

# Spoil Management Sub-Plan

Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works

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## Document approval

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## Compliance

Clause	Requirement	Reference
<b>SSI 10051 Planning Approval</b>		
A46	All Heavy Vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away.	Section 4.5
E104	The locations of all Heavy Vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Section 4.5
E122	Waste generated during construction and operation must be dealt with in accordance with the following priorities:  (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced;  (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and  (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Section 4.1 Section 4.2.1 Section 4.2.2 Section 4.3
E124	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Section 4.2.2
E125	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Section 4.3
<b>Revised Environmental Management Measures</b>		
WR2	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Section 4.2.2
WR3	A materials tracking system would be implemented for material transferred between construction sites.	Section 4.3
<b>Construction Environmental Management Framework</b>		
6.1 (a)	The following spoil management objectives will apply to the construction of the project:  i. Minimise spoil generation where possible;  ii. The project will mandate 100% reuse or recycling (on or off-site) of usable spoil;  iii. Spoil will be managed with consideration to minimising adverse traffic and transport related issues;  iv. Spoil will be managed to avoid contamination of land or water;  v. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers; and	Section 1.1



Clause	Requirement	Reference
	vi. Site contamination will be effectively managed to limit the potential risk to human health and the environment.	
6.2 (a)	Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum:	Part B, Element 4 (Project Specific Requirements)
	i. the spoil mitigation measures as detailed in the environmental approval documentation;	
	ii the responsibilities of key project personnel with respect to the implementation of the plan;	Section 3
	iii. procedures and methodologies for the haulage and disposal locations, storage and stockpiling arrangements, including those for virgin excavated natural material, contaminated and unsuitable material;	Section 4.3 Section 4.5
	iv. procedures for the testing, excavation, classification, handling and reuse of spoil;	Section 4.3 Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001)
	v. measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the Contractor's Activities, including how spoil generation is minimised through the design development process;	Section 4.1 Section 4.2
	vi. details, links or references to where traffic movements in relation to spoil are described, and measures that will be implemented to minimise traffic and noise impacts associated with haulage and disposal of spoil;	Section 4.5 CTMPs
	vii. quantities for reuse of spoil within the Construction Site, for beneficial reuse of spoil off site and for spoil disposal;	Section 3.2
	viii. processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse;	Section 4
	ix. a register of spoil receipt sites that includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy;	Section 4.2.2 Appendix A of Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001)
	x. spoil management monitoring requirements; and	Element 2 – monitoring and reporting
	xi. compliance record generation and management	Element 2 – Monitoring and reporting
6.2 (b)	Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include:	Element 2 – Monitoring and reporting



Clause	Requirement	Reference
	<ul style="list-style-type: none"> <li>i. Records detailing the beneficial re-use of spoil either within the project or at off-site locations; and</li> <li>ii. Waste dockets for any spoil disposed of to landfill sites.</li> </ul>	
6.3 (a)	<p>Examples of spoil mitigation measures include:</p> <ul style="list-style-type: none"> <li>i. Implementing the spoil re-use hierarchy;</li> <li>ii. Handling spoil to minimise potential for air or water pollution; and</li> <li>iii. Minimise traffic impacts associated with spoil removal.</li> </ul>	<p>Section 4.1</p> <p>Section 4.3</p> <p>Section 4.5</p>



## Glossary

Abbreviation	Meaning
ANZECC	Australian and New Zealand Environment Conservation Council
BCM	Bank cubic metre
CEMF	Construction Environmental Management Framework (Appendix B of the Submissions and Preferred Infrastructure Report)
CEMP	Construction Environmental Management Plan
CPBG	CPB Ghella Joint Venture
CTMP	Construction Traffic Management Plan
D&C	Design and Construction
EPB	Earth Pressure Balance
EIS	Environmental Impact Statement
ENM	Excavated Natural Material is naturally occurring rock and soil (including materials such as sandstone, shale, clay and soil) that has: <ul style="list-style-type: none"> <li>a) Been excavated from the ground</li> <li>b) Contains at least 98 per cent (by weight) natural material</li> <li>c) Does not meet the definition of Virgin Excavated Natural Material (VENM).</li> </ul>
EPA	Environment Protection Authority
EPL	Environment Protection Licence
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
General Solid Waste (non-putrescible)	Demolition and construction waste, classified spoil, green waste, used spill equipment and asphalt, waste classified using SCC and/ or TCLP chemical testing
Off-airport	Land not within the boundary of the Western Sydney Airport.
On-airport	Land within the boundary of the Western Sydney Airport
PASS	Potential Acid Sulphate Soils
POEO Act	Protection of the Environment Operations Act 1997
Project	Sydney Metro Western Sydney Airport (including Station Boxes and Tunnelling)
REMM	Revised Environmental Mitigation Measures
SBT Works	Station Boxes and Tunnelling Works
SCC	Specific Contaminant Concentration
Spoil	All material generated by excavation into the ground including station boxes and tunnels
SMP	Spoil Management Sub-Plan
SSI	State Significant Infrastructure
Sub-Plan	Spoil Management Sub-Plan



Abbreviation	Meaning
TBM	Tunnel boring machine
TCLP	Toxicity Characteristics Leaching Procedure
SBT Works	Central Tunnel Package of works for the Sydney Metro West Project
VENM	<p>Virgin Excavated Natural Material is natural material (such as clay, gravel, sand, soil and rock) that:</p> <p>(a) has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and</p> <p>(b) that does not contain any sulfidic ores or soils or any other waste</p> <p>and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.</p>
WSA	Western Sydney Airport
FS01	WSA Spoil Site





# Part A – Overview

## 1. Overview

### 1.1. Purpose

This NSW (Off-airport) Spoil Management Sub-Plan (SMP or Sub-Plan) is applicable to the Station Boxes and Tunnelling Works (SBT Works) Package of the Sydney Metro Western Sydney Airport (the Project). This Sub-plan describes how the CPB Contractors Ghella Joint Venture (CPBG) will minimise and manage the spoil impacts of the SBT Works in NSW.

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

- State Significant Infrastructure (SSI) 10051 Planning Approval (dated 23 July 2021)
- Sydney Metro Western Sydney Airport – CSSI Staging Report (Revision 5.0) (Staging Report)
- AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with guidance for use
- Sydney Metro Construction Environmental Management Framework (CEMF)
- Environmental Impact Statement (EIS) and the Submissions Report, including the Revised Environmental Mitigation Measures (REMMs)
- Contractual requirements, including the SBT Design and Construction Deed and General and Particular Specifications
- Sydney Metro Western Sydney Airport Sustainability Management Plan
- Environment Protection Licence (EPL 21672)
- Applicable legislation (NSW and Commonwealth).

### 1.2. Sub-Plan context

To achieve the intended environmental performance outcomes of the Project, CPBG have an established Environmental Management System (EMS) in accordance with the requirements of ISO 14001:2016. Guided by the Environment and Sustainability Policy, the EMS consists of a Construction Environmental Management Plan (CEMP), aspect-specific procedures and Sub-Plans as illustrated in Figure 1. Implementation of the EMS is achieved through tools, checklists and forms as detailed in Section 5.2 of the CEMP.



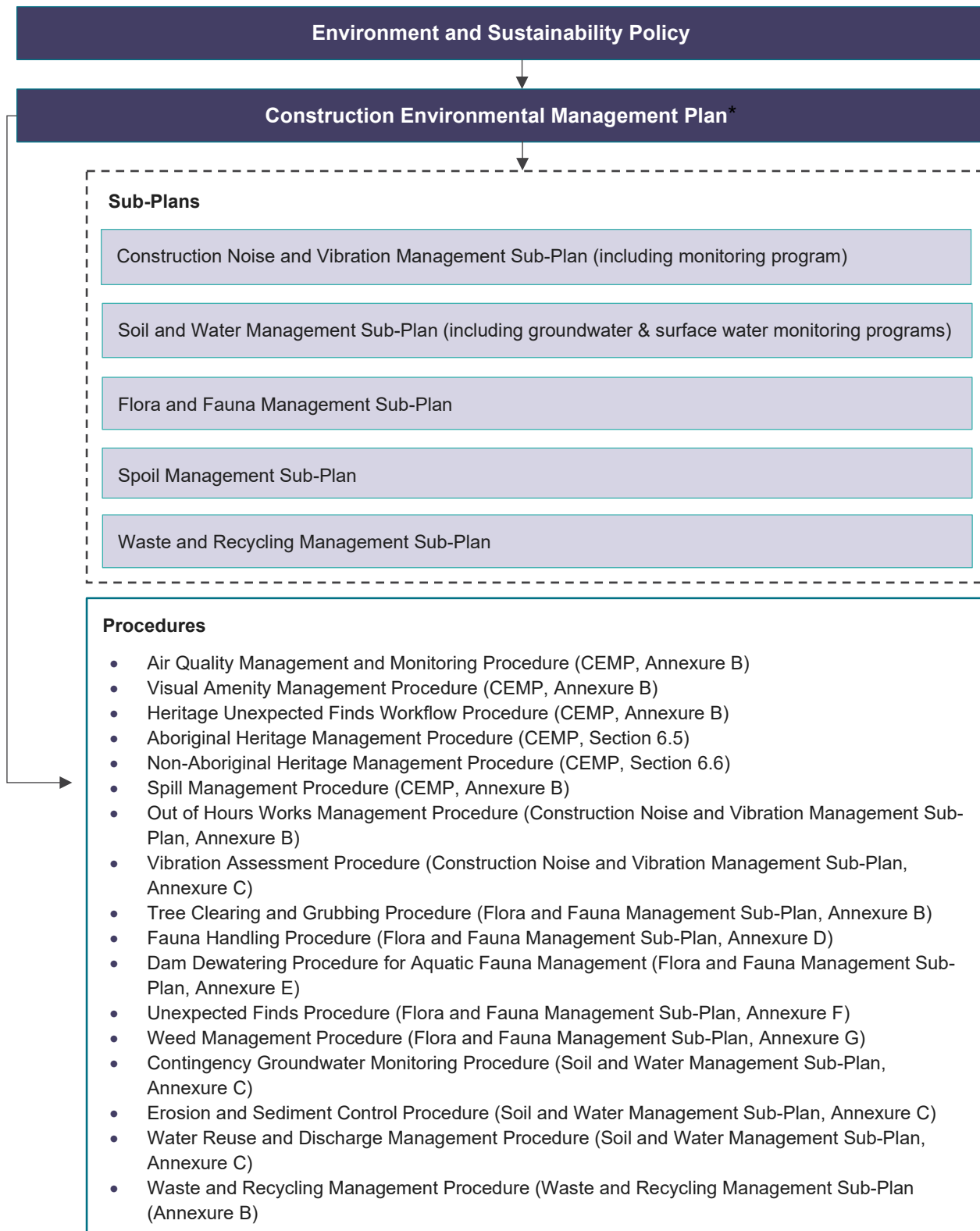


Figure 1: EMS Overview



### 1.3. Interactions with other management plans

This SMP is a Sub-Plan of the Construction Environmental Management Plan (SMWSASBT-CPG-1NL-EV-PLN-000002) (CEMP). It has the following interrelationships with other management sub plans and documents:

- **Soil and Water Management Sub-Plan** (SMWSASBT-CPG-1NL-NL000-WA-PLN-000002) – Together with the Contamination and PASS Management Procedure (SMWSASBT-CPG-SWD-SW000-CT-PRO-000001), the documents detail the process for managing potential contamination
- **Waste and Recycling Management Sub-Plan** (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001) – provides the waste classification process for spoil that is surplus to needs and identifies reuse/disposal locations
- **Noise and Vibration Management Sub-Plan** (SMWSASBT-CPG-1NL-NL000-NV-PLN-000001) addresses the noise and vibration impact of the SBT Works including spoil handling and haulage
- **Construction Traffic Management Plans** address the traffic and transportation impacts of spoil haulage
- **Sustainability Management Plan** (SMWSASBT-CPG-1NL-EV-PLN-000001) includes reference to waste minimisation strategies, including spoil reuse
- **On-Airport Environmental Compliance Plan** (SMWSASBT-CPG-SWD-SW000-EV-RPT-000002) details the process for acceptance of spoil to on-airport sites.

### 1.4. Objectives

The objectives for spoil management are to:

- Minimise spoil generation where possible through smart design
- Manage spoil to avoid contamination of land or water
- Manage site contamination to limit the potential risk to human health and the environment
- Manage onsite spoil handling to minimise environmental impacts on residents and other sensitive receivers
- Manage the transportation of spoil with consideration to minimising adverse traffic and transport related issues
- Mandate 100% reuse or recycling (on or off-site) of usable spoil.

### 1.5. Consultation and approval

Reflecting the requirements of the SSI 10051 Planning Approval, the Staging Report and the CEMF, there are no stakeholder consultation requirements associated with this Sub-Plan.

This Sub-Plan will be submitted to the Environmental Representative (ER) for endorsement. The submission of this Sub-Plan to the ER will occur no later than one month before the commencement of the Bulk Excavation and Tunnelling Works. Construction will not commence until this Sub-Plan has been endorsed by the ER.

This Sub-Plan, as endorsed by the ER, including any minor amendments approved by the ER, will be implemented for the duration of the SBT Works.



## 1.6. Sub-Plan Structure

<b>PART A: Overview</b>	<ul style="list-style-type: none"> <li>• <b>Section 1:</b> Introduction to the Sub-Plan, outlining the purpose, objectives and interactions with other management plans</li> <li>• <b>Section 2:</b> Legal and other requirements</li> <li>• <b>Section 3:</b> People and collaboration</li> <li>• <b>Section 4:</b> Spoil quantities and management</li> <li>• <b>Section 5:</b> Spoil Management Strategy</li> </ul>
<b>PART B Systems and Tools</b>	<ul style="list-style-type: none"> <li>• <b>Element 1</b> Training</li> <li>• <b>Element 2</b> Monitoring and reporting</li> <li>• <b>Element 3</b> Auditing, review and improvement</li> <li>• <b>Element 4</b> Project specific requirements</li> </ul>



## 2. Legal and other requirements

### 2.1. Legislation

This Sub-Plan has been prepared in accordance with relevant legislative requirements, including:

- *Environmental Planning and Assessment Act 1979*
- *Protection of the Environment Operations Act 1997 (POEO Act)*
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Contaminated Land Management Act 1997 (CLM)*
- *Waste Avoidance and Resource Recovery Act 2001*
- *Roads Act 1993.*

Refer to the CEMP for details of legislative obligations.

### 2.2. Project compliance requirements

Relevant compliance obligations arising from the SSI 10051 Planning Approval, REMMs, CEMF, and contractual requirements are summarised in the Compliance Matrix included at the beginning of this Sub-Plan and detailed in Part B.

### 2.3. Guidelines

Additional guidelines and standards relating to the management of spoil include:

- Waste Classification Guidelines, Part 1: Classifying Waste (EPA November 2014)
- Addendum to the Waste Classification Guidelines (2014), Part 1: Classifying Waste (EPA, October 2016)
- Waste Classification Guidelines, Part 4: Acid Sulfate Soils (EPA November 2014)
- Australian and New Zealand Guidelines for Assessment and Management of Contaminated Sites (ANZECC/NHMRC 1992)
- Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (EPA 1998)
- Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA 1997a)
- Contaminated Sites: Sampling Design Guidelines (EPA 1995b)
- Acid Sulfate Soil Manual (NSW Acid Sulfate Soil Management Advisory Committee 1998)
- Industrial Waste Resources Guidelines (EPA Victoria, 2009).

### 2.4. Licensing and Approvals

An Environment Protection Licence (EPL) has been issued under the POEO Act for the SBT Works and is available on the EPA website (Licence 21672). All relevant conditions of the EPL are addressed in this Sub-Plan and the Waste and Resource Management Sub-Plan.

### 2.5. ISCA IS Rating requirements

CPBG is required to obtain a Leading Infrastructure Sustainability Rating (IS) Rating (minimum score of 75) from the Infrastructure Sustainability Council (ISC) v. 1.2 for the “design” and “as built” SBT Works. As part of the IS Rating submission, spoil management will be considered in the air quality and waste management credits. Spoil management measures are addressed in Section 4 and Part B of this Sub-Plan. Further detail on CPBG’s IS Rating strategy is set out in the Sustainability Management Plan (SMSMW210-JCG-SW000-EN-PLN-000012).



## 3. People and collaboration

### 3.1. Our team

The roles and responsibilities of key project personnel with respect to spoil management are outlined in Table 1.

Table 1: Roles and responsibilities of key CPBG personnel

Role	Responsibility for spoil management
Project Director	<ul style="list-style-type: none"> <li>Manage delivery of the SBT Works including providing adequate resources to achieve spoil management objectives</li> <li>Act as Contractor's Representative</li> </ul>
Construction Director	<ul style="list-style-type: none"> <li>Manage delivery of the construction process for spoil management across all sites</li> </ul>
Environment Manager	<ul style="list-style-type: none"> <li>Develop the environmental induction program</li> <li>Provide advice to the Spoil Manager on potential reuse sites and maintain the register of spoil disposal sites</li> <li>Ensuring regular environmental inspections are undertaken of spoil storage locations</li> <li>Ensure adequate auditing and assurance of waste management procedures</li> <li>Hold authority to stop works that present a risk to human health or the environment</li> </ul>
Spoil Manager/ Project Manager	<ul style="list-style-type: none"> <li>Ensure implementation of the requirements of this Sub-Plan</li> <li>Identify and assess spoil reuse opportunities in consultation with the Environment Manager</li> <li>Hold authority to ensure spoil haulage contractors transport spoil to approved disposal locations</li> <li>Reporting on spoil extraction and reuse including the maintenance of all spoil related records</li> <li>Manage review and continual improvement of this Sub-Plan</li> </ul>
Traffic and Transport Manager	<ul style="list-style-type: none"> <li>Oversee the development of haulage routes in consultation with the Spoil Manager</li> </ul>
Construction managers	<ul style="list-style-type: none"> <li>Hold authority to ensure compliance with the requirements of this Sub-Plan</li> </ul>
Environmental Coordinators	<ul style="list-style-type: none"> <li>Assist the Environment Manager and Spoil Manager in implementing this Sub-Plan</li> <li>Oversee spoil management including compliance with spoil classification and tracking requirements</li> <li>Hold authority to stop works that present a risk to human health or the environment</li> </ul>
Sustainability Manager	<ul style="list-style-type: none"> <li>Oversee tracking and reporting of spoil reuse against sustainability targets</li> </ul>
Project Managers Project Engineers Site Supervisors	<ul style="list-style-type: none"> <li>Assist the Construction Manager in implementing this Sub-Plan</li> <li>Employ spoil management practices at the site level in accordance with this Sub-Plan</li> </ul>



Role	Responsibility for spoil management
Spoil Engineers	<ul style="list-style-type: none"> <li>Assist the Spoil Manager in implementing this Sub-Plan</li> <li>Manage the stockpiling of excavated material for testing and ensure stockpile management requirements are implemented</li> </ul>

### 3.2. Spoil quantities and management

Indicative spoil quantities and how materials will be managed during the SBT Works are outlined in Table 2.

Table 2: Indicative spoil quantities and management

SBT Worksite	EIS quantity	SBT Works quantity	Indicative onsite storage volume <sup>1</sup>	Indicative spoil handling
St Marys Station Box	510,000 m3 (station and tunnel stubs)	220,000 m3	10,500 m3	<ul style="list-style-type: none"> <li>Excavator to spoil stockpile</li> <li>Loader to road trucks</li> </ul>
Claremont Meadows Services Facility	85,000 m3	15,000 m3	4,500 m3	<ul style="list-style-type: none"> <li>Excavator to road trucks</li> </ul>
Orchard Hills Station Box	715,000 m3	525,000 m3	6,000 m3 (Civil site) 2,000 m3 (Dive Site) 11,000 m3 (Tunnel Boring Machine (TBM) spoil bin) 20,000+ m3 (Open space for drying Earth Pressure Balance (EPB) material)	<ul style="list-style-type: none"> <li>Conveyor and excavator to spoil stockpile</li> <li>Loader to road trucks</li> </ul>
Bringelly Services Facility	80,000 m3	21,700 m3	5,000 m3	<ul style="list-style-type: none"> <li>Excavator to road trucks</li> </ul>
Aerotropolis Core Station	355,000 m3	180,000 m3	10,500 m3	<ul style="list-style-type: none"> <li>Excavator to spoil stockpile</li> <li>Loader to road trucks</li> </ul>
<b>Total</b>	<b>1,745,000 m3</b>	<b>961,700 m3</b>		

**Notes:**

- Indicative volume of spoil that can be temporarily stockpiled at each SBT Worksite.



## 4. Spoil management strategy

### 4.1. Reducing spoil generation through design development

Due to the requirements of the SBT Works D&C Deed, including specifications for tunnel diameter, Cross Passages and station box volumes, there is limited scope to reduce spoil volumes. Notwithstanding, options to minimise spoil generation were identified during the design development and are detailed in the sections that follow.

#### 4.1.1. Optimising TBM segmental lining thickness to reduce TBM tunnel excavation diameter

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

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

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

#### 4.1.3. Optimising the Service Shaft Shape

By optimising the service shaft shape and using D-walls as a permanent structure, we will be able to reduce the excavation volume by approximately 5800 Bank Cubic Metres (BCM).

#### 4.1.4. Value engineering options

Our option to move the airport dive portal toward the airport business park station will replace approximately 214 m of the dive excavation with twin bored tunnel. The result is a reduction in the excavation volume by approximately 103,500 BCM.

### 4.2. Maximising beneficial spoil reuse

The majority of excavated spoil material from the SBT Works is expected to be uncontaminated crushed shale. One of CPBG's objectives, as outlined in Section 1.2, is to mandate 100% reuse or recycling (on or off-site) of usable spoil. Where material is surplus to needs, off-site reuse or recycling is the preferred management strategy. This section details the strategy for achieving this requirement.

#### 4.2.1. Spoil reuse hierarchy

The strategy for management of spoil material will be guided by the hierarchy in Table 3.





Table 3: Spoil management hierarchy

Priority	Reuse	Possible reuse options	Assessment
i.	Within the project	<ul style="list-style-type: none"> <li>Reuse of topsoil within the Project</li> </ul>	To be implemented where adequate and safe storage space is available.
		<ul style="list-style-type: none"> <li>Reuse spoil on the SBT Works for site levelling, embankments and mounds within a short haulage distance of the source</li> </ul>	Preferred, but limited to small volumes and associated time constraints. Subject to spoil chemical characterisation.
		<ul style="list-style-type: none"> <li>Landscape mounding and gabion wall features</li> </ul>	Not pursued. These features are not currently detailed in the proposed design. Should these features be later incorporated into the design, site won materials will be used where possible.
ii.	Environmental Works	<ul style="list-style-type: none"> <li>Flood protection works</li> </ul>	Preferred and will be further assessed in delivery subject to availability of adequate and safe storage space.
iii.	Other development projects (including within the WSI site)	<ul style="list-style-type: none"> <li>Reuse topsoil on other landscaping projects</li> </ul>	Preferred. We will further investigate the potential for topsoil to be used on other Projects during delivery. If reuse on a specific project cannot be arranged we will ensure topsoil is transported to a Construction Waste Recycling Facility where the material will be processed for reuse.
		<ul style="list-style-type: none"> <li>Reuse within the WSA site</li> </ul>	Preferred
		<ul style="list-style-type: none"> <li>Reuse spoil for fill embankments and mounds on projects within a financially feasible transport distance to the SBT Works.</li> </ul>	Preferred
iv.	Land restoration	<ul style="list-style-type: none"> <li>Reuse spoil to fill disused facilities (for example mines and quarries), to enable either future development or site rehabilitation.</li> </ul>	Potential
v.	Landfill management	<ul style="list-style-type: none"> <li>Reuse as capping material in restoration works</li> </ul>	Potential

#### 4.2.2. Potential spoil receipt sites

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

- Consideration of spoil characteristics
- Identification of possible reuse sites where spoil can be legally accepted
- Screening of possible reuse opportunities, including consideration of the following criteria:



- Spoil management hierarchy
- Distance from the work sites for off-site reuse options
- Land use, planning approval status and relevant licence conditions
- Availability of the site to accept spoil from the SBT Works
- Practicality of the method of reuse
- Safety of stockpiling locations
- Cost.

CBPG intend to use the WSA Spoil Site (FS01) site (on-airport) as the primary location for reusable and suitable material generated during the SBT Works (refer to Section 4.2.3). Approximately 89% of the material generated by CPBG excavation works is expected to be Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) and will therefore be placed directly at the FS01 (subject to relevant Resource Recovery Orders and Exemptions as detailed in Section 4.4). Disposal sites that feature higher on the Sydney Metro spoil hierarchy will be prioritised for material that is not VENM, ENM or otherwise suitable for reuse.

Reflecting the requirements of the EPL (Condition 5.6), excavated material suitable for re-use within the premises may be transported to another part of the premises or from the Sydney Metro Western Sydney Airport Project including on-airport sites, to the premises.

Where spoil cannot be classified as either VENM or ENM, CPBG will determine the feasibility of beneficial reuse by characterising the spoil against the specific contaminant concentration (SCC) and toxicity characteristics leaching procedure (TCLP) values in Tables 1 and 2 of the NSW Environment Protection Authority (EPA) Waste Classification Guidelines Part 1 (2014) and Appendix C of the Sydney Metro's 02.07.001 SMWSA Spoil Management Strategy. Where the spoil is sourced from a SBT Worksite that is subject to a Site Audit Statement, CPBG will engage with a suitably qualified and experienced contaminated land professional and the Site Auditor to assess the feasibility of beneficial reuse (refer to the Soil and Water Management Sub-Plan, SMWSASBT-CPG-1NL-NL000-WA-PLN-000002).

Where contamination meets the requirements for General Solid Waste, CPBG will identify receivers who are able to re-use or recycle spoil that meets the General Solid Waste thresholds as outlined in the NSW EPA Waste Classification Guidelines (2014). Alternatively, CPBG may apply to the EPA for a Resource Recovery Order or Exemption granted under the Protection of the Environment Operations (Waste) Regulation 2014 (refer to Section 4.4). Refer to the Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001) for additional details on Resource Recovery Orders and Exemptions, including processes for managing special waste, restricted solid waste and hazardous waste.

CBBG is responsible for managing the transport of all material by both haulage contractors and CPBG vehicles to the correct final locations. Potential spoil offsite reuse locations will be identified by the spoil haulage contractor(s) engaged by CPBG. Haulage contractors will ensure the following:

- Agree to commercial terms with the site operator and / or owner
- Provide CPBG with the following information from each place of disposal to confirm that they can lawfully receive the spoil being transported there:
  - A letter from the receival location confirming that the type of waste can be lawfully taken to that facility
  - A copy of the relevant planning documentation to confirm that material can be accepted (i.e. EPL, planning approval or development approval)
  - A completed Section 143 Certificate for the proposed site.



The above information will be documented on the Spoil Reveal Site Approval Checklist (SMCSWTSE-JCG-TPW- EM-FRM-004003), including a declaration signed by the spoil haulage contractor. The Spoil Reveal Site Approval Checklist will then be reviewed by CPBG and, once the site has been confirmed to be able to accept the material, the register of reveal sites (Appendix A of the Waste and Recycling Management Sub-Plan SMWSASBT-CPG-1NL-NL000-WM-PLN-000001) will be updated and circulated to the Construction Team for reference. Alternative disposal sites (not currently included on the register of reveal sites), will be determined during construction planning and will be subject to approval of the Environment Manager.

### 4.2.3. WSA Spoil Reveal

Reuse of spoil within WSA would be undertaken in accordance with the Airport Plan, Construction (Rail) Plan and any relevant CEMPs, including any subsequent variations to those plans. Where spoil cannot be reused for the project, or the WSA spoil placement areas, opportunities to reuse spoil on other projects would be identified.

Reflecting the requirements of the Sydney Metro WSA Waste and Resources CEMP (Rev 5), all materials imported to FS01 must satisfy the requirements of the WSA Remediation Action Plan and adhere to the following criteria:

- Virgin excavated materials such as natural clays, gravel, sand, soil or rock fines
- Material with suitable EPA 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
- 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 to FS01. The certification documentation will confirm 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.

An imported material tracking register and a waste material tracking register will be maintained by CPBG. The registers will 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 will include the following details and all validation in accordance with the WSA 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.

Certification for the imported materials will be provided to WSA for approval no less than two weeks prior to planned importation.



Imported materials tracking register and waste tracking register will be provided monthly to Sydney Metro as part of performance reporting.

#### 4.2.4. Ongoing refinement of the spoil reuse strategy

Potential spoil reuse opportunities outlined in Section 4.2.1 will continue to be investigated throughout the SBT Works. Emphasis will be placed on selecting reuse options which rank highly in the spoil reuse hierarchy wherever practicable.

### 4.3. Spoil testing, classification and handling

The classification of spoil will be undertaken in line with the Waste Classification Guidelines, Part 1: Classifying Waste (NSW EPA November 2014), the Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001) and the Sydney Metro Waste Classification Procedure. Classifications must be prepared by a suitably qualified and experienced contaminated land professional. Spoil will be classified as:

- VENM – generally there are no restrictions on reuse options of VENM, however some receival sites may be governed by site-specific reuse requirements, e.g. salinity requirements of some Western Sydney councils
- Excavated Natural Material (ENM) – beneficial reuse to be undertaken in line with the Excavated Natural Material Order/Exemption 2014. Some receival sites may be governed by site-specific reuse requirements in addition to those detailed in the exemption
- General Solid Waste, Restricted Waste, Special Waste and Hazardous Waste – requires management or disposal in line with EPA guidelines (refer to the Waste and Recycling Management Sub-Plan, SMWSASBT-CPG-1NL-NL000-WM-PLN-000001). Waste will only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.

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

- Separate differently classified materials to avoid cross-contamination and maximise reuse and recycling opportunities
- Prevent the contamination of clean material by intermixing contamination or waste
- Prevent the intermixing of contamination (or difference waste classifications) with clean material or any other type of contamination or waste
- Delineate to the greatest extent practicable any hazardous waste spoil identified onsite and investigate opportunities to treat the material to a lower waste classification.
- Avoid placement of stockpiles in drainage lines, channels or paths
- Establish adequate measures to prevent erosion and transportation of sediments (refer to the Soil and Water Management Sub-Plan SMWSASBT-CPG-1NL-NL000-WA-PLN-000002) Sorting all contamination and waste (including separating contamination from clean materials and waste).

### 4.4. Resource recovery exemptions

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



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

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

Where possible, the disposal of excavated material under resource recovery orders will be prioritised over disposal to landfill. Relevant orders include the Excavated Natural Material Order 2014, Reclaimed Asphalt Pavement Order 2014, Recovered Aggregate Order 2014, and Treated Drilling Mud Order 2014.

CPBG will identify and assess specific resource recovery opportunities in consultation with Sydney Metro and apply to the EPA for specific orders and exemptions where relevant. Opportunities identified that may be subject to EPA application for a specific order and exemption include the beneficial reuse of EPB and excavated material affected by ground support materials.

TBM spoil will be managed at the point of extraction (Orchard Hills) to ensure the moisture content is suitable for transportation and reuse. Sufficient space will be available at the Orchard Hills extraction site to process the EPB TBM material with excessive moisture content. This requirement will be managed by spreading it on site and drying, mixing it with lime, or mixing it with other TBM spoil with the same characteristics, in accordance with the requirements of the Resource Recovery Order.

Refer to the Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001) for additional details on Resource Recovery Orders and Exemptions.

## 4.5. Spoil haulage

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

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

In addition, a weighbridge will be installed, operated and maintained at all spoil removal sites to manage mass compliance of all heavy vehicles released onto the public road network. Where there is limited space within the respective worksites, alternative means of mass management will be implemented subject to Sydney Metro approval.

All heavy vehicles used for spoil haulage will be clearly marked on the sides and rear with the Project name and application number to enable immediate identification by a person viewing the vehicle standing 20 metres away. Specific heavy vehicle requirements and haulage routes are detailed within the Construction Traffic Management Plans.

The locations of all heavy vehicles used for spoil haulage will be monitored in real time through GPS tracking. Records of monitoring will be made available electronically to the Planning Secretary and the EPA on request for a period of one year following the completion of the SBT Works.



## 4.6. Waste receipt

In accordance with the EPL (Condition 5.5), CPBG will not cause, permit or allow any waste generated outside the licensed premises and Sydney Metro Western Sydney Airport Project including on-airport sites to be received at the licensed premises, except:

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

Material importation requirements will be identified by the Spoil Manager in consultation with the Environment Manager during construction planning.

Refer to Element 2 Monitoring and Reporting (reference 1.6) for details on the records to be obtained prior to waste receipt.



## Part B – Systems and tools

Part B of this Sub-Plan details the systems and tools that will be implemented by CPBG to minimise the spoil impacts of the SBT Works will be minimised. Part B contains the following:

- **Environmental Elements and Expectations:** These describe what is required of the SBT Works to implement the objectives of CPBG’s Environment and Sustainability Policy:
  - **Element** – Key aspects for managing this function in delivering the SBT Works
  - **Expectation** – The outcomes to be achieved as part of each Element.
- **Requirements:** These are the specific actions performed to demonstrate compliance with the Elements and Expectations.
- **Responsibility and Key Contributor:** This information is included to ensure absolute clarity as to those people responsible for achieving compliance with the stated Expectation, as well as those that will need to assist/contribute to achieving compliance.
- **Deliverables:** This column of the table lists the tangible outcomes to be produced to demonstrate compliance with the environmental Elements and Expectations.



## Element 1 Training

Expectations	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables
1.1. All personnel have completed an induction containing relevant environmental information before they are authorised to work on the Project	The spoil management component of the site induction will include information on the spoil reuse hierarchy and relevant procedures.	<b>Human Resource Manager</b> Environment Manager	Induction presentation Attendance records
1.2. Toolbox talks are used to reinforce key management requirements and lessons learnt	Toolbox talks will be held regularly during construction to address site-specific risks and controls in relation to spoil management.	<b>Environment Manager</b> Site Supervisors	Toolbox records

## Element 2 Monitoring and reporting

Expectations	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables
1.3. Worksites are regularly inspected to ensure the adequacy of controls	Weekly inspection of spoil management controls.	<b>Environment Manager</b> Site Supervisors	Environment Inspection Checklists Site Diary entries
1.4. Spoil management reports are prepared	CPBG will provide Sydney Metro with quarterly updates on spoil reuse used the agreed template.	<b>Spoil Manager</b> Sustainability Manager	Spoil Management Reports Spoil daily docketts
1.5. Material is transported to approved receival sites	Verification that material has been transported from the SBT Worksites to an approved receival site will be carried out through: <ul style="list-style-type: none"> <li>Review of spoil daily docketts</li> <li>Review of haulage vehicle GPS tracking systems</li> <li>Conducting random spot checks.</li> </ul>	<b>Spoil Manager</b> Environment Manager	Spoil Management Reports Spoil daily docketts





Expectations	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables
<p>1.6. Detailed records are retained of waste generated, received or removed from the premises</p>	<p>CPBG will retain the following records (at minimum) of waste generated, received, beneficially reused or removed from the premises</p> <ul style="list-style-type: none"> <li>• Waste classification reports</li> <li>• Details of all waste transporters and the addresses and facility/business names of destination location(s) for all waste generated and transported off the premises for any purpose (including recycling, reuse, processing, treatment and disposal)</li> <li>• Documented evidence (such as a licence) from each place of disposal that they can lawfully receive and manage (store, process, reuse, dispose) the types of waste proposed to be transported there</li> <li>• Details of all waste received on the premises or transported off the premises that is subject to a Resource Recovery Order and/or Exemption under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>, and demonstration that the waste meets the requirements of the Order and/or Exemption</li> <li>• Legible copies of all documents/records evidencing that all waste transported from the premises was taken to and received at a facility/premises that lawfully accept and process the waste as intended (including tip dockets where relevant)</li> <li>• Keep legible copies of any waste tracking documentation required for the offsite transport of the waste to demonstrate the waste was tracked in accordance with NSW legislation</li> <li>• Comparisons showing the proposed waste quantities and waste types documented in the CWMP against the actual waste quantities and waste types</li> <li>• Comparisons showing intended reuse, recycling or disposal locations documented in the CWMP against actual reuse, recycling and disposal locations.</li> </ul>	<p><b>Spoil Manager</b> Environment Manager</p>	<p>Waste transporters register EPLs of disposal facilities (or documented evidence that waste can be legally received) Resource Recovery Order and/or Exemption records Waste tracking records Monthly reports (including waste quantities)</p>



Expectations	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables
	Detailed and careful records of spoil movement within the boundaries of the SBT Works will also be retained including tracking of onsite material movements.		



### Element 3 Auditing, review and improvement

Expectations	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables
1.7. Audits are undertaken to ensure compliance with the requirements of this Sub-Plan	Audits will be performed in accordance with the CEMP to assess compliance against the requirements of this Sub-Plan.	<b>Environment Manager</b> Environment Co-ordinators	Audit Reports Corrective Action Reports
1.8. All non-compliances are reported and actioned	A non-compliance is defined as an occurrence or set of circumstances or development that is a breach of a permit, approval or licence. All non-compliances will be reported and actioned in accordance with the CEMP.	<b>Environment Manager</b> Environment Co-ordinators	Inspection reports Audit reports Complaint reports Incident reports Non-compliance reports



## Element 4 Project specific requirements

### Construction Environmental Management Framework

No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
6.1(a)	<p>The following spoil management objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> <li>i. Minimise spoil generation where possible;</li> <li>ii. The project will mandate 100% reuse or recycling (on or off-site) of usable spoil;</li> <li>iii. Spoil will be managed with consideration to minimising adverse traffic and transport related issues;</li> <li>iv. Spoil will be managed to avoid contamination of land or water;</li> <li>v. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers; and</li> <li>vi. Site contamination will be effectively managed to limit the potential risk to human health and the environment.</li> </ul>	Section 1.2	<b>Environment Manager</b> Sustainability Manager	Spoil Management Reports	Pre-construction Construction
6.2(a)	<p>Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum:</p> <ul style="list-style-type: none"> <li>i. The spoil mitigation measures as detailed in the environmental approval documentation;</li> </ul>	Part B, Element 4 (Project Specific Requirements)	<b>Spoil Manager</b> Site Supervisors	This Sub-Plan	Pre-construction Construction
6.2(a)ii	<ul style="list-style-type: none"> <li>ii. The responsibilities of key project personnel with respect to the implementation of the plan;</li> </ul>	Section 3	<b>Environment Manager</b> Spoil Manager	This Sub-Plan	Pre-construction Construction
6.2(a)iii	<ul style="list-style-type: none"> <li>iii. Procedures and methodologies for the haulage and disposal locations, storage and stockpiling arrangements, including those for virgin excavated natural material, contaminated and unsuitable material;</li> </ul>	Section 4.5 Section 4.6	<b>Environment Manager</b>	Section 143 Certificates Spoil Reveal Site Approval Checklists	Pre-construction Construction



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
				Register of Reveal Sites Waste Classification Reports GPS Records Material tracking forms Spoil daily docket	
6.2(a)iv	iv. procedures for the testing, excavation, classification, handling and reuse of spoil;	Section 4.3	<b>Spoil Manager</b> Site Supervisors	Waste Classification Reports	Pre-construction Construction
6.2(a)v	v. measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the Contractor's Activities, including how spoil generation is minimised through the design development process	Section 4.1 Section 4.2	<b>Spoil Manager</b> Design Manager	Spoil Management Reports	Pre-construction Construction
6.2(a)vi	vi. details, links or references to where traffic movements in relation to spoil are described, and measures that will be implemented to minimise traffic and noise impacts associated with haulage and disposal of spoil.	Section 4.5 CTMPs	<b>Traffic Manager</b> Spoil Manager	CTMPs	Pre-construction Construction
6.2(a)vii	vii. quantities for reuse of spoil within the Construction Site, for beneficial reuse of spoil off site and for spoil disposal;	Section 3.2	<b>Spoil Manager</b> Project Manager	Spoil Management Reports	Pre-construction Construction
6.2(a)viii	viii. processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse;	Section 4	<b>Environment Manager</b> Sustainability Manager	Environmental Inspection Checklists Spoil Management Reports	Pre-construction Construction



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
6.2(a)ix	ix. a register of spoil receipt sites that includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy	Section 4.2.2 Appendix A of Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001)	<b>Environment Manager</b>	Waste and Recycling Management Sub-Plan (SMWSASBT-CPG-1NL-NL000-WM-PLN-000001)	Pre-construction Construction
6.2(a)x	x. spoil management monitoring requirements; and	Element 2 – monitoring and reporting	<b>Spoil Manager</b> Sustainability Manager Environment Manager	Environment Inspection Checklists Site Diary entries Spoil Management Reports	Pre-construction Construction
6.2(a)xi	xi. compliance record generation and management	Element 2 – Monitoring and reporting	<b>Spoil Manager</b> Sustainability Manager Environment Manager	Environment Inspection Checklists Site Diary entries Spoil Management Reports	Pre-construction Construction
6.2(b)	Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include:  i. Records detailing the beneficial re-use of spoil either within the project or at off-site locations; and  ii. Waste dockets for any spoil disposed of to landfill sites.	Element 2 – Monitoring and reporting	<b>Environment Manager</b> Spoil Manager Sustainability Manager	Environment Inspection Checklists Spoil Management Reports Spoil daily dockets	Construction
6.3(a)	Examples of spoil mitigation measures include:  i. Implementing the spoil re-use hierarchy;	Section 4.1 Section 4.3 Section 4.5	<b>Spoil Manager</b> Environment Manager	Environment Inspection Checklists	Construction



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
	ii. Handling spoil to minimise potential for air or water pollution; and iii. Minimise traffic impacts associated with spoil removal.			Spoil Management Reports CTMPs	



## Planning Approval (SSI 10051)

No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
A46	All Heavy Vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away.	Section 4.5	<b>Site Supervisors</b> Spoil Manager	Environmental Inspection Checklist	Construction
E104	The locations of all Heavy Vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Section 4.5	<b>Spoil Manager</b>	GPS Records	Construction
E122	Waste generated during construction and operation must be dealt with in accordance with the following priorities:  (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced;  (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and  (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Section 4.1 Section 4.2.1 Section 4.2.2 Section 4.3	<b>Environment Manager</b>  Spoil Manager Site Supervisors	Section 143 Certificates  Spoil Reveal Site Approval Checklists Register of Reveal Sites  Waste Classification Reports  GPS Records  Material tracking forms Spoil daily dockets	Construction
E124	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Section 4.2.2	<b>Environment Manager</b>  Spoil Manager Site Supervisors	Section 143 Certificates  Spoil Reveal Site Approval Checklists Register of Reveal Sites  Waste Classification Reports  GPS Records	Construction





No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
				Material tracking forms Spoil daily docketts	
E125	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal docketts retained for audit purposes.	Section 4.3	<b>Environment Manager</b> Spoil Manager	Waste Classification Reports	Construction



## Revised Environmental Management Measures

No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
WR2	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Section 4.2.2	<b>Spoil Manager</b> Site Supervisors	Environmental Inspection Checklists	Construction
WR3	A materials tracking system would be implemented for material transferred between construction sites.	Section 4.3	<b>Spoil Manager</b>	Materials Tracking Documentation	Construction



## General Specification and Particular Specification

No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
2.8.1 (b)(ix)	The SBT Contractor must meet the following sustainability targets:  (ix) ensure 100% of reusable spoil is beneficially reused in accordance with the spoil reuse hierarchy identified in the environmental documents and is not disposed to landfill	Section 4.2	<b>Sustainability Manager</b>  Environment Manager  Spoil Manager	Spoil Management Reports	Pre-construction  Construction
2.11.15 (h)	The SBT Contractor must install, operate and maintain a weighbridge (or alternative means of mass management at sites with limited space subject to Principal approval) at all spoil removal sites to manage mass compliance of all heavy vehicles released onto the public road network.	Section 4.5	<b>Spoil Manager</b>	Weighbridge records	Construction
3.4.4.5 (a)	The SBT Contractor must identify and implement initiatives to both reduce spoil quantities which will be generated during the performance of the SBT Contractor's Activities and beneficially reuse 100% of reusable spoil, including topsoil.	Section 4.1	<b>Spoil Manager</b>  Environment Manager  Site Supervisors	Design documentation	Construction
3.4.4.5 (b)	Beneficial reuse of spoil must be in accordance with the following spoil reuse hierarchy, in order of preference: [SM-WSA-SBT-PS-655]  (i) within the project; [SM-WSA-SBT-PS-656] (ii) environmental works; [SM-WSA-SBT-PS-657] (iii) other development projects (including within the WSI site in accordance with section 4.2.5); [SM-WSA-SBT-PS-658] (iv) land restoration; and [SM-WSA-SBT-PS-659] (v) landfill management. [SM-WSA-SBT-PS-660]	Section 4.2.1	<b>Spoil Manager</b>  Sustainability Manager  Environment Manager	Spoil Management Reports	Construction
3.4.4.5 (c)	Where spoil cannot be classified as either virgin excavated natural material (VENM) or excavated natural material (ENM), the SBT Contractor must determine the feasibility of beneficial	Section 4.2.2	<b>Environment Manager</b>  Sustainability Manager	Section 143 Certificates	Construction



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
	reuse by characterising the spoil against the specific contaminant concentration (SCC) and toxicity characteristics leaching procedure (TCLP) values in Tables 1 and 2 of the NSW Environment Protection Authority (EPA) Waste Classification Guidelines Part 1 (2014). Where contamination meets the requirements for General Solid Waste the SBT Contractor must seek receivers who are able to re-use or recycle spoil that meets the General Solid Waste thresholds as outlined in the NSW EPA Waste Classification Guidelines (2014) (as updated from time to time). Alternatively, the SBT Contractor may apply to the EPA for a Resource Recovery Order or Exemption granted under the Protection of the Environment Operations (Waste) Regulation 2014.		Spoil Manager	Spoil Reveal Site Approval Checklists Register of Reveal Sites Waste Classification Reports GPS Records Material tracking forms Spoil daily docketts	
3.4.4.5 (d)	The SBT Contractor must utilise appropriate site-won materials onsite.	Section 4.2.1	<b>Spoil Manager</b>	Spoil Management Reports	Construction
3.4.4.5 (e)	The SBT Contractor must ensure that landscape mounding and gabion wall features use site-won materials if they meet the D&C Deed requirements.	Section 4.2.1	N/A	N/A	N/A
4.2.1 (i)	Where spoil trucks exit a site by crossing a public footpath there must be a traffic controller present and/ or other appropriate treatment(s) supported by a road safety risk assessment to ensure public safety during spoil haulage operations.	Section 4.5	<b>Traffic Manager</b>	Road Safety Audits	Construction
4.2.3 (a)	The SBT Contractor must make its own safe arrangements for the stockpile of materials, including earthwork materials and excavated tunnelling materials, arising from the SBT Contractor's Activities.	Section 4.2.1	<b>Spoil Manager</b>	Environmental Inspection Checklists	Construction
4.2.3 (b)	The SBT Contractor must adhere to the Sydney Metro Waste Classification Procedure and maximise the re-use of all spoil	Section 4.3	<b>Environment Manager</b> Spoil Manager	Waste Classification Reports	Construction



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
	within the Project Works and Temporary Works to the extent reasonable and practicable.			Spoil Management Reports	
4.2.3 (c)	The SBT Contractor may place excavated material from the entirety of the SBT Contractor's Activities within the Construction Site in the "Primary Spoil Retention Site" and the "Secondary Spoil Retention Site " (together, the "WSI Permanent Fill Area") shown in the Site Access Schedule drawings provided at D&C Deed Schedule D1. In doing so, the SBT Contractor must comply with the WSA Bulk Earthworks Requirements provided at section 7.	Section 4.2.2	<b>Spoil Manager</b>	Spoil Management Reports	Construction
4.2.3 (d)	Where contaminated material cannot be used on site, it must be disposed of in compliance with the D&C Deed.	Section 4.3	<b>Environment Manager</b> Spoil Manager	Waste Classification Reports GPS Records Material tracking forms Spoil daily docketts	Construction
4.2.3 (e)	The SBT Contractor must not place stockpiles in drainage lines, channels or paths and provide measure to prevent erosion and transportation of sediments.	Section 4.2.2	<b>Spoil Manager</b>	Environmental Inspection Checklists	Construction



## Environmental Protection Licence

No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
O5.2	The licensee must keep detailed records of waste generated, received or removed from the premises that includes (at a minimum):	Element 2 – Monitoring and reporting (1.6)	<b>Spoil Manager</b>  Sustainability Manager  Environment Manager	Waste transporters register  EPLs of disposal facilities (or documented evidence that waste can be legally received)  Resource Recovery Order and/or Exemption records  Waste tracking records  Monthly reports (including waste quantities)	Pre-construction  Construction
O5.2a	Details of all waste transporters and the addresses and facility/business names of destination location(s) for all waste generated and transported off the premises for any purpose (including recycling, reuse, processing, treatment and disposal);				
O5.2b	Documented evidence (such as a licence) from each place of disposal that they can lawfully receive and manage (store, process, reuse, dispose) the types of waste proposed to be transported there;				
O5.2c	Details of all waste received on the premises or transported off the premises that is subject to a Resource Recovery Order and/or Exemption under the Protection of the Environment Operations (Waste) Regulation 2014, and demonstration that the waste meets the requirements of the Order and/or Exemption;				
O5.2d	Legible copies of all documents/records evidencing that all waste transported from the premises was taken to and received at a facility/premises that lawfully accept and process the waste as intended;				
O5.2e	Keep legible copies of any waste tracking documentation required for the offsite transport of the waste to demonstrate the waste was tracked in accordance with NSW legislation;				
O5.2f	comparisons showing the proposed waste quantities and waste types documented in the CWMP against the actual waste quantities and waste types; and				



No.	Requirement	How will CPBG meet the Expectation?	Responsibility and Key Contributor	Deliverables	Timing
O5.2g	comparisons showing intended reuse, recycling or disposal locations documented in the CWMP against actual reuse, recycling and disposal locations.				
O5.5	<p>The licensee must not cause, permit or allow any waste generated outside the licensed premises and Sydney Metro Western Sydney Airport Project including on-airport sites to be received at the licensed premises, except:</p> <p>a) virgin excavated natural material;</p> <p>b) as expressly permitted by a condition of this licence; or</p> <p>c) a resource recovery order and/or resource recovery exemption under the Protection of the Environment Operations (Waste) Regulation 2014.</p> <p>Note: For the purposes of condition O5.5 and condition O5.6 the "Sydney Metro Western Sydney Airport Project including on-airport sites" refers to the site within the boundary marked in orange in Figure 4 on Page 19 of the Western Sydney Airport - Airport Plan - Department of Infrastructure, Transport, Regional Development and Communications (September 2021), held on EPA Electronic File DOC22/399379-3</p>	Section 4.6	<b>Spoil Manager</b> Environment Manager	Resource Recovery Order and/or Exemption records Waste classification reports	Pre-construction Construction
O5.6	Excavated material suitable for re-use within the premises as outlined under condition O5.5 may be transported to another part of the premises or from the Sydney Metro Western Sydney Airport Project including on-airport sites, to the premises.	Section 4.2.2	<b>Spoil Manager</b> Environment Manager	Resource Recovery Order and/or Exemption records Waste classification reports	Pre-construction Construction

