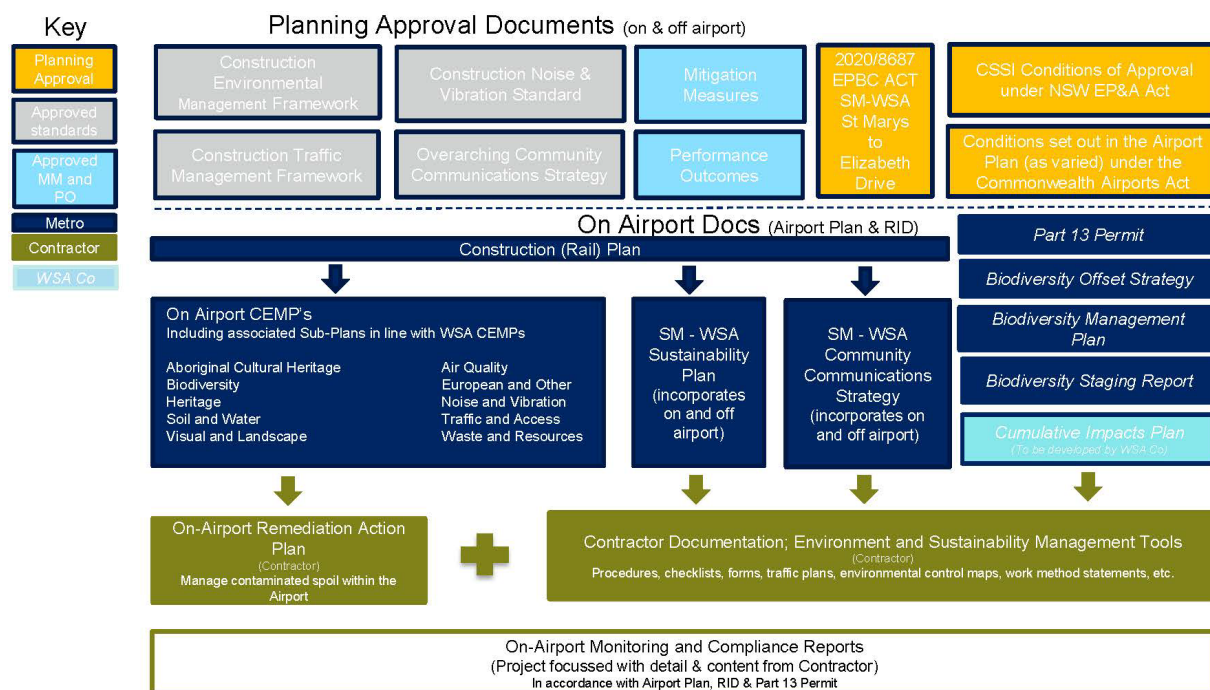


Figure 1-2 SM-WSA Environmental Management System and CEMP context

1.7. Consultation requirements of this plan

There is no direct consultation condition requirement for the Railway development, under the Airport Variation Plan. No consultation has yet been completed during the development of this CEMP. However, WSA completed consultation for the development of their WSA WRCEMP (Revision 0) and subsequently during the review and update of Revision 3 of their document (Sections 1.7 and 1.8). SM-WSA will continue to consult with WSA in the development of these plans and as required with relevant stakeholders prior to seeking approval for these plans. .

WSA consultation will continue with agencies, councils and other relevant stakeholders throughout the Project where there is a change to a WSA CEMP. Where the outcomes of this consultation impact on the scope of the Project, to maintain consistency, the change will be documented in subsequent revisions of the relevant CEMPs, with details of such consultation included in the applicable document.

1.8. Certification and approval

This WR CEMP has been reviewed and approved for issue by the SM-WSA Environment Manager prior to submission to the Department of Infrastructure, Transport, Regional Development and Communications (Infrastructure Department.).

1.9. Distribution

All Sydney Metro personnel and contractors will have access to this WRCEMP via the project document control management system. Unless otherwise agreed by the Approver, the Approved Plan must be published on Sydney Metro’s website within one month of being approved and be



available until the end of the Construction Period. An electronic copy can be found on the Project website.

This document is uncontrolled when printed. One controlled hard copy will be maintained by the quality manager at the project office.

2. Scope of works

2.1. Overall Project scope

The Sydney Metro Construction Plan details the construction staging of the Airport Railway Development.

The delivery of the Railway Development will be through a packaging strategy with a wide variety of package sizes, risk profiles and contracting entities. Each package will have different levels of environmental risk and environmental obligations, depending on the scope of works, location of works and sensitivity of the receiving environment and cultural heritage issues and relevant statutory requirements and obligations.

The packages have been divided into:

- AEW – Advanced and Enabling Works;
- SCAW – Surface and Civil Alignment Works;
- SBT – Station Boxes and Tunnelling Works;
- SSTOM – Stations, Systems, Trains, Operations and Maintenance.

The On-Airport Railway Development of the Project comprises the following key features as described in the Sydney Metro Construction (Rail) Plan (which is consistent with the Airport Plan and EIA Chapter 4):

- Around two kilometres of surface rail alignment within Western Sydney International (SCAW);
- Around 3.3 kilometres of twin rail tunnels (including tunnel portal) within Western Sydney International (SBT);
- Around three kilometres of twin rail tunnels between Western Sydney International and the Aerotropolis Station (SBT);
- Two new metro stations, Airport Business Park Station and Airport Terminal Station (STOM);
- All operational systems and infrastructure (SSTOM);
- A rail segment factory comprising a concrete batch plant and stockpile area (SBT, SCAW and SSTOM); and
- Spoil stockpile areas (SBT and SCAW).

Details of the Project construction activities, staging and programming including the phases of works is described in the Sydney Metro Construction (Rail) Plan (2021) as required by the Airport Plan Variation.

The proposed construction activities that would be undertaken for the Project include:

- preparatory activities (AEW);
- main construction works including;
 - tunnelling and associated works (SBT);
 - corridor and associated works (SCAW);

- stations and associated works (SSTOM);
- rail systems fitout (SSTOM);
- activities required for tunnel and viaduct segment manufacture and storage and temporary haulage roads (SBT and SCAW); and
- finishing works and testing and commissioning (FAW).

The Project would also include the potential permanent placement of spoil at two sites to support the development of future stages of the airport.

The Rail Construction Impact Zone (CIZ) including the construction footprint and key construction sites proposed for use during the construction of the Project are shown in Figure 2-1. This figure also indicates the Western Sydney International Stage 1 CIZ and the Environmental Conservation Zone within Western Sydney International.

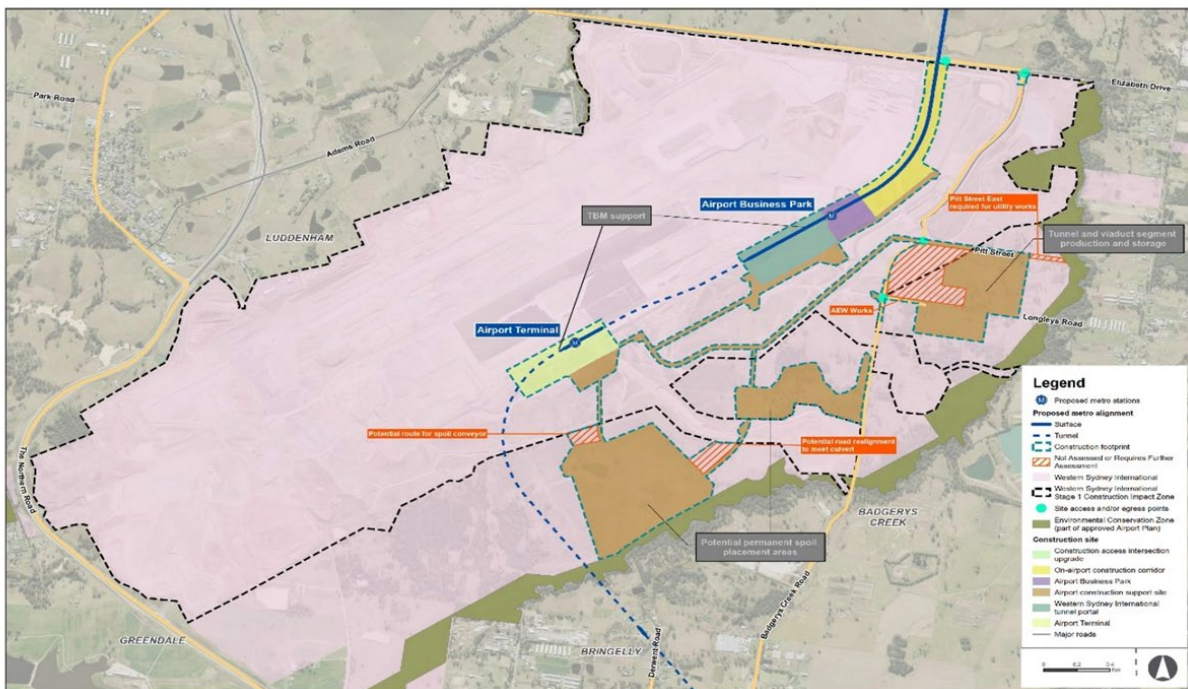


Figure 2-1 SM-WSA construction footprint and key construction sites

It is anticipated that the Project construction works would commence in 2021 and take about five years to complete, subject to planning approval. The Operational Sydney Metro opening is anticipated to align with the opening of passenger services for Western Sydney International in 2026. An indicative main construction program for the project is shown in Figure 2-2.



Construction Activities	Overview of Program																											
	Start	Finish	2021				2022				2023				2024				2025				2026					
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Enabling Work	25-Jan-21	19-Sep-22	█																									
SBT Enabling Works	27-Apr-22	23-Jan-23					█																					
SBT Station & Tunnel Portal Excavation	23-Jun-22	17-Jun-23					█																					
SBT Tunnel Construction	20-Apr-23	20-Dec-24									█																	
SCAW Surface work	14-Feb-23	19-Jun-24									█																	
SCAW Station works	14-Feb-23	13-Jul-23									█																	
SSTOM Station Construction and fitout	17-Jul-23	29-Aug-25													█													
SSTOM Rail System fitout	18-Jun-24	3-Oct-25													█													
SSTOM Systems Testing and commissioning (incl integrated)	31-Jan-25	15-Dec-26																	█									

Figure 2-2 Indicative main construction program for the project

2.2. Preparatory activities

Preparatory activities for the proposed action are required to establish key construction sites and facilitate construction activities.

The majority of the preparatory activities are expected to commence in advance of main construction works, such as tunnelling and station excavation, while some preparatory activities would continue concurrently with the main construction works. Preparatory activities would include:

- detailed site investigations and subsequent clearance works;
- provision of construction haul roads;
- relocating, adjusting and protecting utilities and services affected by the proposed action;
- supplying power, water and other utilities to construction sites and other areas within the construction footprint;
- vegetation clearance (as required); and
- establishment of construction sites.

2.3. Construction sites

The Project’s construction activities will be carried out within and to the south-west of the WSI airport Stage 1 CIZ. The indicative works at proposed construction sites required for the construction of the Project are shown in Figure 2-3. The use of these sites will be confirmed by the construction contractor(s) (when appointed) in consultation with Western Sydney Airport.



Location	Preparatory activities	TBM launch	TBM support	TBM retrieval	Spoil handling and removal	Roadheader launch/support	Ancillary facility construction	Stabling and maintenance facility construction	Major earthworks	Bridge and viaduct construction	General civil works	Concrete batch plant	Equipment and material laydown	Rail system fitout	Site offices and worker amenities	Water treatment plant	Potential acoustic shed	Vehicle parking	
On-airport																			
On-airport construction corridor	✓				✓		✓		✓	✓	✓		✓	✓	✓				✓
Airport Business Park	✓				✓		✓		✓		✓		✓	✓	✓				✓
Western Sydney International tunnel portal	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Airport Terminal	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Airport construction support site	✓				✓				✓		✓	✓	✓	✓	✓				✓

Note: TBM retrieval would occur outside the Project at the Aerotropolis Station site

Figure 2-3 Indicative construction activities at proposed action construction sites

3. Objectives and targets

3.1. Objectives

The key objective of this Waste and Resources CEMP is to ensure that impacts from waste and resources are managed by maximising waste avoidance, and active reduction, reuse and recycling within the scope permitted by the planning approval.

To achieve this objective, the following will be undertaken:

- Minimise waste production throughout the project life-cycle and ensure that all waste material generated on site is handled in a responsible manner, and in accordance with legislative requirements;
- Minimise spoil production through efficient design and excavation methodology and ensuring any spoil management is done through the spoil management hierarchy;
- Maximise efficient use of resources including minimising resource use and maximising recovery and recycling;
- Prevent pollution associated with the management and disposal of waste material;
- Minimise the risk of illegal dumping on the Airport Site;
- Increase employee and subcontractor awareness of their obligations about waste management and recycling opportunities;
- Ensure the implementation of appropriate environmental controls and procedures; and
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in section 4 of this plan
- Consistent with the Western Sydney Airport Waste and Resources Construction Environmental Management Plan, waste management strategies for on-airport works will be aligned with the NSW Waste Avoidance and Resource Recovery Strategy under the NSW Waste Avoidance and Resource Recovery Act 2001; and
- Detail all the waste management objectives and be consistent with the WSA Waste and Resources CEMP including all appendices to the CEMP.

3.2. Targets and Performance objectives

Targets and performance criteria have been established for the management of waste and resources during the construction phase of the works, which have been, in part, derived from the performance criteria identified in the WSA WRCEMP and SM-WSA CEMF as presented in Table 3-1 and include:

- Compliance with this approved Waste and Resources CEMP;
- Compliance with the approved Sustainability Plan;
- Waste management practices do not place unnecessary burden on local and regional waste services;
- Effective application of the waste management hierarchy (refer to Section 6.8) across construction activities;



- Dispose of waste materials in accordance with relevant legislative requirements (NSW EPA Waste Classification Guidelines, 2014); and
- Achieve the waste re-use / recycling targets in Table 3-1.

Table 3-1 Construction waste stream targets for the WSA

Construction activity	Waste type	Waste classification	Disposal method	Reuse / recycle target
Earthworks	Surplus spoil	VENM / ENM	Re-use on site	100%
			Off-site re-use	
	Contaminated soil	Various - As classified under NSW EPA 2014 Waste Classification Guidelines and listed in Table 25-2 of EIS	Onsite remediation to achieve re-use on site or reduced waste classification	0%
			Offsite disposal to licensed waste facility	
Clearing and grubbing	Vegetation	Greenwaste / General solid waste (putrescible)	Use on site in erosion and sediment control and landscaping	100%
			Offsite use of merchant timber	
			Offsite disposal in accordance with the EPA Raw Mulch Exemption / Order 2016	
			Fauna habitat restoration on site or at an approved location off-site	
Demolition	Concrete and brick	General solid waste (non-putrescible)	Crushed and re-used on site where practical (for road stabilisation etc.)	95%
			Disposal to concrete recycler	
	Steel	General solid waste (non-putrescible)	Disposal to steel / metal recycler	
Building construction material	Surplus construction materials (steel, PVC, Wood etc.)	General solid waste (non-putrescible)	Disposal to recycling facility	95%
Dewatering	Waste water	Liquid waste	Use on site for dust mitigation and soil conditioning	Maximised
			Discharge off site in accordance with Project approvals	100%
Maintenance	Liquid waste, used oils, lubes etc.	Liquid waste	Disposal off-site to a licensed recycling facility; liquid waste that cannot be recycled will be disposed to landfill	80%
Administration	Office Waste	General solid waste (non-putrescible)	Paper, cardboard, comingled, organics and soft plastics	60%





The above performance criteria in Table 3-1 have been set to provide a benchmark performance objective to which Sydney Metro will endeavour to achieve. Failure to achieve the targets will not be considered a non-conformance, however, will prompt internal review of environmental management and with the respective waste management facilities (as detailed further in environmental control measure WR_25 in Table 7-1) and assessment of potential improvement opportunities.

4. Legal and other requirements

Relevant environmental legislation and other requirements are identified below

4.1. Relevant legislation and guidelines

As the Western Sydney Airport is to be developed under the Airport Plan determined under the Airports Act, some state laws will not be applicable to the Project (s112 of this Act). Where state law is applicable, this plan will set out the relevant applicable state legislation and requirements and demonstrate how compliance with those laws including obtaining relevant permits will be achieved. Where state laws are not applicable, there may nonetheless be a requirement to have regard to those laws, for example, through mitigation measures to be incorporated in CEMPs to satisfy conditions under the Airport Plan.

4.1.1. Legislation

Legislation and regulations and their relevance to waste and resources management and this plan are summarised in Table 4-1. NSW legislative requirements will be applicable to any waste leaving the Airport Site.

Table 4-1 Principal legislation and relevance within CEMP

Legislation or regulation	Relevance	CEMP compliance provisions
Commonwealth		
Airports Act 1996 (Airports Act)	The Act and AEPRs set out the framework for the regulation and management of activities at airports that could have potential to cause environmental harm. This includes offences related to environmental harm, environmental management standards, monitoring and incident response requirements. The Airport Plan prepared under the Act covers several environmental matters and details specific measures to be carried out for the purposes of preventing, controlling or reducing the environmental impact associated with the airport. Criminal offences are applicable if these measures are not complied with.	<p>This CEMP forms part of the overall Sydney Metro environmental management system which has as a target, full compliance with the Airport Plan. Relevant mechanisms within this CEMP that will contribute to this include but are not limited to:</p> <ul style="list-style-type: none"> • Section 3.1 – Objectives • Section 4.3 – Airport Plan Conditions • Section 4.4 – Environmental Impact Statement Requirements • Section 5.2 – Risk Assessment • Section 7 – Environmental Control Measures • Section 8 – Environmental Roles and Responsibilities • Section 9 – Environmental Inspection, Monitoring, Auditing and reporting • Section 9.6 – Environmental incidents, and complaints management • Section 9.5 – Review of approved plans

Legislation or regulation	Relevance	CEMP compliance provisions
Airports (Environment Protection) Regulations 1997 (AEPR)	<p>Imposes a general duty to prevent or minimise environmental pollution once an airport lease is granted. Promotes improved environmental management practices at airports.</p> <p>Includes provisions setting out pollution definitions in addition to monitoring and reporting requirements specific to waste.</p> <p>In the absence of other specific waste regulations, waste is managed by the relevant NEPMs and relevant state laws.</p>	Refer to commentary on Airport Plan above
Airports (Building Control) Regulations 1996	Any conditions imposed on the ABC and ALC consent are to inform the relevant CEMPs (where appropriate)	This document
Hazardous Waste (Regulation of Imports and Exports) Act 1989	Implements Australian Government obligations under the Basel Convention and prohibits the export and import of hazardous waste without a permit. A permit may be obtained to export hazardous waste where it can be shown that the waste would be managed in an environmentally sound manner in the country of import.	Refer to Section 5 with regards to the management of waste materials going off site and the requirements for materials being imported onto site.
National Greenhouse and Energy Reporting Act 2007	An airport lessee company is required to register and report its operational greenhouse gas emissions attributable to the activities over which it has operational control. This is because it is expected that its emissions will exceed relevant thresholds. This may also apply to the construction contractor and other contractors or users of the airport (e.g. airlines).	The requirements of this Act were considered in the development of the Sydney Metro Sustainability Plan.
Work Health and Safety Act 2011 (Commonwealth and NSW)	Imposes specific requirements in relation to hazardous materials including asbestos that would be applicable to Sydney Metro and contractors	Refer to Section 5 regarding the management of asbestos waste.
Recycling and Waste Reduction Act 2020	Ensures only waste glass, plastic, tyres and paper that have been processed to acceptable level can be exported. It is aimed at preventing these materials from being dumped overseas, reducing harm to the environment and human health.	Refer to Section 6.2.3 with regards to the management of waste materials going off site
NSW		
Biosecurity Act 2015 (Biosecurity Act)	The Biosecurity Act outlines biosecurity risks and impacts including impacts associated with weeds. The Act introduces the concept of Priority Weeds that should be prevented, managed, controlled or eradicated within regions	Refer to mitigation measures and controls detailed in Section 6 with regards to management of weeds associated with waste management.
Contaminated Land Management Act 1997	Provides for the investigation and remediation of contaminated land considered to pose a significant risk to human health or the environment	The requirements of this Act were considered in the development of the Remediation Action Plan.

Legislation or regulation	Relevance	CEMP compliance provisions
Environmental Planning and Assessment Act 1979 (EP&A Act)	Objects of the Act include the encouragement of proper management and conservation of natural and artificial resources and the promotion of the orderly and economic use and development of land in NSW. The EP&A Act also provides for the making of environmental planning instruments including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs), which include land use controls, such as development standards applicable to the land within the area covered by each instrument.	This Project has been authorised under the Airports Act; however, a range of matters arising from the EP&A Act have been considered - Refer to Section 6 for environmental mitigation measures and controls.
Environmentally Hazardous Chemicals Act 1985	Provides for control of the effect on the environment of chemicals and chemical wastes.	Refer to Section 6 for environmental mitigation measures and controls
Protection of the Environment Operations Act 1997 (POEO Act) and the Protection of the Environment Operations (General) Regulations 2009 (POEO (General) Regulations)	The POEO Act provides a range of controls about waste management requirements including the means of processing, handling, moving, storage and disposal of materials. The POEO Act also provides classification of offences as Tier 1, 2 or 3 which have relevance to pollution and waste offences, with prescribed penalty notice amounts provided in the POEO (General) Regulations	Refer to Section 6 for environmental mitigation measures and controls.
Protection of the Environment Operations (Waste) Regulations 2014	Sets out obligations that would apply to waste managers, consigners, transporters and receivers dealing with waste coming from the Airport Site. The main provisions of the Regulation relate to the payment of a waste levy by licensed waste receivers, the requirements to track the transportation and disposal of certain types of waste, and specific requirements regarding the transportation and management of asbestos waste.	Refer to Section 6 for environmental mitigation measures and controls.
Waste Avoidance and Resource Recovery Act 2001 (WARR Act)	The overarching waste management legislation in NSW. The objectives of the Act include encouraging the most efficient use of resources, reducing environmental harm and ensuring resource management decisions are made against a hierarchy that gives preference to waste avoidance and resource recovery. The main provisions of the Act relate to the preparation of waste strategies and extended producer responsibility schemes. The current statutory waste strategy is the NSW Waste Avoidance and Resource Recovery Strategy 2014–21 (EPA 2014a). The waste strategy is explained in Section 5.	Refer to Section 5.6 for waste and resource management.

Legislation or regulation	Relevance	CEMP compliance provisions
State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 (Aerotropolis SEPP)	The Aerotropolis SEPP was made in accordance with division 3.3 of the EP&A Act and provides planning controls for development within the Western Sydney Aerotropolis. The Aerotropolis SEPP overrides any LEP provisions that apply to that land.	Section 7- Environmental Control Measures
Liverpool Local Environmental Plan 2008 (Liverpool LEP)	The Liverpool LEP provides local environmental planning controls and standards for land in the Liverpool LGA in accordance with the standard environmental planning instrument under section 33A section 3.20 of the EPA Act.	Section 7- Environmental Control Measures
Penrith Local Environmental Plan 2010 (Penrith LEP)	The Penrith LEP provides local environmental planning controls and standards for land in the Penrith LGA in accordance with the standard environmental planning instrument under section 33A3.20 of the EPA Act.	Section 7- Environmental Control Measures

4.1.2. Guidelines and standards

Guidelines and standards that are relevant to waste and resource management and this plan are summarised in Table 4-2 below.

Table 4-2 Relevant guidelines and standards

Guidelines and standards
National Waste Policy – Less waste, more resources
Australian Code for the Transport of Dangerous Goods by Road and Rail
NSW Waste Avoidance and Resource Recovery Strategy 2014-21
NSW Waste Classification Guidelines
National Environmental Protection (Assessment of Site Contamination) Measure 2013
NSW Government Resource Efficiency Policy (Office of Environment and Heritage, 2014)
Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, Revised Edition (World Resources Institute / World Business Council for Sustainable Development, 2004)
National Environment Protection Measures (NEPMs)
National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Department of Environment, 2014a)
National Greenhouse and Energy Reporting System Measurement: Technical Guidelines for the Estimation of Greenhouse Gas Emissions by Facilities in Australia (Department of the Environment, 2014b);
National Greenhouse Accounts Factors (Department of the Environment, 2014c)
Waste Classification Guidelines (Environment Protection Authority, 2014)
AS/NZS ISO 14001:2016 – Environmental Management Systems
Draft Protocol for managing asbestos during resource recovery of construction and demolition waste (EPA 2014)
Draft Protection of the Environment Operations Legislation Amendment (Waste) Regulation 2017

Guidelines and standards
Waste Management and Recycling in Commercial and Industrial Facilities – Better Practice Guidelines (EPA 2012)
National Guidelines on Water Recycling (EPHC 2006)
Use of effluent by irrigation (DEC 2004)
Western Sydney Aerotropolis Development Control Plan 2020 Phase 1

4.2. Approvals and other specifications

- Functional Specifications;
- Sydney Metro Western Sydney Airport Plan;
- Sydney Metro Western Sydney Airport Environmental Impact Statement;
- Sydney Metro Sustainability Plan;
- WSA Requirements Action Plan
- Sydney Metro Community communications strategy; and
- Sydney Metro Construction Plan, including the Construction Environmental Management Framework

4.3. Airport Plan Conditions

Conditions relevant to waste and resources management during construction of the Airport Plan are provided in Section 3.11.2 and 3.11.6 of the Airport Plan and summarised in Table 4-3. Compliance with the Airport Plan conditions is a statutory requirement and as such, failure to comply may constitute a criminal offence liable to criminal prosecution under the relevant legislation.

Table 4-3 Conditions of approval relevant to waste and resources management

Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
39.1	The rail authority must not: (a) Commence Rail Construction Works until each and all of the CEMPs specified in paragraph (2) have been prepared and approved in accordance with this condition; or (b) Carry out any Rail Development inconsistently with any of the approved Rail CEMPs.	Prior to Construction Works	Sydney Metro	Section 1.4 Section 4
39.2	The Rail Authority must prepare and submit to an Approver for approval; (h) a Waste and Resources CEMP in relation to the carrying out of the Rail Development.	Prior to Construction Works	Sydney Metro All contractors	This document (Waste and Resources CEMP)
39.3	The criteria for approval of each of the Rail CEMPs are that an Approver is satisfied that (a) The CEMP complies with the mitigation measures and other requirements set out in Table 8-1 and Table 8-3 of the EIA which are relevant to that CEMP; and (b) The Rail Authority, in preparing the CEMP has taken into account any performance outcomes specified in Table 8-2 of the EIA relevant to the CEMP; and (c) the CEMP is otherwise appropriate	Prior to Construction Works	Sydney Metro	Section 4.4 Table 4.5
39.4	The Rail Authority must ensure that: (a) a Rail CEMP is to the extent possible, consistent with a CEMP of the Site Occupier; and (b) no Rail CEMP is inconsistent with the approved Construction (Rail) Plan; and (c) if a CEMP of the Site Occupier is varied or replaced and results in inconsistencies with a Rail CEMP, the relevant Rail CEMP is updated or replaced as soon as practicable to ensure compliance with subcondition (4)(a).	CEMP preparation	Sydney Metro	This document Section 1.3 Section 4.4 Section 6
45.3	The Rail Authority must take reasonable steps to ensure that: (a) each person involved in carrying out a development which is part of the Rail Development: (i) is informed of the conditions that are relevant to the carrying out of the Rail Development; and (ii) in carrying out the Rail Development, complies with those conditions as if they applied to the person in the same way as they apply to the Rail Authority; and	Prior to construction	Sydney Metro	Section 10

Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
	(b) each person involved in operating a development described in section 3.10 of Part 3 of the Airport Plan: (i) is informed of the conditions that are relevant to the operation of the development; and (ii) in operating the development, complies with those conditions as if they applied to the person in the same way as they apply to the Rail Authority.			
46	Site Occupier and Plan Owner to maintain records about compliance with conditions Each Site Occupier, the Rail Authority and each Plan Owner must maintain accurate records which demonstrate its compliance with the conditions, including measures taken to implement the Approved Plans, and must make the records available upon request to the Infrastructure Department.	During construction	Sydney Metro	Section 9
47.4	Unless otherwise agreed in writing by an Approver, the Rail Authority must prepare a report addressing its compliance with each condition set out in section 3.11.6, including implementation of any Approved Plan, in respect of: (a) the 12-month period commencing with the commencement of Rail Construction Works; and (b) each subsequent 12-month period until the end of the Rail Construction Period; and (c) any period between the commencement of Rail Construction Works and the end of the Rail Construction Period that is not covered by paragraph (a) or (b).	During construction	Sydney Metro	Section 9.4
47.5	Unless otherwise agreed in writing by an Approver, the Rail Authority must publish each report prepared under subcondition (4) on its website within three months of the end of the period in respect of which the report was prepared. Documentary evidence providing proof of the date of publication must be provided to the Infrastructure Department at the same time as each report is published (with a copy to be provided to the Environment Department). Each report must remain on the Rail Authority's website for a minimum of 12 months (beginning on the date of publication).	During construction	Sydney Metro	Section 9.4
48.4	The Rail Authority must ensure that an independent audit of its compliance with the conditions set out in section 3.11.6 (except condition 44) is conducted in respect of the 12-month period commencing with the commencement of Rail Construction Works.	During construction	Sydney Metro	Section 9.3
48.5	The Rail Authority must ensure that an independent audit of its compliance with condition 46 is conducted in respect of the 12-month period from commencement of Rail Operations.	During construction	Sydney Metro	Section 9.3

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
48.6	The Rail Authority must submit the report of each audit conducted under subcondition (4) or (5) to an Approver (with a copy to the Environment Department) within six months of the end of the period in respect of which the audit was conducted. For each audit, the independent auditor must be approved by an Approver prior to the commencement of the audit. Audit criteria must be agreed by an Approver and the report of the audit must address the criteria to the satisfaction of an Approver.	During construction	Sydney Metro	Section 9.3
49.1	The Plan Owner may seek approval for a variation of an Approved Plan by submitting to an Approver a version of the plan with the proposed variation clearly marked in it (varied plan).	During construction	Sydney Metro	Section 9.5
49.2	The criteria for approval of the varied plan are the same as those in the Approval Condition, but only to the extent that they are relevant to the proposed variation.	During construction	Sydney Metro	Section 9.5
49.3	If an Approver approves a varied plan prepared under subcondition (1) or paragraph (5)(b), or the Infrastructure Minister varies an Approved Plan under paragraph (5)(a), then, from the date when it is approved or varied (as the case may be), the plan as varied is taken to be the Approved Plan for the purposes of the conditions.	During construction	Sydney Metro	Section 9.5
49.4	The ALC must review each Approved Plan for which it is the Plan Owner every five years to ensure that the Approved Plan continues to meet the approval criteria for that plan. The ALC must provide a report on the review (which may be included in an annual report required under condition 47). If the plan does not continue to meet the approval criteria, within three months of the provision of the report, the ALC must prepare and submit for approval under subcondition (1) a variation to the Approved Plan to ensure it continues to meet the approval criteria	During construction	Sydney Metro	Section 9.5
49.5	Despite subcondition (4), the ALC must review the Cumulative Impacts Plan every 12 months in consultation with the Rail Authority to ensure that the Plan continues to meet the approval criteria. The ALC must provide a report on the review (which may be included in an annual report required under condition 47). If the plan does not continue to meet the approval criteria, within three months of the provision of the report, the ALC in consultation with the Rail Authority must prepare and submit for approval under subcondition (1) a variation to ensure it continues to meet the approval criteria.	During construction	Sydney Metro	Section 9.5
49.6	The Infrastructure Minister may: (a) vary an Approved Plan; or	During construction	Sydney Metro	Section 9.5

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
	<p>(b) request in writing that the Plan Owner prepare and seek approval for a specified variation of an Approved Plan in accordance with subcondition (1), if the Infrastructure Minister believes on reasonable grounds that:</p> <p>(c) a condition has been contravened and the nature of the contravention is relevant to the subject matter of the Approved Plan; and</p> <p>(d) the variation or the request for a specified variation (as the case may be) will address the contravention.</p>			
49.7	The Plan Owner must comply with a request made by the Infrastructure Minister in accordance with subcondition (5) within three months of the date of the request.	During construction	Sydney Metro	Section 9.5
49.9	Within two months of the grant of an Airport Lease, the ALC must prepare and submit for approval, in accordance with subcondition (1), a variation of each plan that was approved under a condition before the lease was granted, and for which the ALC is the Plan Owner, to reflect the change in Site Occupier resulting from the grant of the Airport Lease.	During construction	Sydney Metro	Section 9.5
50.1	Unless otherwise agreed in writing by an Approver, the Plan Owner must publish all Approved Plans on its website.	During construction	Sydney Metro	Section 9.5
50.2	<p>Each Approved Plan must be published on the Plan Owner's website within one month of being approved and remain so published:</p> <p>(a) for CEMPs – until the end of the Airport Construction Period or Rail Construction Period as relevant; and</p> <p>(f) for all other plans – until there is a Master plan for the Airport.</p>	During construction	Sydney Metro	Section 9.5

4.4. Environmental impact statement requirements

4.4.1. WSA EIA requirements

The requirements of waste and resources management to be taken into account and addressed during the construction phase of the Railway Development on the Stage 1 area are included in the WSA EIS, specifically Table 28-4. In line with the requirement of the SM-WSA CEMPs to be consistent with the WSA CEMPs, Sydney Metro have ensured that the implementation, risk assessment, management measures, monitoring, auditing, reporting and responsibility for waste and resources management by the Project is aligned with the requirements of the WSA.

4.4.2. SM-WSA EIA requirements

The requirements waste and resource management to be taken into account and addressed during the construction phase of the Project are included in the SM WSA EIA in Tables 8-1 and CEMF 9 and CEMF 11 and are presented in Table 4-5 below.



Table 4-4 Summary of SM WSA EIA waste and resources requirements applicable to this CEMP

EIS Reference	Topic	Summary	Waste and Resource CEMP Reference
On-Airport Environmental Assessment (SM-WSA EIS Appendix J) Table 8-1, CEMF 9	Framework Requirement	The Waste and Resources CEMP would detail the Sydney Metro – Western Sydney Airport spoil management objectives, including:	
		<ul style="list-style-type: none"> minimise spoil generation where possible 	Section 5 – Waste and Resources Aspects and Impacts
		<ul style="list-style-type: none"> the project will mandate 100% reuse or recycling (on or off-site) of usable spoil 	Section 6 – Waste and resources management
		<ul style="list-style-type: none"> spoil will be managed with consideration to minimising adverse traffic and transport related issues 	Section 7 – Environmental control measures
		<ul style="list-style-type: none"> spoil will be managed to avoid contamination of land or water 	Section 6 – Waste and resources management
		<ul style="list-style-type: none"> spoil will be managed with consideration of the impacts on residents and other sensitive receivers, and 	Section 6 7 – Environmental control measures
		<ul style="list-style-type: none"> site contamination will be effectively managed to limit the potential risk to human health and the environment. 	Section 6.6 – Contaminated materials
		The on-airport Waste and Resources CEMP would be consistent with the Western Sydney Airport Waste and Resources CEMP including all appendices (and sub plans) to the CEMP. Contractors would develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan would include as a minimum:	This SM-WSA CEMP was based on the WSA CEMP
		<ul style="list-style-type: none"> the spoil mitigation measures as detailed in the planning approval documentation; 	Section 6 – Waste and resources management
		<ul style="list-style-type: none"> the responsibilities of key project personnel with respect to the implementation of the plan; 	Section 7 – Environmental control measures
<ul style="list-style-type: none"> procedures and methodologies for the haulage and disposal locations, storage and stockpiling arrangements, including those for virgin excavated natural material, contaminated and unsuitable material; 			
<ul style="list-style-type: none"> procedures for the testing, excavation, classification, handling and reuse of spoil; 			



EIS Reference	Topic	Summary	Waste and Resource CEMP Reference
		<ul style="list-style-type: none"> measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the Contractor's Activities, including how spoil generation is minimised through the design development process; 	
		<ul style="list-style-type: none"> details, links or references to where traffic movements in relation to spoil are described, and measures that will be implemented to minimise traffic and noise impacts associated with haulage and disposal of spoil; 	
		<ul style="list-style-type: none"> quantities for reuse of spoil within the construction site or Western Sydney International, for beneficial reuse of spoil off site and for spoil disposal; 	
		<ul style="list-style-type: none"> processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse; 	
		<ul style="list-style-type: none"> a register of spoil receipt sites that includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy; 	
		<ul style="list-style-type: none"> spoil management monitoring requirements; and 	
		<ul style="list-style-type: none"> compliance record generation and management. 	
		<p>Spoil management measures would be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These would include:</p>	
		<ul style="list-style-type: none"> records detailing the beneficial re-use of spoil either within the project or at off-site locations, and 	Section 9 – Environmental inspections, monitoring, auditing and reporting
		<ul style="list-style-type: none"> waste dockets for any spoil disposed of to landfill sites. 	Section 9 – Environmental inspections, monitoring, auditing and reporting
		<ul style="list-style-type: none"> The Spoil Management Plan would include the following examples of spoil mitigation measures: 	Section 6 – Waste and resources management
		<ul style="list-style-type: none"> handling spoil to minimise potential for air or water pollution; and 	Section 6 – Waste and resources management
		<ul style="list-style-type: none"> minimising traffic impacts associated with spoil removal. 	Section 6 – Waste and resources management



EIS Reference	Topic	Summary	Waste and Resource CEMP Reference
On-Airport Environmental Assessment (SMWSA EIS Appendix J) Table 8-1, CEMF 11	Framework Requirement	The on-airport Waste and Resources CEMP would detail the Sydney Metro – Western Sydney Airport waste management objectives and be consistent with the Western Sydney Airport Waste and Resources CEMP including all appendices (and sub plans) to the CEMP. The following waste objectives would apply:	Section 5 – Waste and Resources Aspects and Impacts Section 6 – Environmental control measures
		<ul style="list-style-type: none"> minimise waste throughout the project life-cycle; 	
		<ul style="list-style-type: none"> waste management strategies will be implemented in accordance with the waste management hierarchy as follows: 	
		<ul style="list-style-type: none"> avoidance of unnecessary resource consumption; 	
		<ul style="list-style-type: none"> resource recovery (including reuse, reprocessing, recycling and energy recovery); and 	
		<ul style="list-style-type: none"> disposal. 	Section 6 – Waste and resources management Section 6 7 – Environmental control measures
		The plan would include as a minimum:	
		<ul style="list-style-type: none"> waste management mitigation measures; 	Section 8.2 Waste and resources monitoring
		<ul style="list-style-type: none"> waste management monitoring requirements; 	Section 6 – Waste and resources management Section 7 – Environmental control measures
		<ul style="list-style-type: none"> a procedure for the assessment, classification, management and disposal of waste; 	
<ul style="list-style-type: none"> compliance record generation and management by including: 	Section 9 – Environmental inspections, monitoring, auditing and reporting		
<ul style="list-style-type: none"> weekly inspections will include checking on the waste storage facilities on site; and 			
<ul style="list-style-type: none"> all waste removed from the site will be appropriately tracked from ‘cradle to grave’ using waste tracking dockets. 			



EIS Reference	Topic	Summary	Waste and Resource CEMP Reference
		<p>The on-airport Waste and Resources CEMP would include the following waste management mitigation measures:</p> <ul style="list-style-type: none"> a central waste area (or areas) would be established, at which waste (including recyclables) would be stored or stockpiled. Stockpiles and bins would be appropriately labelled, managed and monitored till being removed from site all waste materials removed from the sites will be directed to an appropriately licensed waste management facility use of raw materials (such as noise hoarding and site fencing) will be reused or shared, between sites and between construction contractors where feasible and reasonable recyclable wastes, including paper at site offices, will be stored separately from other wastes. 	
			<p>Section 6 – Waste and resources management Section 7 – Environmental control measures</p>
On-Airport Environmental Assessment (SM-WSA EIS Appendix J) Table 8-1, CEMF 11	Project Performance Outcome	100 per cent of useable spoil is reused in accordance with the spoil reuse hierarchy	Section 6 Environmental Control Measures Section 10.5
		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	
		100 per cent of useable spoil is reused in accordance with the spoil reuse hierarchy	
Table 8-3 Consolidated list	WR1	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging	Section 7 – Environmental control measures

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



EIS Reference	Topic	Summary	Waste and Resource CEMP Reference
of on-airport mitigation measures	WR2	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities	Section 7 – Environmental control measures
	WR3	A materials tracking system would be implemented for material transferred between construction sites	Section 7 – Environmental control measures

5. Waste and resources aspects and impacts

5.1. Construction waste streams and resources consumptions

Construction at the Airport Site will generate a range of waste from surplus or offcut construction materials, site clearing, earthworks and the demolition of existing infrastructure.

Various waste streams that would be generated during the construction of the Project include:

- Timber and green waste;
- Paper and office waste;
- Demolition waste;
- Excavation waste (surplus soil);
- Excavation waste (Contaminated soils not able to be retained on the site)
- Construction waste;
- Waste from maintenance activities;
- Sewage and general waste from construction compounds;
- Drilling mud; and
- Greenhouse gases.

During construction, spoil and other waste would be temporarily generated from earthworks associated with tunnelling, station excavations and cuttings and tunnel and station fit-out. Most spoil would be temporarily generated during excavation required to achieve required ground surface levels for surface sections of the track, the excavation of station boxes as well as the construction of bored tunnels.

However, the Project is predicted to be mainly a cut to fill with a large majority of the material being reused on site. Material may be stockpiled, dried out and blended with another general fill, if required. Where this is not practical it may be disposed of at an appropriately licensed facility. This is in line with the strategies of waste avoidance, re-use on site, re-use off site and disposal being utilised for managing spoil.

It is estimated that the project would potentially generate a surplus of 1,055,000 cubic metres of spoil. Strategies to address spoil management would include opportunities for reuse beyond the project. Subject to meeting specified criteria, spoil generated on-airport may be beneficially reused for the construction of Western Sydney International, including at potential permanent spoil placement areas located within the proposed action construction footprint, but outside of the Western Sydney International Stage 1 Construction Impact Zone. Future use of the permanent spoil placed in these locations would be determined by Western Sydney Airport.

Where spoil is reused on-airport, the Spoil Management Plan would be consistent with the strategies identified in the Western Sydney Airport Remediation Action Plan (Department of Infrastructure and Regional Development, 2019) and spoil management strategies in the Western Sydney International Stage 1 development CEMPs. Construction activities will also use resources such as potable water, electricity, gas and fuel. Table 5-2 provides a summary of the resources that will be required.

The main construction activities anticipated to temporarily generate waste during construction are outlined in Table 5-1 along with the likely materials produced.

Table 5-1 Indicative types of waste generated during construction of the proposed action

Activity	Materials produced
Tunnelling, station excavations, cuttings and general earthworks	Spoil comprising virgin excavated natural material, excavated natural material, general solid waste, special waste, restricted solid waste, hazardous waste, tunnel boring machine cutter heads and associated equipment replacement (such as conveyer belts), tunnel boring machine lubricants (bentonite slurry or similar), wastewater including groundwater inflows to tunnels, in-cutting sections and station excavations.
Pre-cast facility, batch plants	Concrete waste, steel, packaging
Dust suppression, wash down of plant and equipment, and staff amenities at construction sites	Sediment-laden and/or potentially contaminated wastewater, sewage and grey water.
Tunnel and station fitout and general construction activities and resource use	Concrete waste, timber formwork, scrap metal, steel, plasterboard, cable and packaging material.
Maintenance of construction plant, vehicles and equipment	Adhesives, lubricants, waste fuels and oils, engine coolant, batteries, hoses and tyres.
Activities at construction site offices	Putrescibles, paper, cardboard, plastics, glass and printer cartridges.
Clearing and grubbing of vegetation, landscaped and/or turfed areas	Green waste.

The types and quantities of construction waste generated by the proposed action would be site specific and would vary throughout the stages of construction.

The volumes of other construction wastes (i.e. apart from spoil) are expected to be comparable to other similar (type and scale) infrastructure projects and have not been estimated. These construction waste volumes are expected to be manageable through the application of standard waste management strategies (addressing waste generation, storage, disposal and reuse) and the project-specific sustainability initiatives documented in the Sustainability Plan.

Table 5-2 Indicative Railway Development quantity of resource requirements

Resource	Estimated quantity
Diesel	63,000 kilolitres
Concrete	520,000 cubic metres
Precast concrete (including segments)	75,000 tonnes
Cement grout	70,000 tonnes
Epoxy (waterproof) grout	10 kilolitres
Rail steel	6,700 tonnes
Reinforcing steel and other steel products	133,000 tonnes
Structural steel	12,000 tonnes
Aluminium	650 tonnes

Resource	Estimated quantity
Asphalt	65,000 tonnes
Sand and aggregates	250,000 tonnes
Ballast	71,000 tonnes
Electrical cables	1,400 tonnes
Structural fill	875,000 tonnes
Electricity consumption	513,000 mega-watt hour
Water	524,651 kilolitres

5.2. Spoil volumes

Indicative cut and fill volumes along the on-airport alignment are provided in Table 5-3.

Table 5-3 Indicative Railway Development cut and fill volumes

Location	Approx. cut volume	Approx. fill volume
Western Sydney International - Elizabeth Drive to Airport Business Park	130,000 cubic metres	75,000 cubic metres
Airport Business Park	25,000 cubic metres	15,000 cubic metres
Airport construction support site	65,000 cubic metres	65,000 cubic metres
Airport Business Park to Aerotropolis Core (including Airport Terminal and Western Sydney International to Bringelly tunnel)	1,065,000 cubic metres	75,000 cubic metres
Total	1,285,000 cubic metres	230,000 cubic metres
Balance	1,055,000 surplus cubic metres	

The estimates are based on the assumption that cut material can be used as fill for the project, which may not be the case if unsuitable material is encountered during earthworks. Fill volumes do not include reuse opportunities beyond the project which would reduce surplus volumes. Spoil volumes and the earthworks balance would be confirmed during further design development.

5.3. Impacts

Potential temporary waste and resources impacts during construction of the Project would include:

- waste being directed to landfill due to its inadequate collection, handling, classification and disposal, which would deplete available landfill capacity within the Sydney region;
- contamination of soil, surface and/or groundwater from the inappropriate storage, transport and disposal of liquid and solid wastes;
- an increase in vermin from the incorrect storage, handling and disposal of putrescible waste from construction sites;
- incorrect classification and/or disposal of waste, including the incorrect storage, handling and disposal of contaminated spoil and other hazardous materials (for example, asbestos);

- excessive amounts of materials being ordered, resulting in a large amount of leftover, unused resources;
- lack of identification of feasible options for recycling or reuse of resources.

The above issues are considered to be manageable through standard mitigation measures, as per Section 7 and those of the Sustainability Plan.

5.4. Risk assessment

A risk assessment has been undertaken as part of the review and development of this CEMP and in accordance with Environmental Aspects, Impact and Risk Procedure (Chapter 26 of the WSA EIS). The parts of the overall risk assessment relevant to waste and resources have been extracted and summarised in Table 5-4 applying to all phases of works that the Construction (Rail) Plan authorises.

The identification of construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

The risk management process involved an assessment of all specific Project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking.



Table 5-4 Risk assessment

Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
01	Site establishment	Delivery compound establishment materials	Waste generation	Excess waste to landfill	Low (9)	WR01 WR04	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Biodiversity CEMP EWMS Remediation Action Plan (RAP) Induction Environmental Control Map (ECM) Complaints Procedure
02	Site establishment	Delivery of bulk quarry materials and site buildings	Energy use	Excess energy use from non-local suppliers	Low (9)	WR02 WR03 WR04 WR26	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Biodiversity CEMP EWMS RAP Induction ECM Complaints Procedure
03	Site establishment	Vegetation clearing	Waste generation	Excess waste to landfill	Low (9)	WR01 WR03 WR06	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Biodiversity CEMP EWMS

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
								<ul style="list-style-type: none"> • RAP • Induction • ECM • Complaints Procedure
04	Site establishment	Vegetation clearing	Weed management	Spread of weeds	Low (9)	WR07	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • Soil and Water CEMP • Biodiversity CEMP • EWMS • Remediation Action Plan (RAP) • Induction • ECM • Complaints Procedure
05	Site establishment	Compound waste sorting	Waste generation	Recyclable materials going to landfill	Low (9)	WR01 WR05 WR14 WR15 WR17 WR25	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • EWMS • Soil and Water CEMP • RAP • Induction • ECM • Complaints Procedure
06	Earthworks	Contamination works	Contamination	Improper disposal of contaminated waste	Med (13)	WR01 WR05 WR11	Low (9)	<ul style="list-style-type: none"> • Waste and Resources CEMP • Soil and Water CEMP • Biodiversity CEMP

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
				Risk to human health or the environment.		WR13 WR21 WR22		<ul style="list-style-type: none"> EWMS RAP Induction ECM Waste tracking register Material Movement Plan Complaints procedure
07	Earthworks	Materials storage	Contamination	Improper storage of hazardous materials	Med (13)	WR01 WR05 WR14 WR15 WR17 WRE20 WRE21 WR22	Low (9)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Biodiversity CEMP EWMS RAP Induction ECM Waste tracking register Material Movement Plan Complaints procedure
08	Earthworks	Exporting contaminated waste	Waste generation	Improper disposal of contaminated waste by subcontractor	Med (18)	WR01 WR05 WR11 WR23	Med (14)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP EWMS RAP Induction

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
								<ul style="list-style-type: none"> • ECM • Waste tracking register • Material Movement Plan • Complaints procedure
09	Earthworks	Plant and machinery use	Energy use	Inefficient use of plant and equipment	Low (5)	WR10 WR26	Very Low (3)	<ul style="list-style-type: none"> • Waste and Resources CEMP • EWMS • Induction • Complaints Procedure
10	Earthworks	Sediment control maintenance	Waste generation	Missing opportunities for material reuse	Low (9)	WR01 WR05 WR09	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • Soil and Water CEMP • Biodiversity CEMP • EWMS • RAP • Induction • ECM • Complaints Procedure • Sustainability Plan
11	Infrastructure works	Road construction	Waste generation	Recyclable materials going to landfill	Med (13)	WR01 WR03 WR05 WR08 WR15	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • EWMS • Soil and Water CEMP • RAP • Induction



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
						WR25		<ul style="list-style-type: none"> • ECM • Waste tracking register • Material Movement Plan • Complaints procedure • Sustainability Plan
12	Infrastructure works	Culvert and bridge construction	Waste generation	Recyclable materials going to landfill	Low (9)	WR01 WR03 WR05 WR08 WR25	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • Soil and Water CEMP • Biodiversity CEMP • EWMS • RAP • Induction • ECM • Waste tracking register • Material Movement Plan • Complaints procedure
13	All works	General education	Site requirements	Failure to follow site protocols	Low (9)	WR01 WR02 WR04 WR10	Low (6)	<ul style="list-style-type: none"> • Waste and Resources CEMP • Soil and Water CEMP • Biodiversity CEMP • EWMS • RAP • Induction • ECM

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
								<ul style="list-style-type: none"> Complaints Procedure Sustainability Plan
14	All works (continued)	General education	Incidents (spills, site contamination)	Failure to report issues and incidents	Low (9)	WR01 WR02 WR04 WR10 WR12	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP EWMS RAP Induction ECM Complaints Procedure
15	Environmental records management	All works	Waste tracking	Failure to track waste leading to improper waste management and record keeping	Med (13)	WR03 WR05 WR11 WR13 WR18 WRE19	Low (9)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP EWMS RAP Induction ECM Waste tracking register Material Movement Plan Complaints procedure Sustainability Plan
16	General	General	Illegal dumping	Materials (including potential contaminated materials) being	Med (13)	WR10 WR24	Low (9)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Biodiversity CEMP



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
				illegally dumped onto site.				<ul style="list-style-type: none"> EWMS RAP Induction ECM Waste tracking register Material Movement Plan Complaints procedure Visual and Landscape CEMP
17	Building construction	Concrete slab/footing	Concrete washout	Soil and water contamination Inappropriate disposal of concrete	Med (13)	WR11 WR17	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP ECM
18	Building Construction	Installation of structure	Waste generation	Recyclable materials going to landfill	Med (13)	WR02 WR04 WR14 WR15	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP ECM RAP Induction ECM Waste tracking register Material Movement Plan Sustainability Plan

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level ² pre-mitigation	Mitigation measure ¹	Risk level ² post-mitigation	Management tools
19	Building construction	Installation of structure	Material selection	Depletion of non-renewable resources	Med (13)	WR02 WR04 WR14 WR15	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP ECM Sustainability Plan
20	Material importation	Stockpiling select material for future use as structural material	Contamination	Material contaminated and material not suitable	Med (13)	WR16	Low (6)	<ul style="list-style-type: none"> Waste and Resources CEMP Soil and Water CEMP Air Quality CEMP ECM Material tracking Sustainability Plan WSA RAP 2019
21	Corridor and associated works	Earthworks cut and fill	Waste generation	Inappropriate spoil management and wastage	Low (9)	SC1	Low (6)	<ul style="list-style-type: none"> Waste tracking register Soil and Water CEMP Sustainability Management Plan
22	Spoil transportation	Spoil management	Traffic and access	Traffic impacts associated with use of local roads from spoil haulage	Med (13)	TA07 TA10 TA12	Low (9)	<ul style="list-style-type: none"> Traffic and Access CEMP
23	Permanent spoil placement in WSI	Spoil management	Soil and Water Biodiversity	Inappropriate spoil management resulting in impacts to ECZ	Med (13)	SC1 B11	Low (9)	<ul style="list-style-type: none"> Soil and Water CEMP Biodiversity CEMP

¹ Refer to Table 7-1 for mitigation measures and controls



2 Derived from risk assessment process detailed in the SEMF Appendix D.

6. Waste and resources management

The Project's waste management requirements are summarised in Appendix A – Waste Management Procedure.

6.1. Classification of waste streams

Where waste cannot be avoided, reused or recycled it will be classified and appropriately disposed of to a licensed facility

As waste leaves the Project it will be classified using the procedure outlined in Appendix A and in accordance with the EPA Waste Classification Guidelines Part 1: Classifying Waste (2014). Further details of the waste classification process are provided in Table 6-1.

Table 6-1 Waste Classification process (EPA, 2014)

Classification step	Description
Step 1: Is it 'special waste'?	<p>Establish if the waste should be classified as special waste. Special wastes are:</p> <ul style="list-style-type: none"> • Clinical and related • Asbestos • Waste tyres <p>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.</p>
Step 2: If not special, is it 'liquid waste'?	<p>If it is established that the waste is not special waste, it must be decided whether it is 'liquid waste'.</p> <p>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:</p> <ul style="list-style-type: none"> • 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.
Step 3: If not liquid, has the waste already been pre-classified by the NSW EPA?	<p>The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescibles) and general solid waste (nonputrescibles). If a waste is listed as 'pre-classified', no further assessment is required.</p>
Step 4: If not pre-classified, is the waste hazardous?	<p>If the waste is not special waste (other than asbestos waste), liquid waste or preclassified, 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.</p>
Step 5: If the waste does not have hazardous characteristics, undertake chemical assessment to determine classification.	<p>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. Waste is assessed 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 (CT).</p>

Classification step	Description
Step 6: Is the general solid waste putrescible or nonputrescible?	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).

6.2. Waste management

The construction aspects and types of wastes, which may be generated during construction are outlined with classifications in Table 6-2.

Table 6-2 Development classification of potential waste streams

Aspect	Waste types	Waste classification	Likely quantity	Final location and transport operator
Demolition/ site cleaning	Vegetation (logs, mulched timber, weeds)	Timber and green waste	65,500T	To be determined and recorded within Waste Register
	Demolition materials	General solid waste	3,000T	To be determined and recorded within Waste Register
Bulk Earthworks	Excess material from excavations	Excavated Natural Material	To be reused onsite, where possible	Minimal excess is anticipated
	Piling	Likely to be General solid waste, (Potential for reuse onsite)	3,500T	To be determined and recorded within Waste Register
	Unknown (Potentially Contaminated Soils)	If material is taken off site classification will be carried out, based on soil tests carried out pre-construction and in accordance with the EPA Waste Classification Guidelines: Parts 1 and 2 (EPA 2014)	Based on the unexpected find.	To be determined and recorded within Waste Register
Road works	Rubble, rock, sand, asphalt, road base, concrete	General Solid Waste (non putrescible)	2,000T	To be determined and recorded within Waste Register, majority to be recycled
General	Sewerage	Effluent (sewerage)	160T/Month	To be determined and recorded within Waste Register
	Office waste	General solid waste (putrescible)	2.5T/Month	To be determined and recorded within Waste Register
		Comingled Recycling	0.2T/Month	To be determined and recorded within Waste Register
		Paper and Cardboard	0.2T/Month	To be determined and recorded within Waste Register

Aspect	Waste types	Waste classification	Likely quantity	Final location and transport operator
	Construction Waste	General Solid Waste (non putrescible)	200T/Month	To be determined and recorded within Waste Register
Asbestos waste	Asbestos contaminated material	Special Waste (Asbestos Waste)	500,000m3	To be managed onsite

6.2.1. Spoil management

A Spoil Management Plan would be prepared for the project in consultation with SM – WSA and Western Sydney Airport (for the on-airport works) and in accordance with the SM – WSA Spoil Management Strategy. The objectives of the spoil management strategy are to maximise beneficial reuse of spoil generated by the Project and minimise impacts associated with the storage and transporation of spoil.

The high-level approach and hierarchy for spoil management includes:

- Priority 1: Reuse of spoil in construction of the project off-airport or on-airport, where spoil is suitable (or can be made suitable through remedial actions) for the placement location under the applicable regulatory regime;
- Priority 2: Reuse of spoil for other development projects (e.g. Western Sydney International or for other projects off-site) where spoil meets the requirements of the regulatory regime and approvals for the receiving site;
- Priority 3: Recycling of materials at off-site facilities in accordance with the licenses and approvals of the recycling facility;
- Priority 4: Off-site disposal to landfill in accordance with the licenses and approvals of the facility.

The quantities and locations of on-site reuse opportunities would be further investigated and determined during further design development. The geology of the spoil material as well as its consistency and quality would determine the reuse options. The majority of excavated spoil would be Bringelly shale which is likely to require blending with suitable materials sourced from off-site (e.g. sandstone) and stabilising.

Spoil generated by the Project may be reused for the construction of Western Sydney International, including in the potential permanent spoil placement areas located within the proposed action construction footprint, but outside of the Western Sydney International Stage 1 Construction Impact Zone (refer to Figure 4-14). Reuse of spoil within Western Sydney International would be undertaken in accordance with the Airport Plan, Construction (Rail) Plan and any relevant CEMPs, including any subsequent variations to those plans. Future use of the permanent spoil placed in these locations would be determined by Western Sydney Airport. This opportunity would significantly minimise the transportation of spoil from the project on local roads thereby minimising impacts to residents and local receivers.

Where spoil cannot be reused for the project, or the Western Sydney International spoil placement areas, opportunities to reuse spoil on other projects would be identified. Temporary stockpiling sites would be established as required throughout the proposed action construction footprint to facilitate reuse opportunities. Sites within the Sydney region would be priorities to reduce haulage distances and

associated traffic impacts. Potential traffic impacts associated with the transportation of spoil would be managed through the implementation of the SMWSA Traffic and Access Management Plan.

6.2.2. Management of other construction wastes

Water is an increasingly scarce resource. Potable (drinking water quality) and non-potable water will be required for construction of the Project, and a water balance study will be completed to estimate the quantities, types and potential sources of this water. This will enable the identification of the best opportunities to use non-potable water instead of potable water and minimise the quantities of both potable and non-potable water that will be consumed.

Construction water, including groundwater intercepted during tunnelling, would be captured, treated and discharged. Treated water would be recirculated to the tunnel cutting face and used for surface dust suppression. Treated water that could not be recirculated would be discharged from the sites via a construction water treatment plan off-airport. The reuse of treated water would be maximised during the construction works.

Impacts associated with the disturbance of ASS and other hazardous wastes is considered in Section 7.8.4. Disturbance, movement and disposal of asbestos containing materials would be carried out in accordance with the *Work Health and Safety Regulation 2011* (NSW) and applicable guidelines. The proposed action would not require the management of demolition waste.

6.2.3. Reuse, Recovery and Recycling

Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

Measures to avoid and reduce waste during construction will include:

- Efficient utilisation of resources to reduce consumptions; Optimisation of detailed designs to avoid unnecessary resource consumption;
- Implementation of high efficiency water systems to reduce water consumption;
- Procurement policies that preference recyclable, minimal and/or returnable packaging; and
- Procurement of necessary materials in bulk to minimise packaging waste; and
- For office specific processes and procedures refer to Sydney Metro Green Office Guidelines

Measures to reuse and recycle waste during construction will include:

- Reuse of green waste and topsoil for site landscaping; such as all topsoil remains onsite and is reused in alignment with the WSA vegetation management plan;
- Reuse of excess or contaminated soils where they have been demonstrated to be suitable for re-use in accordance with the SM – WSA RAP or other relevant guidance such as the Human Health and Environmental Risk Assessment (HHERA);
- Reuse of waste streams including metals, oils and solvents wherever possible, however, due to quality requirements this will need to be facilitated offsite by Contractors' Waste Service Providers;
- Recycling of waste streams including concrete brickwork, metals, plasterboard, plastics and timber; which will be recycled offsite by dedicated Waste Service Providers;

- Contractors are to ensure that where soils/spoils required disposal to a licenced facility, that all measures have been undertaken to achieve the lowest waste classification in accordance with the NSW EPA 2014 Waste Classification Guidelines;
- Contractors are to ensure there are contract terms with suppliers that specify recyclable content and returnable packaging; and
- Contractor co-operation in stewardship programs for compatible waste streams including pallets

Measures to recover and treat waste will include recovery (prior to reuse) of compatible waste streams including metals, oils, solvents, brickwork, plasterboard, plastics and timber. Waste recovery will be managed by Package Contractors, facilitated by their Waste Service Provider. A part of Contractors waste management responsibilities includes waste to destination auditing to ensure waste recovery is being conducted as reported in monthly waste reporting. All waste removed from site is sent to Material Sorting Facilities (MSF's), where resource streams are segregated and sent on to appropriate recovery services. Hazardous wastes or asbestos identified during construction would be managed consistently with the NSW Protection of the Environment Operations (Waste) Regulation 2014.

Residual waste that cannot be avoided, reduced, reused, recycled, recovered or treated will be collected by a licensed contractor for disposal at an appropriately licensed facility.

6.3. Waste handling and storage

Where waste is required to be handled and stored onsite prior to onsite reuse or offsite recycling/disposal, the following measures apply:

- Spoil, topsoil and mulch are to be stockpiled onsite in allocated areas, where appropriate, and mitigation measures for dust control and surface water management will be implemented as per the RAP 2019, the Air Quality CEMP, the Soil and Water CEMP and this plan;
- Liquid wastes are to be stored in appropriate containers in bunded areas until transported offsite. Bunded areas will have the capacity to hold 110 per cent of the liquid waste volume for bulk storage or 120 per cent of the volume of the largest container for smaller packaged storage;
- Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the Environmentally Hazardous Chemicals Act 1985 and the EPA waste disposal guidelines;
- All other recyclable or non-recyclable wastes are to be stored in appropriate covered receptacles (e.g. bins or skips) in appropriate locations onsite and sub-contractors commissioned to regularly remove/empty the bins to approved disposal or recycling facilities; and
- Where suitable material is received by Sydney Metro or the contractor for beneficial reuse on the Project, prior to importing the materials to the site the supplier must provide information on the material that concentrations of potential contaminants are below relevant NEPM criteria or an applicable EPA waste or resource recovery orders/exemption and a notice under Section 143 of the POEO Act to transport the waste received.

Monitoring of the above waste handling and storage strategies will be undertaken primarily through the implementation of environmental inspections to be undertaken by both the Contractor and Sydney Metro as detailed further in Section 8.

6.4. Waste disposal

Waste management areas will be established during construction, at which waste (including recyclables) will be stored. Most construction waste will be stored in co-mingled bins for processing offsite to maximise resource recovery. Office waste will be segregated to maximise resource recovery. Stockpiles and bins will be appropriately labelled, managed and monitored.

The waste storage areas will also allow for the separation of waste streams based on their management requirements, and will therefore include:

- Wheeled bins;
- “Skip” bins; and
- Bunded bulk storage for fuels and oils.

Waste management facilities situated in the Western Sydney region will be utilised for reuse, recycling, recovery and treatment of waste generated at the airport. Waste must not be planned to be and/or disposed outside of NSW without prior approved by WSA.

Wastes that are unable to be reused or recycled or retained will be disposed of offsite to an NSW EPA approved waste management facility following classification in accordance with the POEO Act and the WARR Act.

Recyclable materials that have been separated at source (cardboard, glass and other containers, food organics) could be collected by waste contractors and taken to facilities specifically designed to either consolidate them for transportation to reprocessing facilities, or to sort them for transportation to such facilities. Non-recyclable wastes could be taken to transfer stations, or direct to landfills or to alternate waste processing facilities for disposal or treatment respectively.

6.5. Energy conservation

Sydney Metro is dedicated to implementing energy conservation best practice and the reduction of greenhouse gases by adopting energy efficient work practices including:

- Developing and implementing procedures to minimise energy use; refer to Sydney Metro Sustainability Guidelines;
- Conducting awareness programs for all site personnel regarding energy conservation methods. Specifically;
 - Energy efficient design of site buildings;
 - Design of construction work sites to minimise unnecessary vehicle movement;
 - Assess energy (fuel/electricity) efficiency when selecting equipment
 - Regular servicing of site plant and equipment; and
 - Use of locally sourced material where available and of suitable quality.
- Detailed requirements related to energy conservation are included the Sydney Metro Sustainability Plan, including requirements for meeting IS and Green Star Rating energy credits.

6.6. Contaminated materials

Construction of the Sydney Metro Project has the potential to interact with existing sources of potential contamination. Construction will also involve the storage, treatment and/or handling of fuel, sewage and other potential contaminants.

The remediation of asbestos and chemical contamination present on the site due to historical land use practices will continue to be undertaken in accordance with the Remediation Action Plan (RAP) 2019. The RAP enables the achievement of site suitability via the mechanism of capping, containment and long-term management. Where areas are being worked in which are not covered by this RAP, the SM-WSA contractor will be required to develop an aligned RAP applicable to the new areas of contamination.

The implementation of the RAP allows for asbestos material to be retained in situ where it is observed at depth or placed in areas that require filling to achieve final levels. Included in the decision-making process is the end land use for the airport site such as air side and land side locations as well as geotechnical properties of the material. All contamination that is to remain in situ or placed in fill, the extent of such material would be surveyed and detailed in the Long-Term Environmental Management Plan in accordance with Section 11 of the RAP. The Long-Term Environmental Management Plan once developed, will be implemented by onsite contractors where applicable.

Remediation works during the Stage 1 development will be primarily undertaken during the earthworks programs. Unless otherwise advised, during subsequent construction activities, Contractors will be required to adopt an unexpected finds protocol to manage any unexpected finds of contamination encountered during their activities, the Unexpected Finds Protocol applies. The assessment criteria for onsite reuse and validation are outlined in detail in the RAP (GHD 2019). The RAP also sets out the requirements for the classification of materials requiring disposal off-site and these requirements are consistent with those set out in this plan.

6.7. Imported material management

All project contractors must ensure that materials to be imported onto the site (including across project Contractor's site boundary) satisfy the requirements of the RAP including the following criteria:

- virgin excavated materials such as natural clays, gravel, sand, soil or rock fines;
- material with suitable Environmental Protection Authority waste exemption/order or meet the excavated natural material requirements;
- materials excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, resulting from industrial, commercial, mining or agricultural activities;
- materials that do not contain any sulfidic ores or soils or any other waste;
- topsoil growing media, mulch etc. for landscaping purposes, free of foreign substances, staining and/or odours; and
- materials that do not contain marine mud, peat, vegetation, timber, organics, soluble or perishable elements; dangerous or toxic material; metal, rubber or plastics; and construction / demolition debris.

Appropriate testing will be undertaken and certification documentation will be provided to the WSA Environment team, prior to the importation of material/s onto the Site. All project contractors must maintain an imported material tracking register and a waste material tracking register, to record the

type, amount and location of material/waste imported, reused, recycled, stockpiled and disposed of (including for Temporary Works).

The imported materials tracking records must include the following details and all validation in accordance with the Remediation Action Plan:

- type of imported material and its classification (according to the POEO Act and NSW EPA waste classification guidelines and Airport Environmental Protection Regulations);
- quantities of imported material measured in tonnes;
- how and where the imported material was stockpiled, used or disposed of;
- date when the waste or imported material was stockpiled, used or disposed of;
- name and licence of the supplier used; and
- certification for the imported materials must be provided to WSA for approval no less than two (2) weeks prior to planned importation.

Imported materials tracking register and waste tracking register to be provided monthly, as part of the Contractor's performance report.

The Flow Chart of Works and Responsibilities for Imported Materials can be found in Figure 6-1.

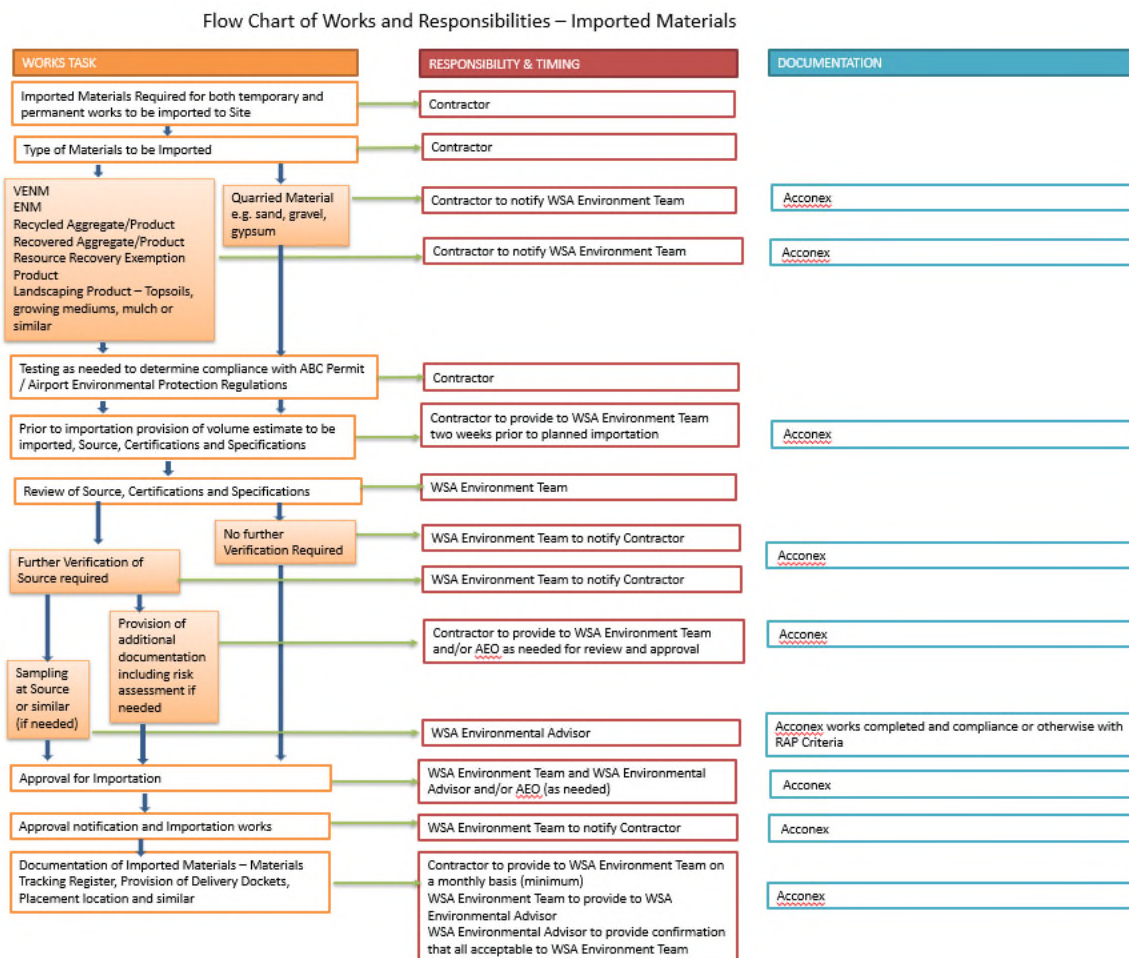
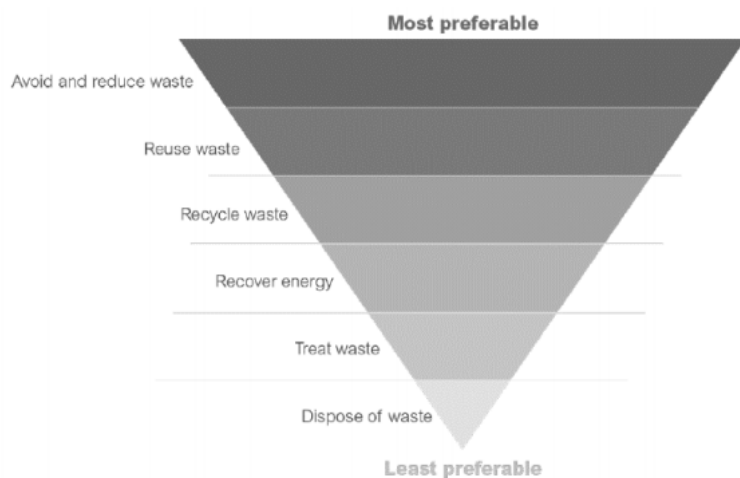


Figure 6-1 Works and responsibilities for imported materials

6.8. Waste management hierarchy

Waste management on the Project will be aligned with the NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA, 2014a) under the NSW WARR Act. The Strategy sets objectives to avoid waste generation, increase recycling, divert waste from landfill, manage problem waste, reduce litter and reduce illegal dumping. The Strategy also elaborates on a waste management hierarchy which supports the objectives of the WARR Act (refer to Figure 6-2).

Under the waste management hierarchy, it is preferable to avoid or reduce waste by procuring only necessary materials, and consuming material with limited production or packaging requirements. Reusable or recyclable materials should be considered where waste cannot be avoided. If waste cannot be reused or recycled, efforts should be made to recover energy to maximise its beneficial use propriety to its eventual disposal. Waste with harmful characteristics should be treated prior to disposal to minimise its potential to affect human health and the environment.



Source: NSW Waste Avoidance and Resource Recovery Strategy 2014–21 (NSW EPA 2014a)

Figure 6-2 Waste Management Hierarchy

6.9. Waste exemptions

Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014 enables the NSW EPA to grant exemptions to the licensing and payment of levies for the land application or use of waste.

- Resource recovery orders include conditions that generators and processors of waste must meet to supply the waste for land application, use as fuel or in connection with a process of thermal treatment. They may include specifications, record keeping, reporting and other requirements.
- Resource recovery exemptions contain the conditions which consumers must meet to apply waste to land or use waste as fuel or in connection with a process of thermal treatment outside of certain requirements of the waste regulatory framework. They may include specifications, requirements on how to re-use or apply the waste, record keeping, reporting and other requirements.

The general orders/exemptions are applicable for a range of commonly recovered, high volume and well characterised waste materials that allow their use as fill or fertiliser at unlicensed, off-site facilities.

The NSW EPA has issued general exemptions for a range of commonly recovered, high volume and well characterised waste materials that allow their use as fill or fertiliser at unlicensed, off-site facilities. These are general gazette exemptions that do not require approval. A specific exemption may be granted where an application is made to the NSW EPA.

Where waste materials are to be removed from site, a review of the applicable NSW EPA waste exemptions will be undertaken to determine if the material classifies as specific exemption and if a suitable receiving site can be identified.

6.10. Contamination

Construction of the Railway Development has the potential to interact with existing sources of potential contamination. Construction will also involve the storage, treatment and/or handling of fuel, sewage and other potential contaminants. The management of contaminated land encountered during the construction is outlined in the SWSA Soil and Water CEMP, including an unexpected finds procedure.

7. Environmental Control Measures

Mitigation and management measures that will be implemented during construction are detailed below in Table 6-1 and are consistent with those provided in Table 12 of the WSA WRCEMP, as per the Airport Plan and Tables 8-1, 8-2 and 8-3 of the SM - WSA EPBC Act Final EIA. The relevant control measures will be included in the site-specific Environmental Work Method Statement (EWMS) and Environmental Control Map (ECM) – refer to Section 3.6 of the CEMF for further detail.



Table 7-1 Waste and resources management and mitigation measures

ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
GENERAL					
WR_01	The NSW Government’s Waste Management Hierarchy of “avoid-reduce-reuse- recycle- dispose” will be followed as the framework of waste management throughout the Project.	Pre-construction Construction	Implement waste sorting system early in the Project and monitor effectiveness/ensure waste avoidance methodologies used by construction team. For further information refer to Section 6.7 of this CEMP	All Contractors	WSA EIS Section 28.5.3.11 SMWSA EIA Table 8-2, WR4
WR_02	A procurement strategy will be implemented that will demonstrate value for money and that it has considered opportunities to procure goods and services: From local suppliers. That are energy efficient or have low embodied energy. That minimise the generation of waste. That make use of recycled materials.	Construction	The procurement strategy developed for the Project aims to buy locally to reduce delivery distances, reduce overall waste such as packaging and use recycled materials where possible. For further information refer to Section 6.2 of this CEMP.	All Contractors	Good practice
WR_03	Waste management measures from this Waste and Resources CEMP will be included in relevant EWMS to be developed prior to the commencement of specific activities. This would include: Reuse of excavated road materials would be maximized as far as possible where they are cost, quality and performance competitive to reduce use of materials (with embedded energy). Assess opportunities to use local materials to reduce transport emissions	Pre-construction / Construction	Address management measures into EWMS for construction activities including bulk excavation, material export and stockpiling activities. Continual site staff education including toolbox talks and inductions. For further information refer to section 6.6 Waste management and 6.7 Waste management hierarchy of this CEMP.	All Contractors	Good practice

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_04	<p>The following measures will be implemented to avoid and reduce waste:</p> <p>Efficient utilisation of resources to reduce consumption;</p> <p>Optimisation of detailed designs to avoid unnecessary resource consumption;</p> <p>Implementation of high efficiency water systems to reduce water consumption;</p> <p>Procurement policies that preference recyclable, minimal and/or returnable packaging; and</p> <p>Procurement of materials in bulk, where practicable, to minimise packaging waste.</p>	Design/ Construction	<p>Continual site staff education including toolbox talks and inductions.</p> <p>Installation and operation of energy efficient facilities where applicable</p> <p>Recycled site water will be used as the primary source of dust control and construction activities such as compaction.</p> <p>Materials are bought in bulk to limit packaging waste.</p> <p>Review stages of design and identify opportunities to minimise resource consumption.</p> <p>For further information refer to WSA Green Office Guidelines, as well as Section 6.6 Waste management and 6.7 Waste management hierarchy of this CEMP.</p>	All Contractors	<p>WSA EIS Table 28-17</p> <p>SM WSA EIA Table 8-2, WR1</p>
WR_05	<p>All waste that cannot be re-used or recycled onsite will be classified and disposed of in accordance with the Waste Classification Guidelines Parts 1 and 2 (EPA, 2014)</p> <p>Excavated material that is not suitable for on-site reuse or recycling will be transported to a site that may legally accept that material for reuse or disposal.</p> <p>Soils leaving the site will be waste classified so that correct resource recovery and or off-site disposal occur.</p>	Pre-construction / Construction	<p>All waste will be classified and receivers EPL documented to ensure waste streams are appropriately managed and tracked.</p> <p>Offsite disposal locations to be provided and approved prior to material leaving site in accordance with the imported and waste management protocols</p> <p>For further information refer to Section 6.5 of this CEMP.</p>	All Contractors	Good practice

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_06	<p>Cleared vegetation will be reused or recycled to the greatest extent practicable for example:</p> <p>Mulching of vegetation for use in landscaping;</p> <p>Spreading of vegetation for fauna habitat in suitable areas where agreements are made for this (e.g. mulch, small timber, hollow logs);</p> <p>Donation of other timber to community or environmental groups.</p>	Construction	<p>Mulch will be utilised onsite for environmental controls and ground stabilisation.</p> <p>Vegetation spreading will be in line with the Biodiversity CEMP and best practice.</p> <p>Larger diameter timbers will be offered to community and environmental groups in the area.</p> <p>For further information please refer to Section 6.2 Reuse, Recovery and Recycling.</p>	All Contractors	Good practice Biodiversity CEMP
WR_07	Weeds will be managed, handled and disposed of in accordance to the Weed Management Plan (refer to the Biodiversity CEMP). If disposal is appropriate, the weed material will be transferred to a licensed waste facility.	Construction	Implementation of Weed Management Plan (included in the WSA Biodiversity CEMP).	All Contractors	WSA EIS Table 28-4 (Biodiversity CEMP) Biodiversity CEMP
WR_08	Concrete, asphalt, bricks/masonry and steel products are to be reused on site where possible. Alternatively, they will be sent off-site for recycling.	Construction	<p>All site won materials, and site generated materials will be reused where practical. All materials leaving site are recycled where possible.</p> <p>Waste reports are received monthly from the waste exporter to track recycled content.</p> <p>For further information please refer to Section 6.2 Reuse, Recovery and Recycling.</p>	All Contractors	Good practice

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_09	Sediment recovered from erosion and sediment control devices will be reused on site as general fill material or it will be incorporated within landscaping materials where possible.	Construction	Sediment will be mixed in with general fill and reused. Sediment will not be taken to landfill. For further information please refer to sections 6.2Reuse, Recovery and Recycling and 6.2 Waste handling and storage.	All Contractors	Good Practice
WR_10	All staff and subcontractors will undergo a site induction and ongoing toolbox talks that will detail waste minimisation and reuse management measures, including the requirements of the waste management hierarchy. Waste minimisation training will include energy consumption awareness that promotes energy conservation methods including minimising energy use by switching off equipment when not in use.	Construction	All staff, workers and visitors are required to undertake the WSA Project induction before attending site. The induction will cover all areas of the Project CEMPs, including waste avoidance and energy minimisation. For further information please refer to Section 10 Competence, training and awareness.	All Contractors	Good Practice
WR_11	Contaminated land management must be undertaken in accordance with the SM-WSA Soil and Water CEMP and the applicable Remediation Action Plan.	Pre-construction Construction	Soil and Water CEMP is to be implemented as required. The RAP will be implemented under the guidance and supervision of the SM-WSA Environment Manager	All Contractors	Good Practice
WR_12	An emergency spill response procedure will be prepared to minimise the impact of any accidental spills, and include details on the requirements for managing spills, disposing of any contaminated waste, and reporting of any such incidents. Any waste generated as a result of a spill and associated clean-up which requires off-site disposal, will be done so in accordance with the NSW EPA Waste Classification Guidelines (2014).	Pre-construction Construction	Emergency spill response will be undertaken as per the Soil and Water CEMP and reported upon occurrence.	All Contractors	Good Practice

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_13	Hazardous wastes special wastes that require disposal off-site during construction will be managed consistently with the Protection of the Environment Operations (Waste) Regulation 2014 (NSW).	Construction	To be implemented as per WR13 under supervision of the construction and environmental management teams.	All Contractors	WSA EIS Table 28-17
WR_14	Measures to reuse and recycle waste will be implemented including: Reuse of green waste and topsoil for landscaping; Reuse of excess or contaminated soils where they have been demonstrated to be suitable for re-use in accordance with RAP or other relevant guidance Reuse of waste streams including metals, oils and solvents wherever possible; Recycling of waste streams including brickwork, metals, plasterboard, plastics and timber; Contract terms with suppliers to specify recyclable content and returnable packaging; and Co-operation in stewardship programmes for compatible waste streams including pallets. Where soil/ spoils required disposal to a licensed facility, that all measures have been undertaken to achieve the lowest waste classification in accordance with the NSW EPA 2014 Waste Classification Guidelines. Raw materials (such as noise hoarding and site fencing) will be reused or shared, between sites and between construction contractors where feasible and reasonable.	Construction	Waste streams will be recycled and reported on monthly showing percentage of recycled materials, and percentage taken to landfill. For further information please refer to Section 6.2 Reuse, Recovery and Recycling.	All Contractors	WSA EIS Table 28-17



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_15	Measures to recover and treat waste will include recovery (prior to reuse) of compatible waste including metals, oils, solvents, brickwork, metals, plasterboard, plastics and timber.	Construction	<p>Metals, bricks, concrete, plasterboard, plastics and timber will be recycled and reported on as per WR14 by Contractors. Oils and solvents will be managed as per hazardous waste protocols.</p> <p>Recovery and treatment processes may vary between each package due to different Contractors and Waster Service Providers.</p> <p>For further information please refer to Section 6.2 Reuse, Recovery and Recycling.</p>	All Contractors	WSA EIS Table 28-17
WR_16	Imported material to be validated prior to delivery to site. Appropriate material classification demonstrating the material is suitable to be supplied. Process for tracking the material from supplier to site to be implemented.	Construction	<p>Records of testing of imported materials to certify material are free of contamination and comply with relevant resource recovery exemption or VENM. Testing records to be provided to the WSA Environment team, prior to the importation of material/s onto the Site</p> <p>Material tracking process to be followed.</p> <p>Documentation required (e.g. EPA exemption/order to be provided for material that is not ENM/VENM.)</p>	SCAW	Good practice AEPR

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WASTE DISPOSAL					
WR_17	<p>A central waste area (or areas) will be established during construction, at which waste (including recyclables) would be stored. As per Section 6.2, most construction waste will be stored in co-mingled bins for processing offsite to maximise resource recovery. Office waste will be segregated to maximise resource recovery.</p> <p>Residual waste that cannot be avoided, reduced, reused, recycled, recovered or treated will be collected by a licensed contractor for disposal at a licensed facility.</p>	Construction	<p>To be undertaken as per WR17 by setting up a waste sorting area early in the Project.</p> <p>For more information please refer to Section 6.2 Waste Disposal.</p>	All Contractors	<p>WSA EIS Table 28-17</p> <p>SM WSA EIA Table 8-2, WR4</p>
WR_18	A Waste Management Register of all waste collected for disposal and/or recycling will be maintained on a monthly basis until final completion.	Construction	Refer to Appendix B of this Plan.	All Contractors	SM WSA EIA Table 8-2, WR3
WR_19	Waste will be managed and disposed of in accordance with the PoEO Act and the NSW Waste Classification Guidelines (EPA, 2014). Wastes that are unable to be reused or recycled will be disposed of offsite at a licensed waste management facility, following classification.	Construction	<p>To be undertaken as per WR18.</p> <p>For more information please refer to Section 6.15 Classification of Waste Streams and 6.2 Waste Disposal.</p>	All Contractors	SM WSA EIA Table 8-2, WR4
WR_20	Oils and other hazardous liquids will be labelled and stored in a sealed container within a bunded area. Material collected from within bunded areas will be disposed off-site at a waste facility approved by the EPA.	Construction	<p>A bunded hazardous material storage container will be used on the Project and inspected weekly.</p> <p>For more information please refer Section 6.2 Waste Disposal.</p>	All Contractors	SM WSA EIA Table 8-2, WR4

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_21	The relevant licenses of waste facilities utilised for the disposal of Project waste will be obtained (on a regular basis if necessary) to ensure they are legally able to accept that waste.	Construction	All waste facilities will be vetted to ensure the waste they are receiving from the Project is permissible. Facilities outside of NSW are not to be used unless WSA has provided approval. For more information please refer to Section 6.2 Waste Disposal.	All Contractors	Good Practice
WR_22	The disposal of chemical, fuel and lubricant containers, solid and liquid wastes must be in accordance with the requirements of the local Council or the NSW EPA.	Construction	Hazardous materials and containers will be stored onsite until disposed of by a licensed contractor. For more information please refer to Section 6.2 Waste Disposal	All Contractors	Good Practice
WR_23	All trucks transporting wastes off site will be appropriately licensed to carry the materials to appropriately licensed waste facilities.	Construction	To be undertaken as per WR22.	All Contractors	Good Practice
WR_24	An illegal dumping prevention strategy will be implemented and will be developed in consultation with the NSW EPA and relevant local councils. The strategy will outline measures to be undertaken to minimise the risk of illegal dumping on the Airport Site.	Pre-construction	An illegal dumping prevention strategy has been prepared, see Appendix C of this plan.	All Contractors	WSA EIS Table 28-17

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_25	In the event that WSA are unable to achieve the targets set out in Section 3.2 with regards to reuse and recycling and therefore off-site waste disposal is required, consultation is to be undertaken with the relevant waste management providers to ensure they are capable of handling any significant waste streams and also to confirm that our waste management practices do not place unnecessary burden on local and regional waste services.	Construction	Monthly reporting as per requirement WR_14 is to be monitored. If recycling targets are not being met, and additional landfill disposal is required, consult with the relevant waste management facilities. For more information please refer to Section 3.2 Targets and Performance Criteria and 9 Environmental Inspection, Monitoring and Auditing and Reporting	All Contractors	Good Practice
ENERGY CONSERVATION					
WR_26	The Sustainability Plan will help to ensure that construction resources are used efficiently, and waste is minimised.	Construction	The Sustainability Plan will be prepared to address WR25.	All Contractors	WSA EIS Table 28-17
WR_27	Energy efficient work practices will be implemented, including the consideration of: Energy efficient design of site buildings; Design of construction work sites to minimise unnecessary vehicle movement; Assess energy (fuel/electricity) efficiency when selecting equipment Regular servicing of site plant and equipment; Training of personnel in energy efficient best practices; and Use of locally sourced material where available and of suitable quality.	Construction	The WSA Project induction, prestart and toolboxes will discuss limiting idling plant, carpooling to and from the compound and other energy saving practices. All plant and equipment will be serviced as required, to be informed by the daily pre-start checks Local providers / sources of material will be considered in the procurement process, with likely cost savings due to reduced delivery / transportation. For more information please refer to Section 6.3 Energy Conservation.	All Contractors	Good Practice
IMPORTED MATERIALS					

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



ID	Measure/Requirement	When to Implement	How to implement	Responsibility for Implementation	Reference
WR_28	All materials to be imported onto the Site must satisfy the requirements of the Remediation Action Plan.	Construction	Ensure that the appropriate certification documentation has been provided to WSA environment team, prior to the importation of material/s onto the Site. For more information refer to Section 6.5 Imported Material Management.	All Contractors	RAP
WR_29	Track and record the type, amount and location of material/waste imported, reused, recycled, stockpiled, and disposed of (including for Temporary Works).	Construction	Maintain an imported material tracking register and a waste material tracking register until the Date of Construction Completion. For more information refer to Section 9.4 Environmental Reporting	All Contractors	Good Practice

8. Environmental roles and responsibilities

The key environmental management roles and responsibilities for the construction phase of the work are detailed in Section 3.15 of the CEMF.

Sydney Metro will ensure enough resources are allocated on an ongoing basis to ensure effective implementation by both Sydney Metro and the responsible contractors. The roles and responsibilities for the management of asbestos as required by the RAP is detailed in Table 8-1.

Table 8-1 Roles and responsibilities for the management of asbestos

Roles	Responsibilities	Prep Activities	SCAW	Material Import	SBT
Contractors (SCAW and SBT)	Responsible for undertaking the remediation works as defined in the RAP and securing all relevant approvals required to undertake the works.	x	x		x
	Responsible for implementing an Unexpected Finds Protocol to manage any unexpected identification of contamination.	x	x		x
Licensed Asbestos Removalist	Engaged by the Contractor when asbestos is required to be removed, handled, managed or otherwise disturbed. Competent and experienced in identifying asbestos and licenced as Class A and/or Class B, as required, in accordance with the requirements of SafeWork Australia and SafeWork NSW. They will work closely with the Licenced Asbestos Assessor/hygienist and the Environmental Advisor and will be responsible for ensuring that asbestos removal works are undertaken in accordance with all relevant codes of practices, regulations and legislation.	x	x		x
Licensed Asbestos Assessor and hygienist	Engaged by the Contractor when asbestos is required to be removed, handled, managed or otherwise disturbed. Competent and experienced in identifying asbestos in accordance with the requirements of SafeWork Australia and SafeWork NSW. They will work closely with the the licensed Asbestos Removalist and the Sydney Metro Environmental Advisor and will be responsible for undertaking air monitoring, risk assessment for works with asbestos, assessment, assessment of condition of asbestos and issue of clearance certificates for visual presence of asbestos on surfaces as part of the works for the site	x	x		x
Site Auditor	Accredited by the NSW EPA and will undertake an independent non-statutory review of all relevant environmental reports prepared for the remediation of the site. The Site Auditor will prepare a Site Audit Report (SAR) and Site Audit Statement (SAS) confirming the suitability of the site for its intended use.	x	x	x	x

Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



<p>Sydney Metro Environmental Advisor</p>	<p>Suitably qualified and competent environmental consultant who has specific demonstrated experience in the type of remediation set out in this RAP. Their role is to provide independent, technical advice, technical direction and validation of the remediation and to document that all remediation works undertaken at the site are conducted to the satisfaction of Sydney Metro and the Site Auditor.</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>
<p>Sydney Metro Environment Team</p>	<p>Overall responsibility for environmental management and remediation of the site.</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>
<p>Sydney Metro Design Team/ALC</p>	<p>Approves the location is suitable for the placement of material based on the land use</p>	<p>x</p>	<p>x</p>		<p>x</p>

9. Environmental inspection, monitoring, auditing and reporting

Monitoring, inspection and auditing will be undertaken to measure effectiveness and facilitate continuous improvement of waste and resources management. Refer to section 3.16 of the CEMF for general environmental monitoring, inspection and auditing requirements.

A summary of the environmental inspection, monitoring and auditing requirements is provided below, with details of how they apply to the management of waste and resources where applicable.

9.1. Environmental inspections

9.1.1. Sydney Metro environmental inspections

Environmental site inspections at active, exposed work sites will be undertaken by the Sydney Metro Environment Manager (or delegate) on a weekly basis to evaluate the effectiveness of environmental controls implemented by the contractor. The weekly site inspection is to include a visual check of general construction activities and any management measures associated with waste and resources, including but not limited to the following:

- Observation of waste segregation and separation to ensure the waste management hierarchy is being effectively implemented;
- Ensuring that opportunities for material / waste reuse on site are being investigated and implemented where practical;
- Observation of general housekeeping standards, including the presence (if any) of waste on the ground;
- Ensuring that waste receptacles are being managed appropriately, and that they are being emptied regularly as required to ensure no overspill of waste;
- Observation of machinery and plant usage, ensuring that where appropriate engines are switched off to avoid unnecessary resource consumption; and
- Inspection of waste storage facilities.

The findings of the Sydney Metro site environmental inspection will be recorded on Sydney Metro Site Environmental Inspection Checklist included with an accompanying photographic style inspection report.

9.1.2. Contractor environmental inspections

Weekly site inspections will be undertaken by the Contractor to monitor compliance with this plan at active, exposed work sites. Inspection results will be recorded, and the inspection log made available to the Infrastructure Department upon request. Any non-conformance or improvement opportunity associated with the management of waste and resources will be reported in the monthly report and discussed at the Environmental Coordination meeting.

More frequent site inspections by the person accountable for waste and resources management will be conducted onsite when activities with a high potential to generate a high volume or sensitive waste type or utilise a high volume / quantity of resources will be carried out.

The Contractor's Environmental Manager and/or Environmental Coordinators will undertake inspections in accordance with the Contractor Environmental Management Framework. The Contractor's Environmental Coordinators will record inspection findings on an inspection checklist form.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

9.1.3. Pre-start inspection

Prior to the commencement of works on each shift, an informal inspection will be carried out by the relevant contractor and will include a check of relevant environmental controls and resources required to ensure effective operation and maintenance. This is to include an inspection of relevant waste and resources management mitigation measures and controls where applicable. Works are not to commence unless inspections are found to be satisfactory. The foreman (or delegate) will undertake the pre-work inspections and record the finding.

9.2. Waste and resources monitoring

General environmental monitoring requirements are set out in the AEPR (and within Table 28-16 of the EIS) which include the following:

- Monitoring must take place under the direction of an appropriately qualified person; and
- The results of the monitoring must be kept in a written record.

Specific waste and resources monitoring requirements, including timing and responsibilities, are included in Table 9-1 below.

Table 9-1 Waste and resources monitoring requirements

Reference	Requirement	Timing	Responsibility
WR_M_01	All waste material generated on the Airport Site and resources used are to be tracked and classified to meet the requirements of the sustainability targets outlined in the Sustainability Plan when approved. Waste tracking is to include volumes / quantities disposed, reused and recycled. An example waste tracking register is included in Appendix B.	During construction	All contractors
Table 28-16 of the EIS	Monitoring requirements include that: Monitoring must take place under the direction of an appropriately qualified person; <ul style="list-style-type: none"> • The results of the monitoring must be kept in a written record; • Waste material generated on the airport site and resources used are tracked and classified to meet the requirements of the sustainability targets outlined in the Sustainability Plan; and • Regular site inspections are carried out to monitor compliance with the Waste and Resources CEMP, record inspection results, and inspect log available to the Department of Infrastructure and Regional Development when asked. 	During construction	All contractors

9.3. Environmental auditing

Refer to Section 3.16 of the CEMF for environmental auditing requirements, including internal Sydney Metro audits, independent audits and audits to be undertaken by contractors.

9.4. Environmental reporting

General environmental reporting requirements are detailed in Section 3.18 the CEMF. In addition, a summary of reporting requirements required under this Waste and Resources CEMP (including environmental reporting requirements under the Airport Plan specific to this Waste and Resources CEMP) is provided below in Table 9-2.

Table 9-2 Waste and resources reporting

Action	Scope	Timing/ Frequency	Responsibility
Annual reporting	Unless otherwise agreed in writing by an Approver, an annual report will be prepared in relation to compliance with this Waste and Resources CEMP (Condition 39). In accordance with Condition 39 (2) Sydney Metro will publish each of the annual reports on its website within three months of the end of the period in respect of which the report was prepared, with evidence providing proof of the date of publication to the Infrastructure Department with a copy to the Environment Department. The report must remain on the website for a period of at least 12 months.	Annually	Sydney Metro Environment Manager
Monthly Compliance reporting	Undertaking monitoring as required by this Waste and Resources CEMP. Contractor is to provide Sydney Metro with a monthly summary of all waste and resources monitoring undertaken and advise of compliance with criteria	Monthly	All Contractors
General environmental inspection	Inspection of environmental management controls on site and sighting of site documentation as required by the contractor's CEMP.	Weekly	Sydney Metro
General environmental inspection	Inspection of environmental management controls and site documentation for contractor works (as required by the contractor's CEMP). Could include stockpiles, bins, tracking registers, waste dockets, sampling results etc.	As per Contractor environmental management system (at least weekly)	All Contractors
Reporting pollution incidents	For the management and reporting requirements of all environmental incidents, refer to section 3.12 of the CEMF. Report pollution incidents resulting in offsite impacts to the NSW Environment Protection Authority – refer to Sydney Metro Environmental Non-conformance Classification and Reporting Procedure.	As required	All

Action	Scope	Timing/ Frequency	Responsibility
Complaints reporting	Recording of complaints and stakeholder interactions	As required	Sydney Metro Community and Stakeholder Engagement Manager Sydney Metro Environment Manager All Contractors
Reporting of non-conformances and improvement opportunities	The management and reporting requirements of environmental non-conformances and improvement opportunities will be in accordance with Section 8 of the CEMF.	As required	Sydney Metro All Contractor
Reporting and tracking of material	<p>A material tracking report must be prepared which records:</p> <ul style="list-style-type: none"> • The location, quantity and timing of material placed into stockpiles areas; • The movement of materials within site, including date, time, quantity, source location and placement location; • Materials imported onto the site; and • Any material disposed off site, including classification, EPL of destination waste facility, disposal dockets, date and time, disposal contractor details consignment details. 	Monthly	All contractors

9.5. Review of approved plans

Sydney Metro will review each approved plan at least every five years (from the date of approval) as required by the Airport Plan. A review will also be completed annually to ensure that it continues to meet the approval criteria. Details of the review will be included in the annual report (refer to Section 3.18 of the CEMF). If the review identifies areas where the plan does not continue to meet the approval criteria for that plan, a variation to the approved plan will be prepared and submitted for approval.

Sydney Metro may initiate reviews of Approved Plans at other times in response to improvement opportunities, non-conformances, and changes to scope of work or construction methodology or alterations to legal or contractual requirements.

Any changes identified and implemented through the variation and review process identified above will be communicated to relevant contractors through re-issue of the revised Sydney Metro Approved Plan and subsequent training and awareness (refer to refer to Section 3.11 of the CEMF). Once the reviewed plan is approved by the Approver, this reviewed plan will be the Approved Plan.

9.6. Environmental incidents and complaints management

The management and reporting of environmental incidents shall be undertaken by the appropriate person as detailed in Section 3.13 of the CEMF.



All communications and complaints management will be implemented and managed in accordance with Section 4.2 of the CEMF and the Community communications strategy.

10. Competence training and awareness

To ensure this Waste and Resources CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements within. The Sydney Metro Environment Manager will coordinate the necessary and relevant environmental training in conjunction with other training and development activities.

All competence, training and awareness requirements will be implemented as detailed in Section 3.11 of the CEMF.

Appendix A – Waste management procedure

A.1 Objective

To correctly classify waste that is produced during the construction phase of the Project for reuse, recycling or disposal to an appropriately licensed facility. This is to encourage the most efficient use of resources and ensure potential impacts from waste are minimised during construction. Where material is required to be disposed off-site the requirements outlined in Figure 3 are to be implemented by the Contractor and SM - WSA. Waste that is disposed off-site must be classified appropriately by the SM - WSA Environmental Advisor as outlined in Figure 4.

Figure A-1 Waste Disposal requirements for the Contractors

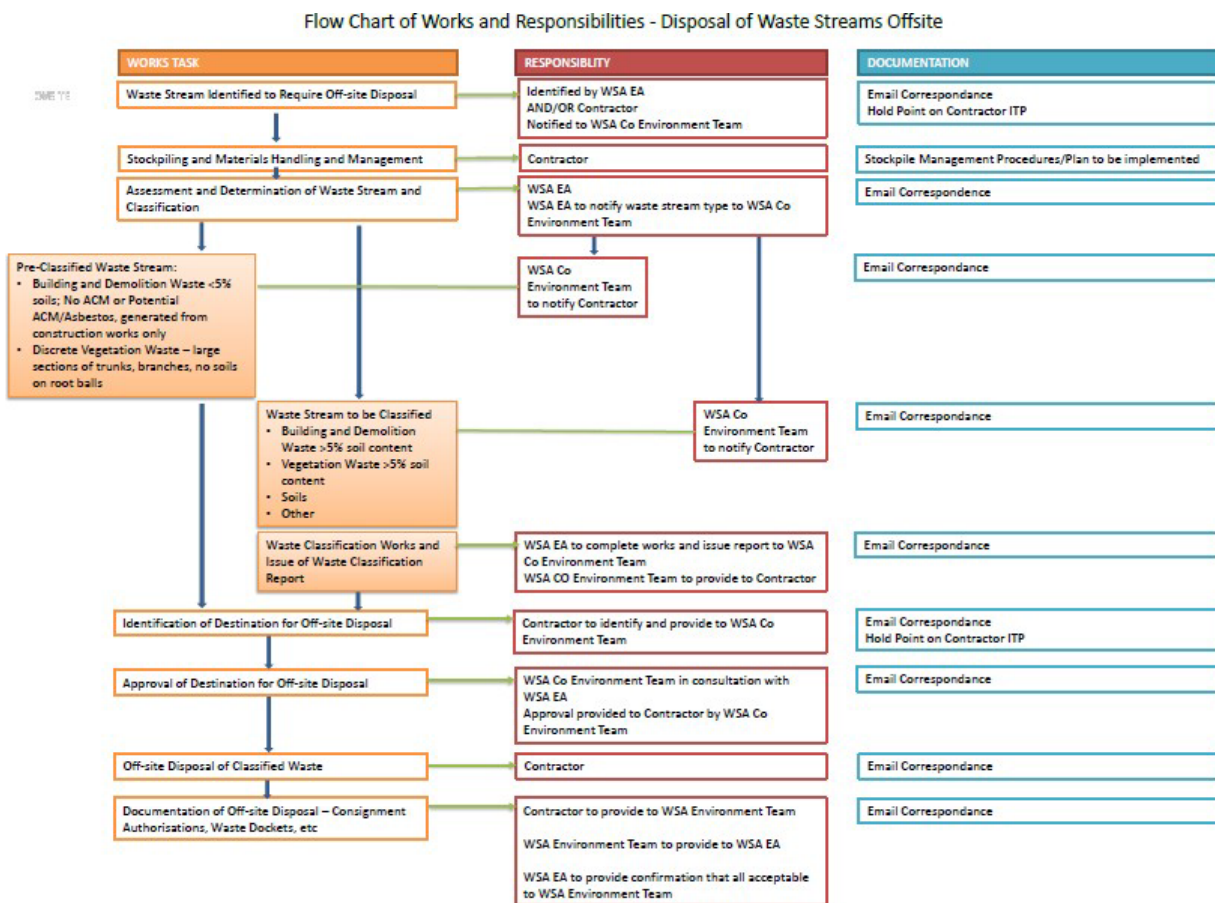
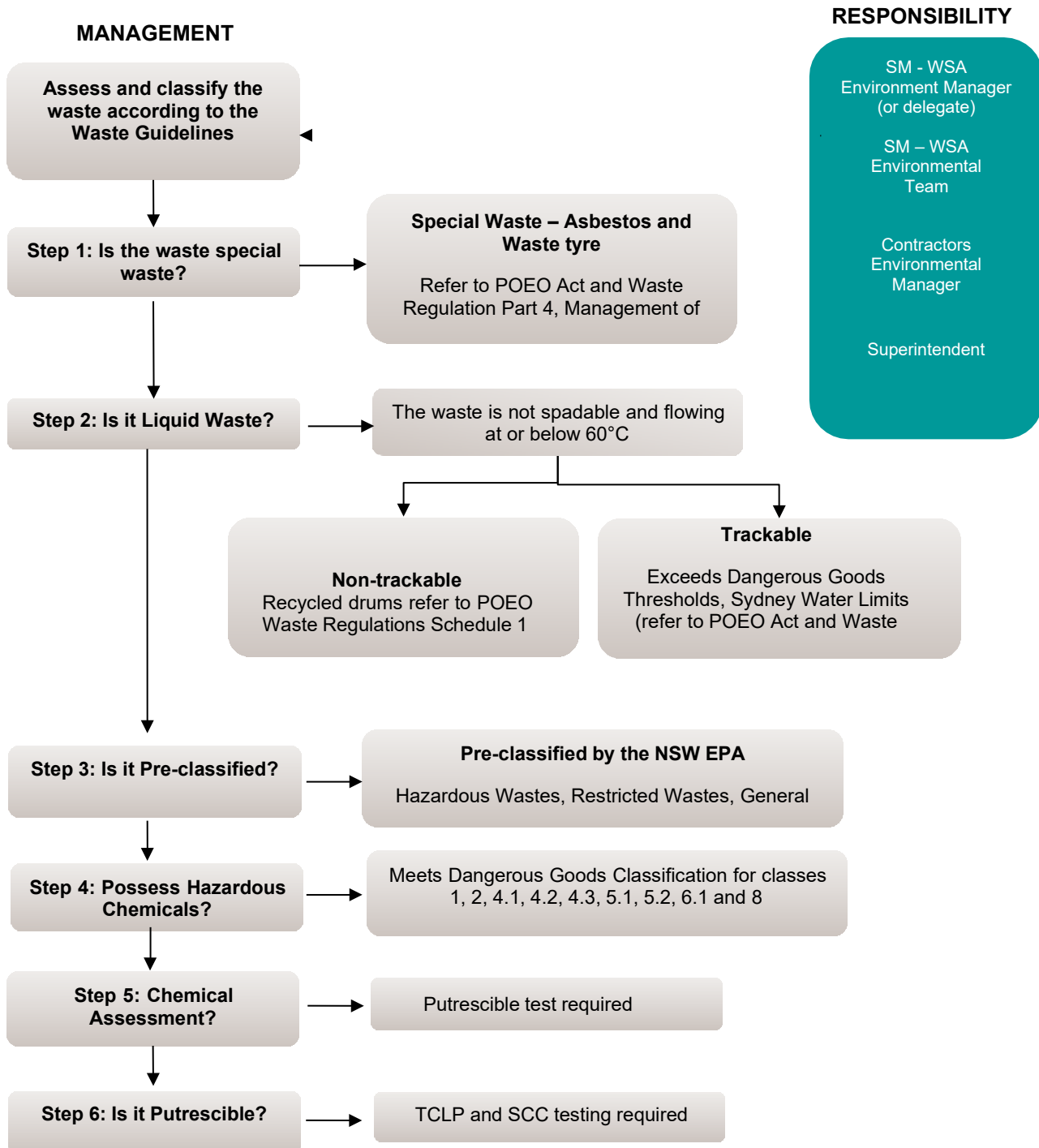


Figure A.2 Waste Classification completed by the Contractor Contamination Specialist



A.2 Monitoring

- Monitoring of all waste and associated volumes will be carried out for the duration of the works covered by this CEMP.
- Waste management will be undertaken in accordance with the Waste Management Hierarchy from the *Waste Avoidance and Resource Recovery Act 2001* which describes the most desirable action to least desirable action. This being to REDUCE, REUSE, RECYCLE and DISPOSE as the last measure.
- Waste segregation will occur at the worksites and segregation will be undertaken off site by the licenced waste contractor.

A.3 Recording

The Environmental Coordinator is to undertake environmental inspections of the work areas and maintain records, including material movement permits.

Waste data including type, location, receiving facility and transport contractor will be captured and entered in the waste register.

Table A-1 Waste Classification

Waste types	Waste classification
Vegetation (logs, mulched timber, weeds)	General Solid Waste (non-putrescible) / Exempt Waste
Demolition materials	General solid waste
Excess material from excavations	General solid waste
Piling	Likely to be General solid waste, (Potential for reuse onsite)
Unknown (Potentially Contaminated Soils)	If material is taken off site classification will be carried out, based on soil tests carried out pre-construction and in accordance with the EPA <i>Waste Classification Guidelines: Parts 1 and 2</i> (EPA 2014)
Rubble, rock, sand, asphalt, road base, concrete	General Solid Waste (non-putrescible)
Sewerage and site compound waste	Effluent (sewerage) and general solid waste (non-putrescible)
Asbestos contaminated material	Special Waste (Asbestos Waste)



Appendix B – Example waste management register



Table B-1 Example Waste Management Register

Date /Time	Waste classification	Waste type	Unit of Measurement	Quantity	Transporter	Receiving facility / site	Consignment number	Tipping docket

Appendix C – Illegal dumping prevention strategy

C.1 Introduction

This Illegal Dumping Prevention Strategy (IDPS) acts in support of the Waste and Resource Construction Environmental Management Plan (Waste and Resources CEMP) for the construction phase of the Western Sydney Airport Stage 1 and Project.

C.1.1 Purpose

This plan has been prepared to address the requirements of Conditions contained in the Western Sydney Airport – *Airport Plan* (2016) (Airport Plan), the environmental mitigation and management measures listed in the *Western Sydney Airport Environmental Impact Statement* (EIS) and all applicable legislation.

The purpose of IDPS is to provide guidance for the implementation of potential strategies to minimise and managed illegal dumping during for the construction phase of the Western Sydney Airport Stage 1 and Project.

C.1.2 Objectives

The key objective of the IDPS is to outline measures to be undertaken to minimise the risk of illegal dumping on the Project's site. The IDPS will be developed in consultation with the NSW Environmental Protection Authority and relevant local councils.

C.2 Environmental requirements

C2.1 Relevant legislation and guidelines

As the Western Sydney Airport is to be developed under the Airport Plan determined under the *Airports Act 1996*, some state laws will not be applicable to the Project (s112 of this Act). Where state law is applicable, these laws will be complied with including obtaining relevant permits. Where state laws are not applicable, there may nonetheless be a requirement to have regard to those laws, for example, through mitigation measures to satisfy conditions under the Airport Plan.

C2.2 Guidelines and strategies

The following approaches and strategies were considered in this IDPS:

- The NSW Environment Protection Authority (EPA) - NSW Illegal Dumping Strategy, 2017-21
- Liverpool City Council's illegal dumping web page information - <https://www.liverpool.nsw.gov.au/council/Fees-Forms-Policies-and-Enforcement/enforcement/illegal-dumping>
- Department of Environment & Climate Change NSW, Crackdown on Illegal Dumping, Handbook for Local Government.

C2.3 Rationale for an illegal dumping prevention strategy

The Airport Plan requires the development of a Waste and Resources CEMP which meets the requirements of Chapter 28 of the EIS. The IDPS acts as a supporting document alongside the Waste and Resources CEMP to provide guidance on the issue specifically related to illegal

dumping of material onto the Project's site during the undertaking of the works covered by this CEMP.

C2.4 Conditions

The mitigation and management measures in the EIS, Table 28-17, which are relevant to illegal dumping during construction are listed in Table C1.

Target C1 EIS requirement for illegal Dumping Prevention Strategy

Requirement	Responsibility
An illegal dumping prevention strategy will be developed as part of the Waste and Resources CEMP. The strategy will be outlined measures to be undertaken to minimise the risk of illegal dumping on the Airport Site and will be developed in consultation with the NSW Environment Protection Authority and relevant local councils.	WSA

C3 Illegal dumping

The State of NSW and Environment Protection Authority (State of NSW and Environment Protection Authority , 2017) defines illegal dumping as:

“Illegal dumping is the disposal of any waste that is larger than litter to land or water without correct approvals (an environment protection licence or planning approval). It includes illegal landfilling, where waste, often from construction or demolition, is used as ‘fill’ without approval. It can damage the environment and our health and create unsightly community spaces and high clean-up costs.”

C3.1 Types of waste dumped

Examples of the types of waste illegally dumped include the following:

- General household waste;
- Mattresses;
- Furniture;
- Whitegoods;
- Green waste;
- Construction and demolition waste;
- Asbestos;
- Chemicals;
- Vehicles; and
- Tyres.

C3.2 Reasons for illegal dumping

Depending on the type and quantity of the waste, people are motivated to illegal dump for the following reasons (State of NSW and Environment Protection Authority , 2017):

- Opportunity to make money;

- Unwillingness to pay;
- Convenience; and
- Uncaring attitude.

C4 Illegal dumping mitigation and management measures

Specific mitigation and management measures to minimise the risk of illegal dumping on the Airport Site include the following.

C4.1 Training and Awareness

- Raise community awareness of the effects of littering and illegal dumping by distributing illegal dumping awareness material such as pamphlets and posters;
- Provide training for staff personnel on lawful waste management practices and raise awareness of the impacts and penalties for illegal dumping;
- Engage with local councils on illegal dumping;
- Participate in community programs like Clean Up Australia Day; and
- Monitoring of site boundaries, fencing and other security measures to be undertaken on at least a weekly basis.

C4.2 Prevention Techniques

- Install fencing, signage and security protocols early in the Project to demonstrate a secure presence of the site;
- Reduce volume of litter and waste produced at the Airport Site, where appropriate;
- Implement measures in the surrounding areas of the site where illegal dumping is anticipated to occur, including, but not limited to:
 - Signage
 - Lighting
 - Fences and locked gates
 - Landscaping and revegetation
 - Barriers (e.g. concrete blocks)
 - Consistent communication with local police
 - Surveillance.
- Provide support and promote the use of surveillance and prevention techniques by local councils and public land managers.

C4.3 Clean-up of illegal dumping

Upon identification of illegal dumping the site hygienist and Contractors Environmental Manager will assess the material immediately and make safe where required with geofabric covering, signage and flagging;

If the material is identified to be hazardous it will be managed in accordance with the Remediation Action Plan which could include waste classification and removal from site by a licenced contractor;

The illegal dumping of materials, whether hazardous, or clean material, will be documented and submitted to the WSA Environmental Manager within 24 hours together with close out actions, asrequired.

C4.4 Complaints

Investigate illegal dumping and littering complaints and report these to the appropriate authority.