Jacobs Challenging today.
Reinventing tomorrow.

Stage 3 Bayswater Ancillary Works - Waste Management Plan

AGL Macquarie Limited

SSD Post Approval Documentation 8 December 2023





Stage 3 Bayswater Ancillary Works - Waste Management Plan

Client name: AGL Macquarie Limited

Project name: SSD Post Approval Documentation

Client reference: AGL Project no: IS479000

Version: B Project manager: Cynthia do Nascimento

Date: Prepared by: Emma van Haandel

File name: Waste Management Sub Plan_Rev B

Document history and status

Version	Date	Description	Author	Checked	Reviewed	Approved
Rev A	17/11/2023	Initial Draft	E. van Haandel	A. Callis	C. do Nascimento	P. Horn
Rev B	08/12/2023	Final Draft	E. van Haandel	C. do Nascimento	C. do Nascimento	P. Horn

Distribution of copies

Version	Issue approved	Date issued	Issued to	Comments

Jacobs Australia Pty Limited

Level 4, 12 Stewart Avenue Newcastle West, NSW 2302 PO Box 2147 Dangar, NSW 2309 Australia T +61 2 4979 2600 F +61 2 4979 2666 www.jacobs.com

© Copyright 2023 Jacobs Australia Pty Limited. All rights reserved. The content and information contained in this document are the property of the Jacobs group of companies ("Jacobs Group"). Publication, distribution, or reproduction of this document in whole or in part without the written permission of Jacobs Group constitutes an infringement of copyright. Jacobs, the Jacobs logo, and all other Jacobs Group trademarks are the property of Jacobs Group.

NOTICE: This document has been prepared exclusively for the use and benefit of Jacobs Group client. Jacobs Group accepts no liability or responsibility for any use or reliance upon this document by any third party.

Contents

Acro	nyms	and abbreviations	V
1.	Intro	oduction	6
	1.1	Purpose and scope	7
	1.2	Project overview	7
		1.2.1 Project elements	8
	1.3	Site location	10
	1.4	Related reports and plans	13
2.	Regi	ulatory requirements	14
	2.1	Relevant legislation and conditions	14
		2.1.1 Additional requirements	14
	2.2	Standards and guidelines	15
3.	Perf	ormance criteria	17
4.	Was	te impacts	18
	4.1	Anticipated waste streams	18
		4.1.1 MA1B conveyor shortening	19
5.	Was	te management measures	20
	5.1	Asbestos management	21
		5.1.1 Management of asbestos waste	21
		5.1.2 Transportation of asbestos waste	22
	5.2	Training	22
6.	Was	te monitoring	23
7.	Com	ipliance management	24
	7.1	Roles and responsibilities	24
	7.2	Inspections	24
	7.3	Incidents and complaints	24
	7.4	Document review and update	24
Tab	les		
Table	e 1. LB	BBAWP Stages	6
		aste Management - Consent requirements for SDD 8889679	
		BBAWP EIS - Waste management requirements	
		aste classification descriptions	
		aste criteria	
		kely construction waste streams	
		aste streams and management	
		aste management monitoring plan	
		- · · · · · · · · · · · · · · · · · · ·	

Figures

Figure 1. Project location	11
Figure 2. Project area	12
Figure 3. Waste management hierarchy	20

Acronyms and abbreviations

Term	Definition
ACM	Asbestos Containing Material
AGLM	AGL Macquarie Pty Limited
Bayswater	Bayswater Power Station
BAW	Bayswater Ancillary Works
CEMP	Construction Environment Management Plan
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environment Protection Authority
EPL	Environment Protection Licence
IA	Improvement Action
LAA	Licenced Asbestos Assessor
LAR	Licenced Asbestos Removalist
LBBAWP	Liddell Battery and Bayswater Ancillary Works Project
MW	Megawatt
NEM	National Electricity Market
POEO Act	Protection of the Environment Operations Act 1997
Project	Stage 3 Bayswater Ancillary Works
SEARs	Secretary's Environmental Assessment Requirements
SEPP SRD	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
WMP	Waste Management Plan

1. Introduction

Jacobs Australia Pty Limited (Jacobs) were commissioned by AGL Macquarie Pty Limited (AGLM) to prepare an Environmental Management Strategy (EMS) with this Waste Management Plan (WMP) as a sub-plan for the Stage 3 Bayswater Ancillary Works (hereafter referred to as "BAW" or "the Project") to be undertaken at Bayswater Power Station (Bayswater) as part of the Liddell Battery and Bayswater Ancillary Works Project (LBBAWP). These works will allow Bayswater to maintain supply to the National Energy Market (NEM) until its planned closure in 2035, and ultimately improve the environmental performance of the plant with no change to coal consumption - with electricity, emissions, and ash generation remaining consistent.

The LBBAWP is classified as a State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) and it is subject to Part 4, Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) which requires an Environmental Impact Statement (EIS) to be prepared in accordance with the NSW Department of Planning and Environment (DPE) Secretary's Environmental Assessment Requirements (SEARs).

AGL submitted the LBBAWP EIS in March 2021. The Development Consent (SSD 8889679) was issued by the DPE on the 8th of March 2022. The LBBAWP is being undertaken in the staged approach shown in Table 1, approved by DPE on the 18th of October 2022.

Table 1. LBBAWP Stages

Stage
Stage 1 - Liddell decoupling works
Stage 2 - Liddell battery energy storage system and associated works
Stage 3 - Bayswater Ancillary Works

This WMP has been developed to address the SDD 8889679 development consent condition C1(e)(i) issued for the LBBAWP by the Planning Secretary for the NSW DPE. This condition requires a subplan to manage the environmental impacts of construction and decommissioning noise.

Relevant conditions are outlined in Table 2.

Table 2. Waste Management - Consent requirements for SDD 8889679

Consent requirement	Section/reference
C1. Prior to commencing construction, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: (e) include: (i) the following subplans: • soil, stormwater, water quality, flood and spoil management; • construction and decommissioning noise, including an out-of-hours works protocol; • air quality management; • contamination, including an unexpected finds protocol; • waste management; and • traffic.	This WMP
B27. The Applicant must:(a) take all reasonable steps to minimise the waste generated by the development;(b) classify all waste in accordance with the Waste Classification Guidelines (EPA, 2014);	Section 5

Consent requirement	Section/reference
(c) dispose of all waste at appropriately licensed waste facilities or as expressly permitted in an applicable EPL; and	
(d) manage any asbestos or asbestos-contaminated materials identified during construction and operation of the development in accordance with the requirements under the Protection of the Environment Operations (Waste) Regulation 2014.	

1.1 Purpose and scope

The purpose of this WMP is to:

- Summarise the potential impacts of waste generation during construction on the environment as assessed in the LBBAWP EIS (Jacobs, 2021)
- Identify the controls to be implemented to address potential waste impacts resulting from the Project
- Maintain compliance with the conditions of SSD 8889679, Environmental Protection Licence (EPL) 779, and legislation relating to noise.

The LBBAWP is staged and this WMP specifically addresses the Stage 3 BAW as identified in Section 1.2.1 and described in the EMS (hereafter referred to as "the Project"). The WMP and accompanying EMS for Stage 1 and Stage 2 works are available on the <u>AGLM Website</u> for public reference following DPE approval.

Works undertaken by the Principal Contractor and any appointed sub-contractors must comply with the environmental management measures outlined in Section 5 of this WMP.

1.2 Project overview

AGL Macquarie Pty Limited (AGLM) own and operate the Bayswater power station (Bayswater) which is approved to generate up to 2,740 megawatts (MW), the now retired (April 2023) 2,000 MW Liddell power station (Liddell), the 50 MW Hunter Valley Gas Turbines and associated ancillary infrastructure systems.

AGL has publicly announced its intention to transition towards a low-carbon future and respond to the requirements from the NEM and customers. Bayswater is expected to operate through to 2035 and then is intended to be retired. AGL has committed to closing all coal fired generation assets in its portfolio by 2050.

AGLM is undertaking works that will facilitate the efficient, safe, and reliable continuation of electricity generating works from the Bayswater and Liddell sites through the LBBAWP, of which this Project is a substage. The overarching LBBAWP involves the following:

- Decoupling Works: Alternative network connection arrangements for the Liddell 33 Kilovolt (kV)
 Switching Station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and third-party industrial energy users.
- Liddell Battery (the Battery): The installation of a grid connected Battery Energy Storage System with capacity of up to 500 MW and 2 GWh.
- Bayswater Ancillary Works: Works associated with the ongoing operation of Bayswater which includes (but is not limited to) upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement, expansion or demolition.
- Consolidated consents: A modern consolidated consent for the continued operation of Bayswater through the voluntary surrender and consolidation into this application of various existing development approvals required for the ongoing operation of AGLM assets.

The Project includes Stage 3 BAW works as listed in Section 1.2.1.

1.2.1 Project elements

The purpose of the Stage 3 BAW Project is to respond to the ongoing operational and maintenance requirements of Bayswater, as well align with modern office and site requirements. The proposed works and expected construction staging include:

1. **Shortening of the MA1B Conveyor** as the conveyor is no longer required to transport coal from the Mt Arthur Coal Mine. Works are anticipated to be completed over a 3-month period and involve approximately 25 construction personnel.

Proposed works would include:

- (a) Construction of a new concrete foundation adjacent to the existing Antiene Check Weigh Bin
- (b) Modification to ancillary power, water and communications infrastructure
- (c) Establishment of spillage control and capture and water management infrastructure
- (d) Removal of redundant conveyor belts and associated conveyor stringer, purlins, idler rollers footing piers, electrical cabling, pull wires and roof sheeting
- (e) Rehabilitation of areas no longer required for operational purposes.
- 2. **Refurbishment of River Road** including complete surface removal, repairs will be made to the underlying layers (subgrade) and levelling and reconstruction of approximately 3 kilometres (km) of the dual lane River Road from its junction with the Bayswater Access Road to the Bayswater tank farm. Anticipated to be completed over a 2-month period and involve approximately 50 contract personnel. No change expected to scope or footprint of the current roadway. Staging is expected to occur within the construction footprint, with traffic diverted to a single lane when works are to occur (no additional disturbance area).

Proposed works include:

- (a) Current road surface removal
- (b) Repairs to the underlying layers and levelling
- (c) Construction of the new road surface.
- 3. **Formalisation of Waste Storage Area** for hydrocarbons, oils, and greases generated onsite, with a total storage capacity of approximately 20 Kilolitres (kL). This includes environmental controls such as bunding, runoff management and roofing. A fully containerised / self-bunded solution is proposed to be established in a pre-bunded concrete hard stand area (already existing).
- 4. Construction of a small diameter brine concentrator return water pipeline (approximately 3 km long) to return brine from the brine concentrator decant basin to the brine concentrator. Minimal earth works are expected to be required. Installation of additional HDPE pipe approximately 50 mm diameter. To be laid on earth surface adjacent to existing pipeline (within 1 m of existing pipeline). No additional works outside of pipeline installation are expected. Anticipated to be completed over a 1-month period and to involve approximately 20 contract personnel.
- 5. Replacement of the existing emergency power system with a new system. The new system would include three 415 V diesel generators with two located outside the existing diesel generator building that would connect to the existing 6.6 kV network via 415 V / 6.6 kV step up transformers. The third diesel generator would remain connected to the 1/2 end 415 V diesel generator switchboard via a change-over switch such that power can be supplied from the third diesel generator or via the 6.6 kV network. The existing diesel generator building would have all redundant equipment removed allowing the building to be repurposed. Anticipated to be completed over a 2-month period and to involve approximately 5 contractor personnel.

- 6. **Formalisation of the contractor area** involving upgrades to the current informal contractor area established between Bayswater turbine hall and coal handling yards including electrical works, earthworks, road grading, sealing, drainage improvements and establishment of carparks and offices for use during maintenance shutdowns.
- 7. **Installation of auxiliary infrastructure** such as maintenance storage areas, laydown, car parks, security gatehouse upgrades, washdown facilities, car wash, equipment wash, and a drive through hard stand area. These are to be equipped with appropriate civil design, drainage, coal settlement bund, oil water separator and water transfer to contaminated water bund to the east of proposed area. Works associated with security gatehouse, laydown and storage are currently seen as maintenance and upkeep of existing infrastructure.
- 8. **Establishment of a cultural heritage storage area** for heritage items salvaged during earthworks. This will be a temporary containerised solution available for use as required. It is expected that the containers would be trucked in to site and placed on to a disturbed area on the inner footprint at Bayswater. The storage containers would be removed from site once the cultural heritage items are relocated. This would occur after construction is completed and be carried out in agreement with the RAPs.
- 9. **Refurbishment of the Administration Building** including redesign and upgrade of workspaces, kitchens and amenities.

The proposed works include:

- (d) removal of internal walls to create more open plan office space and lunchrooms, effectively repurposing some areas within the existing building
- (e) conversion of an existing toilet into a disabled compliant toilet
- (f) installation of a cabin lift in the existing to improve accessibility, noting that the only means of accessing the first floor currently is via stairs
- (g) replacement of two existing doors with an automatic opening door
- (h) installation of small internal roof electronic beacons to enable assisted office navigation for seeing or hearing-impaired persons
- (i) modification of kitchen spaces to increase accessibility, by lowering fittings and improving cabinetry and
- (j) widening of concrete paths and installation of handrails to enable wheelchair access.

The Social club will be pursued under a stand-alone Development Application at a later stage on a separate parcel of land.

1.3 Site location

The Project is located within the 10,000 hectares (ha) AGLM landholding, which encompasses Bayswater, Liddell, the Ravensworth rehabilitation area, Lake Liddell and surrounding buffer lands. The AGLM landholding is located approximately 15 kilometres (km) south-east of Muswellbrook, 25 km north-west of Singleton, and approximately 165 km west northwest of Sydney in NSW. The location of the AGLM landholding is shown in Figure 1.

The Project footprint is located within and surrounding Bayswater, as shown in Figure 2. Bayswater is accessible from the New England Highway via an interchange with an unnamed east-west access road. The access road is a single carriageway road with one lane in each direction.

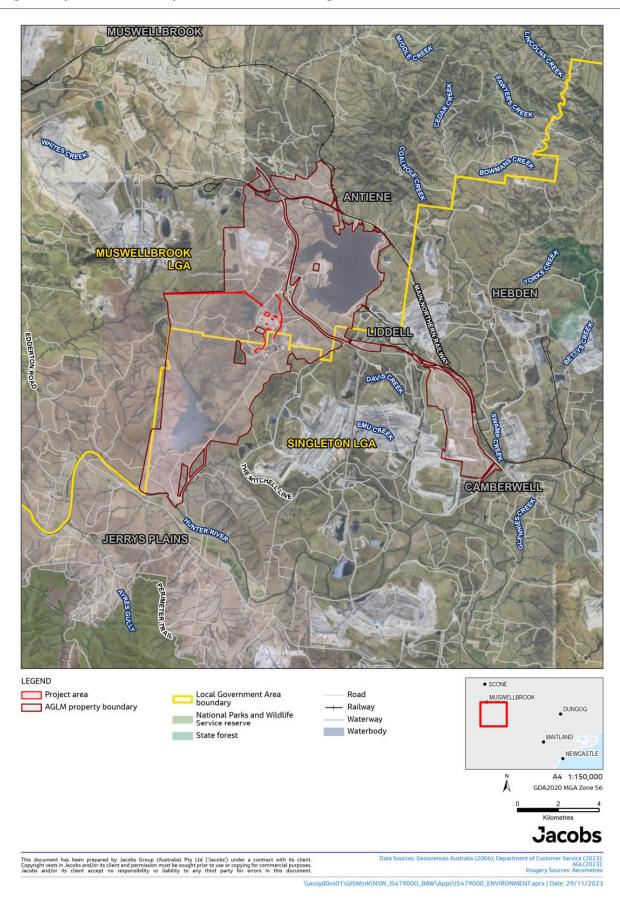


Figure 1. Project location

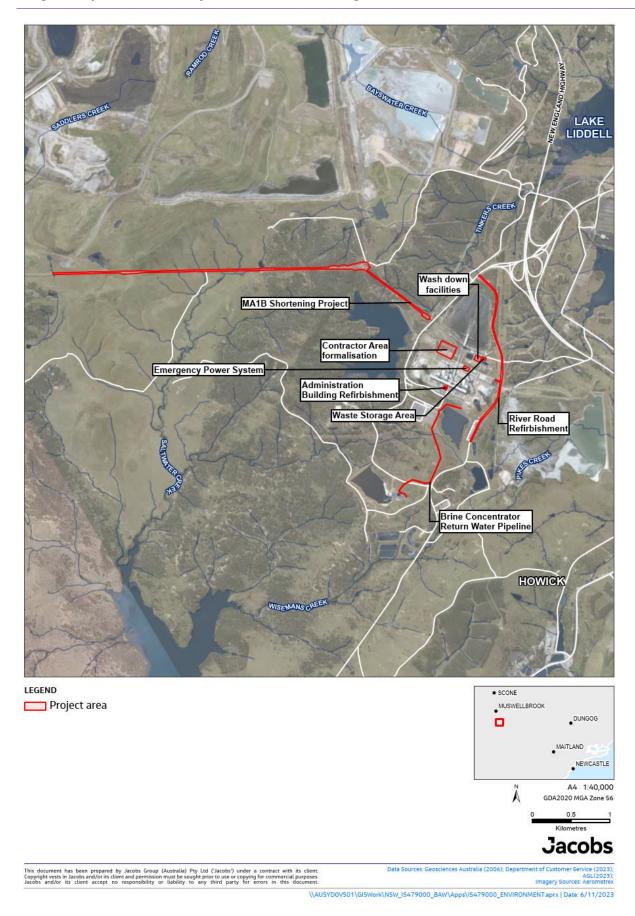


Figure 2. Project area

1.4 Related reports and plans

There are environmental assessments, management plans and monitoring programs for existing and proposed operations within the AGLM landholdings. The following documents are considered related and may need to be read in conjunction with this WMP:

- Waste Management Plan (AGLM-HSE-PLN-009.07) (AGLM, 2022)
- Waste Standard (AGLM-HSE-STD-009.7) (AGLM, 2022)
- Liddell Battery and Bayswater Ancillary Works Project EIS
- Bayswater WOAOW Environmental Management Strategy (Jacobs, 2022).

2. Regulatory requirements

2.1 Relevant legislation and conditions

Legislation relevant to managing waste includes:

- Protection of the Environment Operations Act, 1997 (NSW) (POEO Act)
 - The POEO Act defines 'waste' for regulatory purposes and establishes management and licensing requirements along with offence provisions. It also establishes the ability to set various waste management requirements via the regulation.
- POEO Waste Regulation, 2014 (NSW)
 - The *POEO* (*Waste*) *Regulation* improves the NSW Environment Protection Authority's (EPA) ability to protect human health and the environment and paves the way for a modern and fair waste industry in NSW. It includes strict thresholds for EPLs and outlines the waste levy system.
- Waste Avoidance and Resource Recovery Act, 2021 (NSW)
 - The Waste Avoidance and Resource Recovery Act promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies and programs, such as the extended producer responsibility scheme for industry. It encourages the most efficient use of resources and ensures resource management options are considered against the waste hierarchy, detailed in Section 5.
- Hazardous Waste (Regulation of Exports and Imports) Act, 1989
 - The federal *Hazardous Waste (Regulation of Exports and Imports) Act* implements the international "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal" in Australia. The Department of Climate Change, Energy, the Environment and Water administers and implements the Act.
- National Environment Protection Measure (Movement of Controlled Waste between States and Territories), 1998
 - The National Environment Protection Measure (Movement of Controlled Waste between States and Territories) requires the transport around Australia of Controlled waste to be thoroughly documented. Controlled wastes appear as List 1 of Schedule A to the NEPM, together with the relevant waste codes. The codes are a shorthand way of identifying controlled wastes and are used in applications and authorisations for the national tracking system under the NEPM.
- Dangerous Goods (Roads and Transport) Act, 2008
 - The *Dangerous Goods (Road and Rail Transport) Act* covers requirements for the transportation of dangerous goods on road and rail within NSW. It is supported by subordinate regulation and refers to the Australian Dangerous Goods Code.
- Dangerous Goods (Roads and Transport) Regulation, 2014
 - The Dangerous Goods (Road and Transport) Regulation provides detailed controls around the management of dangerous goods. The controls include requirements around the signage, segregation, packaging, consignment and emergency plans related to transporting dangerous goods.

The Minister's Conditions of Approval for the LBBAWP, relevant to the WMP, are listed in Table 1.

2.1.1 Additional requirements

Additional environmental requirements established in the EIS are detailed in Table 3.

Table 3. LBBAWP EIS - Waste management requirements

Reference	Management measure	Timing
WR01	 A Waste Management Plan will be developed for the Project with the following criteria: A hierarchical waste management approach will be used, from the most preferable (reduce, reuse or recycle wastes) to the least preferable (disposal) to prioritise waste management strategies to avoid waste generation The plans will promote the use of materials with minimal packaging requirements, removal of packaging offsite by suppliers and fabrication of parts offsite Where waste cannot be avoided, waste materials will be segregated by type for collection and removal (for processing or disposal) by licensed contractors All waste types will be separated at source for recycling A licensed service provider will be appointed to collect waste during construction and operation Each waste type will be classified for transport to ensure correct handling Waste that cannot be recovered or recycled will be disposed of at a suitably authorised or licensed treatment or disposal facility where it will be treated 	Detailed design
WR02	and disposed of according to its classification. Cleared vegetation will be either mulched for onsite reuse or used to created habitat piles, noting that any weeds and pathogens will be managed according to requirements under the NSW Biosecurity Act 2015.	Construction

2.2 Standards and guidelines

The guidelines, standards and policies relevant to this WMP include:

- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014)
 - The NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 outlines the impact of waste on the environment and provides a framework for classifying waste, efficient resource use and waste management.
- NSW Government Resource Efficiency Policy (Office of Environment and Heritage, 2014)
 - The NSW Government Resource Efficiency Policy provides a framework for reporting on waste streams produced by agencies and encourages the improvement of waste efficiency through suggested practices.
- Waste Classification Guidelines (NSW EPA 2014)
 - The Waste Classification Guidelines provide a framework for the classification of waste streams that
 pose similar risks to the environment or human health. The classes of waste are defined in Schedule 1
 of the POEO Act and inform the classification process within the Waste Classification Guidelines. The
 waste classifications are summarised in Table 4.

Table 4. Waste classification descriptions

Waste classification	Description
Special waste	Includes waste that has unique regulatory requirements such as asbestos or tyres and includes anything classified as special waste under an EPA gazettal notice
Liquid waste	Waste (excluding special waste) that has an angle of repose of less than 5 degrees above horizontal, becomes free-flowing at or below 60°C or when it is transported, is generally not capable of being picked up by a spade or shovel or is classified as liquid waste under an EPA gazettal notice.
Hazardous waste	Hazardous waste (other than special waste or liquid waste) includes waste that is a dangerous good that is classified under the Transport of Dangerous Goods Code as a 'Class 1' to 'Class 8' type of waste. It can also include coal tar or coal tar pitch waste, lead, acid or nickel-cadmium batteries, lead paint waste or any mixture containing one of these types of wastes.
General solid waste (putrescible)	General solid waste (putrescible) (other than special waste, liquid waste, hazardous waste or restricted solid waste) includes standard household and litter bins waste that is collected by or on behalf of local councils, food waste, animal waste, manure and night soil and any grit of screening from sewage treatment systems.
General solid waste (non-putrescible)	General solid waste (non-putrescible) (other than special waste, liquid waste, hazardous waste, restricted solid waste or General solid waste (putrescible)) includes household recyclable waste that does not contain food waste, garden waste, wood waste, waste that was previously in dangerous containers that have been thoroughly cleaned out, virgin excavated material and building and demolition waste.

- Australian Code for the Transport of Dangerous Goods by Road or Rail (Commonwealth of Australia, 2016)
 - The Australian Code for the Transport of Dangerous Goods by Road or Rail provides specific requirements and recommendations for transporting dangerous goods in Australia by road and rail.

3. Performance criteria

High-level targets for waste management are set for the Project, described in Table 5. These are based on legislative requirements (SSD 8889679 and EPL 779) and AGLM's commitment to the continuous improvement of their environmental performance.

Table 5. Waste criteria

Aspect	Target	Indicator	Timeframe
General	Waste management measures listed in this WMP are to be implemented, as required.	Number of non-conformances with this WMP.	Ongoing
Waste generation & disposal	Wastes not able to be recovered or recycled are to be collected by a licensed service provider and disposed of to a suitably licensed treatment or disposal facility where it will be treated and disposed of according to its classification.	Number of non-compliances.	Construction
	Recyclable wastes are to be segregated at the source by type prior to collection and removal (i.e. steel and metals, paper/cardboard, concrete and bricks, etc.)	Number of notifications/warnings from waste contractors regarding contamination.	Construction
	Where practicable, all cleared vegetation is to be re-used as mulch on-site, or for the creation of habitat piles (not including weeds/pathogens to be managed under the NSW Biosecurity Act 2015).	Volume of disposed green wastes.	Construction
	No community complaints, written warnings or infringement notices are to be received regarding waste pollution.	Number of complaints, written warnings, or infringement notices.	Ongoing
Training & Awareness	All personnel working on behalf of AGLM to complete the Site Induction, which will include environmental awareness components.	Percentage of workforce personnel that have completed the Site Induction prior to beginning work on the Project.	Ongoing
	All relevant personnel working on the Project on behalf of AGLM to attend a CEMP briefing held by the Principal Contractor, and be trained and competent in CEMP requirements.	Percentage of relevant workforce personnel that are trained and competent to enact the CEMP.	Ongoing

4. Waste impacts

Standard construction wastes will be generated as a result of the Project. The magnitude and management of these wastes has the potential to impact the Project's sustainability outcomes and could result in environmental harm or contamination if not properly managed, stored and disposed.

The Project will improve how waste liquids from operations are stored through the formalisation of the Bayswater Waste Storage Area which has been designed to reduce contamination risks. Other than this, the Project is not expected to generate additional waste streams or alter waste management processes. The Brine Concentrator Decant Basin return water pipeline will facilitate the processing of waste brine to salt cakes for disposal subject to the Bayswater Water and Other Associated Operational Works Project (SDD 9697).

It is anticipated that wastes will be able to be classified and managed in accordance with industry standard practices, with local disposal options available for all waste streams.

4.1 Anticipated waste streams

Anticipated waste streams for the LBBAWP were assessed in the EIS. Streams relevant to the Project are provided in Table 6; however, waste streams and quantities may change throughout the further development of the Project.

Table 6. Likely construction waste streams.

Waste stream	Waste description	Likely classification	Estimated quantity (LBBAWP)
Sewage	Portable ablutions facilities pump-out.	Liquid Waste	Up to 20,000 litres per week at peak construction.
Fuels, lubricants & chemicals	Containers that previously contained Class 1, 3, 4, 5 or 8 substances used for construction plant. Used oil from construction plant.	Hazardous Waste	Unknown volume, waste associated with minor maintenance of vehicles only.
Excavated natural materials	Earthworks spoil.	General Solid Waste (non- putrescible)	Subject to detailed design but able to be balanced on site.
Green waste	Clearing of vegetation.	General Solid Waste (non-putrescible)	Subject to detailed design.
Demolition waste	Conveyor components including belts, steel structure, rollers.	General Solid Waste (non- putrescible)	See Section 4.1.1.

Stage 3 Bayswater Ancillary Works - Waste Management Plan

Waste stream	Waste description	Likely classification	Estimated quantity (LBBAWP)
Construction waste	Timber, packaging, metal, asphalt, concrete, glass, plastic, rubber, plasterboard, ceramics, bricks from the installation of foundations and underground services and above ground civil, mechanical and electrical plant and equipment.	General Solid Waste (non- putrescible)	Unknown.
Grit, sediment in erosion controls	Collected in, and removed from, stormwater treatment devices and/or stormwater management systems.	General Solid Waste (non- putrescible)	As generated.
Site office waste	Paper/cardboard.	General Solid Waste (non-putrescible)	As generated.
Food waste	Generated from worker's lunches.	General Solid Waste (putrescible)	Approximately 100 kg per day.
Potential contaminated land & materials	Soils or water that have been contaminated by hazardous materials	Special/ Hazardous	Minimal.

4.1.1 MA1B conveyor shortening

Approximately 5km of the MA1B conveyor will be demolished (using standard practices) as part of the Project. This will generate the following waste streams and recycling opportunities:

- End-of-life conveyor belt which can be reused in fencing, erosion control, and weed suppression activities.
- Conveyor structure (including rollers and pulleys) which can be salvaged and recycled due to its predominantly steel construction.
- Concrete structures, hardstand and access tracks which can be reused on-site as fill or recycled for offsite road base and fill type applications.

AGLM or its demolition contractor will seek appropriate reuse opportunities for these waste streams.

5. Waste management measures

Recommended management measures for construction waste streams are described in Table 7. The Principal Contractor will be responsible for the implementation of these measures during construction of the Project and a licenced service provider will be appointed to collect waste during construction and operation. General controls to be implemented throughout the Project are described in Section 2.1.1, Table 3.

Management measures consider the principles of the waste management hierarchy, as described in the *Wase Avoidance and Resource Recovery Act 2001*. This hierarchy is illustrated in Figure 3.

Reduce Reuse Recycle Energy Recovery Disposal

Least preferred environmental option

Figure 3. Waste management hierarchy

Table 7. Waste streams and management

Waste stream	Proposed management	Waste management hierarchy
Sewage	The Project will use existing facilities at Bayswater. These may require pump-out for off-site disposal, or disposal through the existing Bayswater treatment system.	Disposal
Fuels, lubricants and chemicals	Fuels and oils drained from plant for maintenance are to be decanted for reuse. Decanted liquids will be appropriately labelled in accordance with SafeWork NSW requirements. Where reuse is not an option, wastes will be taken off-site for recycling.	Reuse and/or recycling
Excavated natural material	Excavated soils are to remain on-site for reuse. If unexpected contaminated soil is found, the soil is to be tested and classified prior to off-site disposal.	Reuse and/or disposal (where contamination is present)
Green waste	Where practicable, green waste is to be reused for on-site rehabilitation (e.g. as mulch) unless identified as weed infested. If weed infested, then green waste is to be disposal at green waste facility.	Reuse on-site and/or disposal (where weed infestation is present)
Demolition waste	Reusable components which may include much of the conveyor, motors and pumps are to be segregated for offsite repurposing or reuse.	Reuse and recycling

Waste stream	Proposed management	Waste management hierarchy
	Recyclable content is to be segregated for off-site recycling to the extent practicable.	
Construction waste	Construction wastes are to be segregated for recycling to the extent practicable in accordance with current site practices. Material unable to be recycled or reused on site would be classified for lawful disposal.	Recycle and/or disposal
Grit, sediment in erosion controls	Sediment captured in erosion controls is not anticipated to be of a significant volume for collection and re-use. Should a significant volume of clean sediment be collected, the Principal Contractor will seek re-use the material through incorporation into on-site rehabilitation.	Reuse and/or disposal
Site office waste	Recycled as per existing site practices.	Recycle
Food waste	Off-site disposal as per existing practices.	Disposal
Potential contaminated land and materials	Suspected contaminated material is to be tested, classified, and transported by licenced contractors to a licenced landfill (if contamination prevents on-site reuse).	Disposal

5.1 Asbestos management

Asbestos Containing Material (ACM) is classified in the *Protection of the Environment Operations (Waste) Regulation* 2014 as either:

- 1. **Bonded asbestos material** meaning any material (other than friable asbestos material) that contains asbestos; or
- 2. **Friable asbestos material** meaning any material that contains asbestos and is in the form of a powder or can be crumbled, pulverised or reduced to powder by hand pressure when dry.

This Section outlines the requirements for the proper management and disposal of ACM.

5.1.1 Management of asbestos waste

If ACM is identified (or assumed to be identified) during the Project, all works in the immediate vicinity will cease and the area will be isolated using barricades and signage, as outlined in Section 6.1 of the Contamination Management Plan (Appendix H of the Bayswater Ancillary Works Environmental Management Strategy).

A Licenced Asbestos Assessor (LAA) will confirm the presence (or absence) of ACM, and where necessary, collect a sample of the for laboratory analysis at a NATA accredited testing laboratory for further confirmation. Once confirmed, the LAA will outline the appropriate steps to manage the contaminated land/material. All Personal Protective Equipment used in asbestos-related work will be treated as contaminated and disposed of accordingly.

ACM containing wastes will be classified in accordance with the NSW EPA *Waste Classification Guidelines* 2014. The Project Manager is to engage a Licenced Asbestos Removalist (LAR) to remove and dispose of the asbestos waste safely at a correctly licenced landfill site. Prior to the LAR beginning works the ACM is to be kept covered, barricaded and signed to prevent unauthorised entry and subsequent contamination incidents.

An Asbestos Register detailing the location, magnitude and environment Improvement Action (IA) undertaken is to be prepared, maintained, reviewed and kept readily accessible by the Principal Contractor.

5.1.2 Transportation of asbestos waste

The LAR is responsible for the transportation of asbestos waste are required to ensure that:

- Any part of the vehicle in which ACM is being transported is coved, leak-proof for the duration of its transportation
- All bonded ACM is securely packed during its transportation
- All friable ACM is in a sealed container during its transportation and that
- Any ACM other than bonded ACM that is securely packaged or friable ACM that is in a sealed container is wetted down during its transportation.

Prior to transportation of ACM (in a single load over 100 kilograms or 10 square metres in volume) the LAR is required to provide information to the EPA, including but not limited to:

- The address of the site at which the ACM has been generated
- The name, address and contact details of the premises from which the load is to be transported
- The proposed date of the intended transportation
- The name, address and contact details of the proposed receiving premises and
- The approximate weight of each class of ACM in the load.

Following approval from the EPA, a unique consignment code will be issued. Additionally, to the requirements set above, interstate transportation of ACM is required to be tracked.

5.2 Training

Construction workers who attend the Project site may be required to undergo training and awareness programs regarding waste management. Compulsory training will be determined by AGLM and will be developed and delivered by the Principal Contractor. Training delivered by the Principal Contractor will be subject to approval and auditing by AGLM to ensure it aligns with AGL induction requirements and fulfils the conditions of SSD 8889679.

Delivery of training may include:

- Work Inductions
- Toolbox Talks
- Meetings lead by the Environment Team
- Posters and educational items.

Training should detail:

- The contents of this WMP
- Legislation and legislative requirements pertaining to waste classification and management
- Complaint and enquiry reporting
- Management measures listed in the EIS and this WMP
- Specific responsibilities regarding the mitigation measures.

Training will be undertaken in accordance with Section 7.4 of the Stage 3 Bayswater Ancillary Works EMS.

6. Waste monitoring

A recommended monitoring and inspection plan is provided in Table 8. Monitoring requirements for the Project are listed in Section 10 of the Stage 3 Bayswater Ancillary Works EMS.

Table 8. Waste management monitoring plan

Monitoring	Frequency	Responsibility	Records
 Environmental site inspection: Implementation of waste management activities Site is neat, tidy and free of litter Stockpiled and segregated waste collection points are clearly signposted Bins and skips are not overfilled. Quantities of stored materials are appropriate based on construction scheduling/procurement constraints. 	Weekly	Principal Contractor	 Weekly Environmental Inspection Checklist
Monthly Review: Review of all waste management records (e.g. disposal documents and records, waste management register).	Monthly	Principal Contractor	 Daily Site Diary Waste Management Register Disposal Dockets/records

7. Compliance management

7.1 Roles and responsibilities

Roles and responsibilities are outlined in Section 7.3 of the Stage 3 Bayswater Ancillary Works EMS.

7.2 Inspections

Inspections of the Project site will occur as outlined in Section 7.6 of the Stage 3 Bayswater Ancillary Works FMS.

7.3 Incidents and complaints

Incident management will be managed in accordance with the process outlined in Section 7.5 of the Stage 3 Bayswater Ancillary Works EMS.

Complaints and enquiries will be managed in accordance with the process outlined in Section 6.3 of the Stage 3 Bayswater Ancillary Works EMS.

7.4 Document review and update

All strategies, management plans, and programs that are a produced to meet the SSD 8889679 development consent requirements will be regularly reviewed as part of a continual improvement process to ensure they remain current and relevant to the Project.

It is a requirement of the EMS that the associated plans, studies and strategies are reviewed and updated within three months of the following events, including:

- The submission of an environmental incident report
- The submission of an audit report
- The approval of any modification to the conditions of the development consent
- A direction of the DPE Planning Secretary.

Document and records management for the Project is described in Section 7 of the Stage 3 Bayswater Ancillary Works EMS.