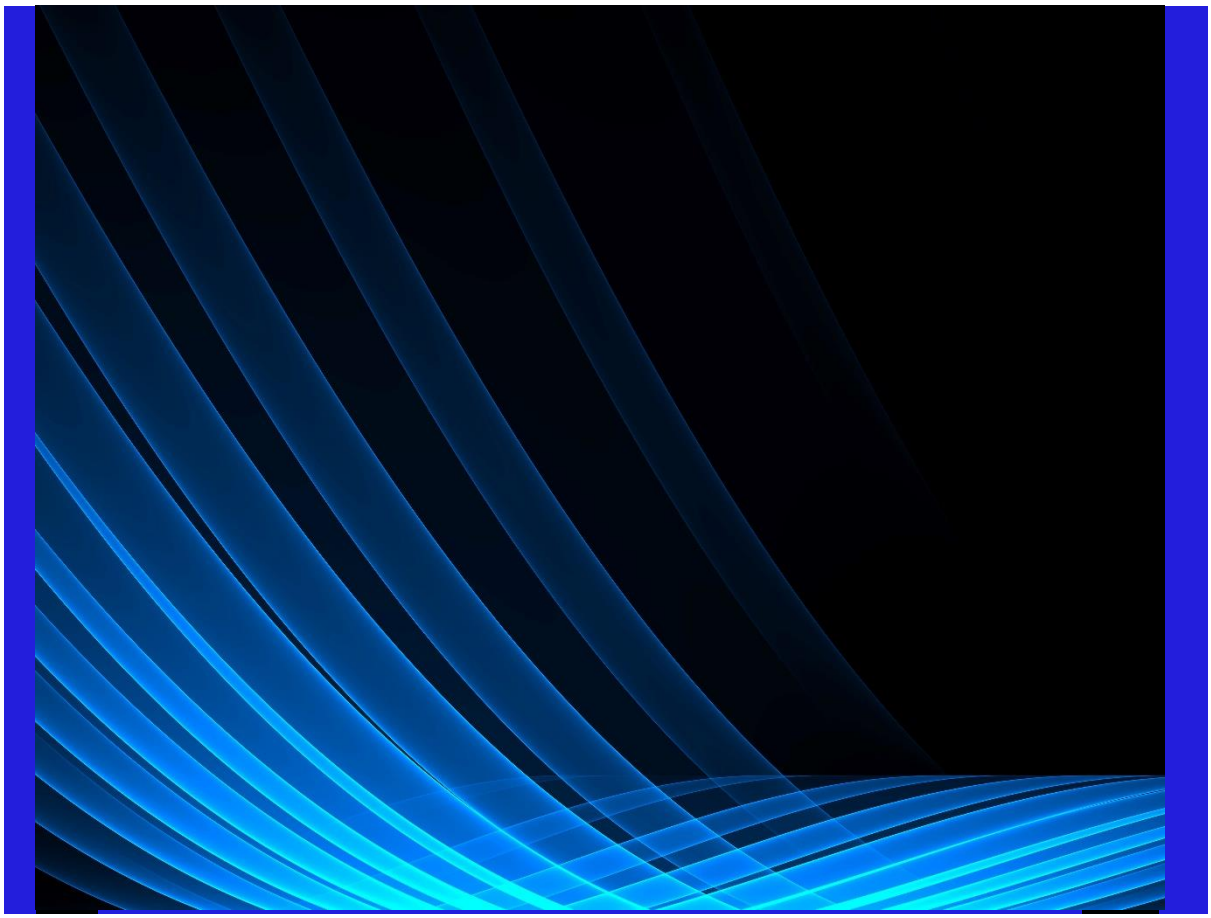
Bayswater WOAOW Environmental Management Strategy

Revision no: Final

AGL Macquarie Pty Limited

11 August 2022



Bayswater WOAOW Environmental Management Strategy

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Executive summary

This Environment Management Strategy has been developed for the AGL Macquarie (**AGLM**) Bayswater Power Station (**Bayswater**) 'Water and Other Associated Operational Works' (**WOAOW**) Project and serves as a framework to prepare a Construction Environment Management Plan.

Bayswater was commissioned in 1985 and has a current generation capacity of 2,640 megawatts (**MW**). The approval of the efficiency upgrade recognised the critical importance of the continued operation of Bayswater until 2035.

AGLM are proposing to undertake a range of upgrades to Bayswater to improve the environmental performance of ash and salt management infrastructure and associated rehabilitation outcomes. The purpose of the Project is to improve the management of ancillary processes over the remaining operating life of Bayswater and to facilitate an improved rehabilitation outcome for the ash disposal area. AGLM are also proposing to consolidate and voluntarily surrender certain existing development consents where the operation of the Project would supersede these approvals.

As part of the approval, an Environment Management Strategy is required prior to the commencement of construction. This strategy has been prepared to provide an environmental management framework for all development stages of the Project and describes how AGLM and all Contractors will comply with statutory environmental requirements, manage potential environmental impacts, and ensure appropriate controls are in place to minimise and prevent risks to the environment.

This strategy utilises information gathered in the planning phase and carries it through to the operational phase ensuring continuity of relevant environmental information and transfer from Contractors, subcontractors, and all teams working on the development of the project. The strategy will serve as a guide to complete the individual management plans required for each stage of the development.

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Glossary of Terms

Term	Definition
Ash Dam Augmentation	Expansion of the existing Bayswater Ash Dam to provide additional ash storage capacity and improvements to water management structures and systems to ensure continued collection and reuse of process water and return waters from the Bayswater Ash Dam.
Ash harvesting upgrades	Increasing coal ash recycling activities to produce up to 1,000,000 tonnes per annum of ash derived product material and reuse of bottom ash and upgrades to existing fly ash harvesting infrastructure including the installation of weighbridges, construction of a new 240 tonne silo, tanker wash facility and additional truck parking.
Bayswater	Bayswater Power Station
Coal handling plant upgrades	Improvements to the management of water and waste materials within the coal handling plant sediment basin and associated drainage system
EP &A Act	NSW Environmental Planning and Assessment Act 1979
EP &A Regulation	NSW Environmental Planning and Regulation 2000
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPBC Regulations	Environment Protection and Biodiversity Conservation Regulation 2000
Liddell	Liddell Power Station
POEO Act	Protection of the Environment Operations Act 1997
Project	WOAOW Project, consisting of upgrades at Bayswater Power Station aimed at improving the environmental performance of ash, salt and water management infrastructure and associated rehabilitation outcomes
Ravensworth ash line	Construction and operation of a new coal ash pipeline to Ravensworth Void No. 3 for ash emplacement.
Salt cake landfill	Construction and operation of a salt cake landfill facility to dispose of salt cake waste from the approved salt caking plant to be constructed at the Bayswater water treatment plant.

Abbreviations

Abbreviations	Definition
AGLM	AGL Macquarie Pty Ltd as the proponent of the Project
BAM	Biodiversity Assessment Method
BCD	Biodiversity Conservation Division
BCS	Biodiversity, Conservation and Science Directorate within the Department
BDAR	Biodiversity Assessment Report
BMP	Biodiversity Management Plan
BWAD	Bayswater Ash Dam
CEMP	Construction Environment Management Plan
DPIE	Department of Planning Industry and Environment (New South Wales)
DRG	Division of Resources & Geoscience
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EPL	Environmental Protection Licence
GWH	Gigawatt hours
Ha	Hectares
HSE	Health, Safety, and Environment
HSEMS	Health, Safety and Environment Management System
Km	Kilometres
LEP	Local Environment Plan
m	Metres
MSC	Muswellbrook Shire Council
NRAR	Natural Resources Access Regulator
PAD	Potential Archaeological Deposit identified as an area with potential to contain Aboriginal heritage artifacts
PIRMP	Pollution Incident Response Management Plan
RAP	Registered Aboriginal Party
RFS	Rural Fire Service
SC	Singleton Council
SEARs	Planning Secretary's Environmental Assessment Requirements
SEE	Statement of Environmental Effects being a planning assessment document for non-State significant development
SEPP	State Environmental Planning Policy
SSD	State significant development
SSI	State significant infrastructure
TECs	Threatened ecological community
TfNSW	Transport for New South Wales
WOAOW	Water and Other Associated Operational Works

1. Introduction

1.1 Purpose

This Environment Management Strategy has been prepared to provide a framework for the upgrades at Bayswater Power Station (**Bayswater**) 'Water and Other Associated Operational Works' (**WOAOW; 'Project'**). The strategy will describe how the Project will comply with all statutory requirements, manage potential environmental impacts, and ensure appropriate controls are in place to minimise and prevent risks to the environment. It provides a framework for environmental management and utilises information gathered in the planning phase through to the operational phase to ensure information continuity and transfer between the parties working on each phase of the project. The strategy will serve as a guide in the preparation of the CEMP and all other management plans, strategies, and programs.

Implementing this strategy and associated management plans will ensure the Project meets the Approval (Development Consent) conditions of the New South Wales Department of Planning, Industry and Environment (**DPIE**) and will provide the Contractors and subcontractors on the Project site the guidance needed to mitigate environmental risks and meet or exceed their environmental obligations.

1.2 Scope

This strategy is the principal environmental management document that describes the systems in place to minimise and manage environmental risks associated with the development of the Project. It incorporates all requirements of the EIS, and all relevant licences, permits, and approvals for the Project. The strategy will address the project as a whole, as described in the Environmental Impact Statement (**EIS**) to enable its use through all stages of development. Subsequent management plans will use this strategy as a guide and can be prepared and submitted on a staged basis. No supporting management plans are required as part of the strategy and will be developed separately, or as part of the CEMP.

The partial Development Consent for the Project received February 2022 approved all upgrade works proposed, with the exception of the ash dam augmentation and seepage collection infrastructure upgrade components of the application. These upgrades require further approval from the Secretary prior to the commencement of construction.

The strategy aims to address Conditions D1 of the project development consent (Bayswater Power Station Upgrade Project– SSD 9697). Table 1 identifies the sections of the strategy that relate directly to the requirements of Condition D1.

Table 1. Content requirement from the Development Consent

Development Consent Requirement	Environmental Management Strategy Section
Prior to commencing construction, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:	
D1.a - provide the strategic framework for environmental management of the development	Section 7
D1.b - identify the statutory approvals that apply to the development	Section 3
D1.c - describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development	Section 7.3
D1.d - describe the procedures that would be implemented to:	
(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;	Section 6.2

Development Consent Requirement	Environmental Management Strategy Section
(ii) receive, handle, respond to, and record complaints; (iii) resolve any disputes that may arise;	Section 6.3
(iv) respond to any non-compliance;	Section 7.7
(v) respond to emergencies	Section 7.5
D1.e – Include:	
(i) references to any strategies, plans and programs approved under the conditions of this approval	Section 9
(ii) a clear plan depicting monitoring to be carried out under the conditions of this approval.	Section 9

2. Project description

2.1 Project overview

AGL Macquarie as a subsidiary of AGL Energy Limited (referred to throughout as **AGLM**) are proposing to undertake a range of upgrades to Bayswater Power Station (**Bayswater**) to improve the environmental performance of ash and salt management infrastructure and associated rehabilitation outcomes.

Bayswater was commissioned in 1985 to utility standards of the time and has a current technical life up to 2035. Bayswater has a current generation capacity of 2640 megawatts (**MW**) and approval for efficiency upgrades that would increase capacity to 2740 MW.

The Project's overall purpose and objective is to facilitate improved environmental outcomes and ongoing operation of Bayswater through:

- Providing additional ash storage
- Improved ash recycling and management
- Improved salt management through facilitating operation of saltcake facility and saltcake disposal
- Rehabilitation of the ash dam, borrow-pit, and saltcake disposal areas post retirement.

While it facilitates the ongoing operation of Bayswater, no changes are proposed to the existing approved operation or any other component of Bayswater as part of the Project. Bayswater as a whole will continue to be operated and maintained in a manner which responds to market demand and complies with all applicable laws and existing authorisations.

The Bayswater water and other associated works project (**Project**) will include the following elements, also shown in **Figure 1**:

- Augmentation of the existing Bayswater Ash Dam (**BWAD**) to provide additional ash storage capacity (**Ash Dam augmentation**)
- Improvements to water management structures and systems to ensure continued collection and reuse of process water and return waters from the BWAD (**Ash Dam augmentation**)
- Improvements to the management of water and waste materials within the coal handling plant sediment basin and associated drainage system (**Coal handling plant upgrades**)
- Increasing coal ash recycling activities to produce up to 1,000,000 tonnes per annum of ash derived product material and reuse of coal ash (**Ash harvesting upgrades**)
- Upgrades to existing fly ash harvesting infrastructure including the installation of weighbridges, construction of a new 240 tonne silo, tanker wash facility and additional truck parking (**Ash harvesting upgrades**)
- Construction and operation of a new coal ash pipeline to Ravensworth Void No. 3 for ash emplacement (**Ravensworth ash line**)
- Construction and operation of a salt cake landfill facility to dispose of salt cake waste from the approved salt caking plant to be constructed at the Bayswater water treatment plant (**Salt cake landfill**)
- Construction and operation of a Borrow Pit(s) on AGLM land to facilitate the improvements proposed for the Project and other works on AGLM land (**Borrow Pits 1 to 4**) and
- Ancillary infrastructure works including repositioning of underground pipelines to above ground, replacement or upgrading of ageing pipelines, vegetation clearing associated with maintaining existing infrastructure, including along pipeline corridors (**HP Pipe clearing, and LSP Pipe clearing**).

The Project is primarily within the AGLM owned lands, which serves as a buffer to allow Bayswater to operate without significant amenity impacts on surrounding land uses. Some Project infrastructure resides on road reserves owned by Transport for New South Wales (**TfNSW**), Singleton Council, and NSW Crown Land. The site is appropriately zoned, and the Project design has focused on previously disturbed land to the extent this is sufficient and appropriate for the required purpose of each Project component.

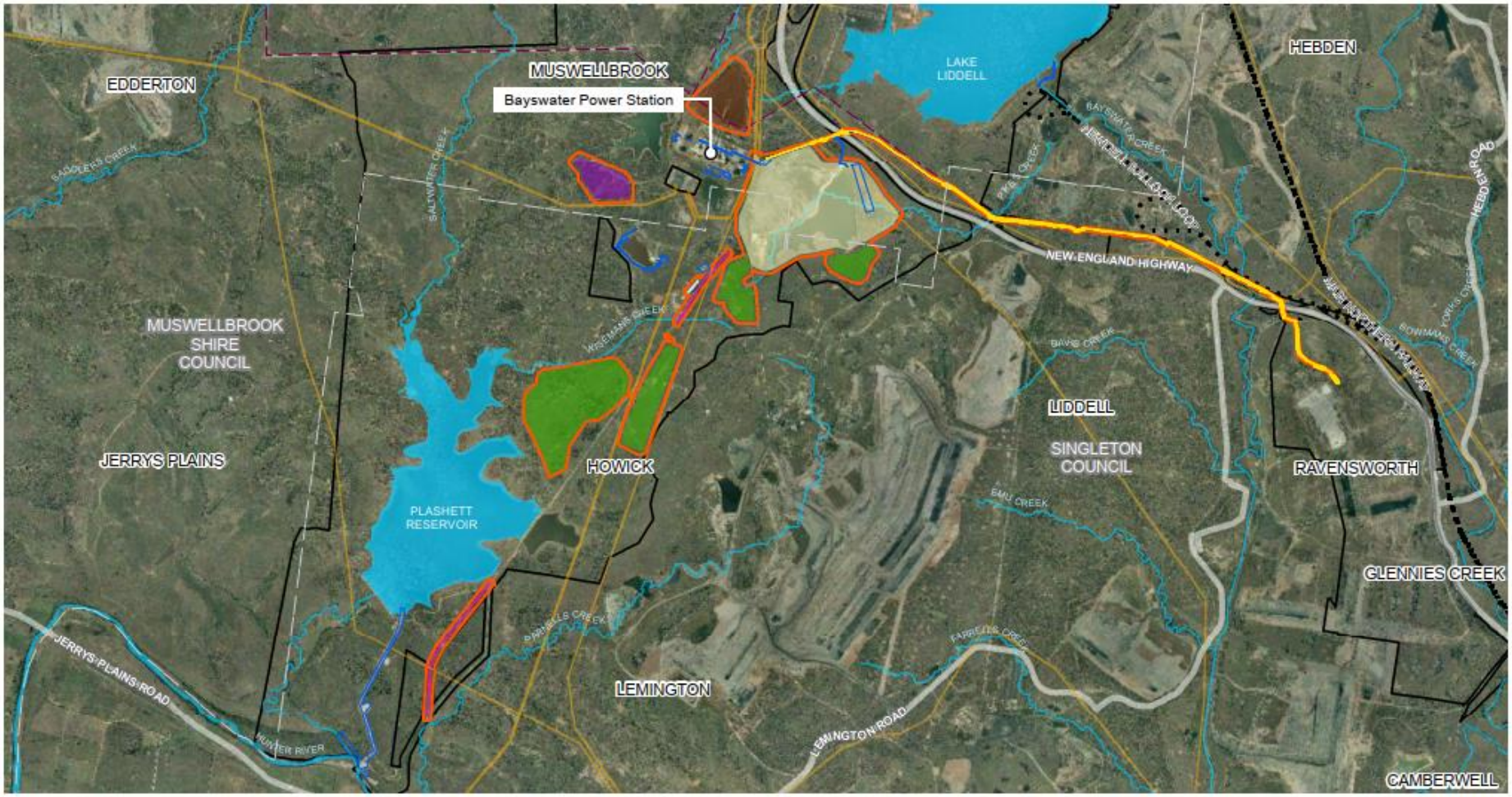


Figure 1 AGL Site Plan and Project Elements

2.2 Project location

2.2.1 Site location and footprint

The proposed project site is in the Local Government areas of both Singleton and Muswellbrook. The upgrades will occur within the Bayswater Power Station operational area, with a component of the works extending to the Ravensworth rehabilitation area. The majority of the works will be undertaken within the AGL Macquarie Landholding, except for a small parcel of Crown land, Singleton Council-owned land, and TfNSW-owned land.

Much of the permanent facilities associated with the Project would be limited to upgrades of existing infrastructure within areas associated with Bayswater operations, with the exception of:

- Additional access tracks associated with increased ash harvesting and recycling
- Augmented ash disposal area which would occupy an additional area of approximately 167,000m^2.

While the salt cake landfill facility and Borrow Pits would be reinstated progressively, they would result in an altered landform with restricted rehabilitation and as such are considered to form part of the permanent footprint of the Project.

2.2.2 Access details

Access to and from Bayswater is provided by slip-lanes from the New England Highway into an existing site access road. Access to Ravensworth Ash line would be via Pikes Gully Road and Hebden Road.

2.3 Project elements

The purpose of the Project is to improve the management of Bayswater's ancillary processes over the remaining operating life of Bayswater and to facilitate an improved rehabilitation outcome for the ash disposal area. This would involve:

- Optimizing and improving ash management including augmenting the existing ash disposal area, and augmentation of the existing ash harvesting and recycling facilities
- Creation of a salt cake disposal landfill to complete the alternative process for managing water impurities and reduce the reliance on the Hunter River Salinity trading scheme
- Improvements to water management around the coal handling plant area.

Table 2 summarises the key project elements through the construction, operational, and decommissioning stages.

Table 2. Project elements

Project element	Summary
Construction	
Construction - ancillary facilities	Infrastructure including internal access roads, water supply and power services, laydown areas, temporary sheds incorporating offices and associated amenities would either be located within the maximum disturbance footprint or be part of the existing facilities at Bayswater.
Construction – project footprint	The Project area has been defined as the maximum construction footprint, plus an approximately 50-metre-wide buffer area, which was includes as part of the EIS to account for possible indirect impacts. Where possible, construction activities would be reduced to minimise disturbance of environmentally sensitive areas.
Construction workforce	The Project would provide employment for up to 90 Full Time Equivalent workers (at peak) over the project duration.
Construction hours	Works would be undertaken during standard and out-of-hours construction hours. Oversized deliveries would be undertaken in accordance with relevant legislative requirements which could require some works to be undertaken outside of standard hours. Some works may be required to coincide with scheduled outage periods.
Construction schedule	The finalised construction schedule would be further developed as part of design refinements, based on AGLMs operational requirements and in consultation with delivery contractors. Some works may be staged, as deemed necessary. It is anticipated that the staging of construction works would result in a reduction of construction related environmental impacts.
Daily construction traffic volumes	Traffic generated by the Project construction would involve employees' vehicles and the transportation of containers and construction materials. Light vehicles would be required for workers. It has been assumed that each worker would travel to site in a personal vehicle. However, it is possible that private buses may be used to transport workers. The peak traffic movements related to the Project (to and from Bayswater) are expected to be approximately: ▪ 180 light vehicles (90 in and 90 out per day) ▪ 50 heavy vehicle movements (25 in and 25 out per day). In addition, up to 8 oversized vehicle movements would be expected for the delivery of weighbridges and the ash silo. It is considered that adequate contractor parking is provided on site capable of accommodating the additional construction workforce. Should additional parking be required then this would be made available within the disturbance footprint assessed.
Plant and equipment	A range of plant and equipment would be used during construction. The final equipment and plant requirements would be determined by the construction contractor. Indicative plant and equipment have been broadly categorized into the following activities: Equipment required for earthworks, which would be associated with the BWAD augmentation, salt cake land fill and Borrow Pits, is likely to include:

Project element	Summary
	▪ Front end loaders ▪ Dump trucks ▪ Road trucks ▪ Excavators ▪ Compactors ▪ Water trucks. Equipment associated with upgrades to existing infrastructure (ash recycling/harvesting, and ash pipeline): ▪ Graders ▪ Elevated work platforms ▪ Crane ▪ Concrete saws and grinders ▪ Compacters and rollers ▪ Scrapers ▪ Backhoe ▪ Concrete trucks ▪ Generators. Equipment associated with vegetation removal: ▪ Chainsaws ▪ Tractors ▪ Light vehicles ▪ Woodchippers/mulchers. Vegetation removal would be required at various locations across the Project area during the early stages of construction to create access where necessary.
Materials and components	Materials required for the BWAD augmentation and salt landfill works would be sourced from the proposed Borrow Pits. The suitability of extracted materials is dependent on additional geotechnical investigations and testing. Material that is not suitable for BWAD augmentation and salt cake landfill works could be used in areas of landscaping or other works. Should contaminated material be encountered, this material would be managed appropriately in line will relevant legislative requirements. Additional materials required would include: ▪ Ash and effluent pipeline segments ▪ Rockfill ▪ Concrete and other materials required to complete the works ▪ Portable buildings. Oversized deliveries would be associated with the delivery of the weighbridges and ash silo. Water would be required during construction for wash down and dust suppression and would be sourced from the site water supply network and existing water allocations.
Operations	
Operational life expectancy	Components of the Project would operate through to the anticipated closure of Bayswater. Activities associated with the decommissioning and rehabilitation works for the Project would extend beyond the closure of Bayswater for approximately five years or until rehabilitation and closure activities have been adequately completed.
Operational work force	Over the duration of the Project, it is anticipated employment would be provided for about 25 additional staff.
Daily operation traffic movements	It is expected the Project would generate approximately 360 heavy vehicle movements (i.e., 180 trucks in and 180 out) and 50 light vehicle movements daily. Operational truck movements would be associated predominantly with ash recycling.
Decommissioning	
Strategy	Built infrastructure associated with the Project would be removed following closure of Bayswater and the site footprint graded and rehabilitated to a safe, sustainable, and non-polluting landform in accordance with the project specific rehabilitation management

Project element	Summary
	plan. Generally, this would include returning the site to as near to pre-development condition as practicable, such as removing buildings and infrastructure. Materials required for rehabilitation would be sourced either from within Bayswater, or from Ravensworth compost facility. Decommissioning of the salt cake landfill would be in accordance with the requirements of *NSW EPA Environmental Guidelines for solid waste landfills* (Second Edition, 2016).
Rehabilitation objectives	Rehabilitation monitoring and management would be undertaken for the Salt cake landfill and BWAD until such time as a safe and sustainable landform is confirmed.

3. Statutory Requirements

3.1 Key legislative requirements

This strategy reflects current legislation, policies, and strategies at both a Commonwealth and State level as relevant to the Project.

The Project is located within the Muswellbrook and Singleton Local Government Areas (**LGAs**) and is zoned SP2 Infrastructure: Power Station and RU1 Primary Production respectively. Under clause 34 of State Environmental Planning Policy (Infrastructure) 2007 (**ISEPP**) development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial, or special use zone. Land which is zoned SP2 and RU1 are prescribed zones for the purposes of clause 34 of ISEPP. Accordingly, the Project is permissible with development consent which is explained further in Section 3.3.

The Project is required to support the ongoing operation of Bayswater and so constitutes development for the purpose of "electricity generating works" and has a capital investment value of more than $30 million. The Project is accordingly State significant development (**SSD**) under the State Environmental Planning Policy (State and Regional Development) 2011 (**SEPP SRD**). On this basis, the Project is declared to be SSD and requires assessment in accordance with Division 4.7 of the Environmental Planning and Assessment Act 1979 (**EP&A Act**). The Independent Planning Commission or the Minister for Planning and Public Spaces (by delegate) is the consent authority for SSD under Division 4.7 of the EP&A Act.

The Project is also a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 (**EPBC Act**) with the controlling provisions being listed threatened species and communities under sections 18 and 18A. The Project will be assessed under the Bilateral Agreement (*Amending Agreement No.1*, 2020) between the Commonwealth and NSW Governments.

Details of the legislation relevant to this project are provided in **Appendix A**.

3.1.1 EP&A Act and Regulation

The Environmental Planning and Assessment Act 1979 (**EP&A Act**) and Environmental Planning and Assessment Regulation 2000 (**EP&A Regulation**) establish the planning and approvals process in NSW. It provides for the making of Environmental Planning Instruments (**EPIs**) including Local Environmental Plans (**LEPs**) and State Environmental Planning Policies (**SEPPs**), which set out requirements for particular localities and/or particular types of development. The applicable EPIs and the EP&A Regulations determine the relevant planning approval pathway and the associated environmental assessment requirements for proposed development activities.

Section 1.3 of the EP&A Act outlines the objects of the EP&A Act as follows:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development, and conservation of the State's natural and other resources

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental, and social considerations in decision-making about environmental planning and assessment

(c) to promote the orderly and economic use and development of land

(d) to promote the delivery and maintenance of affordable housing

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities, and their habitats

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)

(g) to promote good design and amenity of the built environment

(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State

(j) to provide increased opportunity for community participation in environmental planning and assessment.

3.1.2 Protection of the Environment Operation Act 1997

The principal legislation regulating pollution and waste management in NSW is the Protection of the Environment Operations Act 1997 (**POEO Act**). All scheduled activities as listed in Schedule 1 of the POEO Act require an Environment Protection License (**EPL**).

Bayswater is operated under EPL 779 which is held by AGLM and issued by the EPA under the POEO Act for Bayswater. The existing EPL 779 for Bayswater would be modified to incorporate the additional scheduled activity of 'land based extractive activity'.

3.2 Approvals, permits and licences

AGLM is responsible for obtaining the approvals in **Table 3**, and the Contractors responsible for delivering each stage of the project must apply for and obtain all other licences, permits and approvals prior to beginning works. A copy of all licences, approvals, and permits are to be made available on-site at all times.

Table 3. Project Approvals, permits and licences

Approval/Licence/Permit	Legislation	Status
Development Consent	*Environmental Planning and Assessment Act 1979*	Partial Approval received 18 February 2022
Environment Protection Licence (EPL) - EPL 779 Modification	*Protection of the Environmental Operations Act 1997* (POEO Act)	Variation of Licence No. 779 received 21 Jun 2022 from NSW EPA
EPBC Approval	*Environment Protection and Biodiversity Conservation Act 1999*	Approval received 14 April 2022
Crown Lands Approval	*Crown Lands Act 1989*	*Approval in-progress as of May 2022*
Roads and Maritime Services (RMS) Infrastructure Deed	*Transport Administration Act 1998*	28 July 2014
Land Owners Consent – Bayswater Power Station Upgrade (SSD-9697) – Ash Pipeline Replacement (Transport for NSW)	*N/A*	Consent received 21 June 2021

3.3 Development Consent

The Bayswater Power Station Upgrade Project Development Consent was granted February 2022 as a partial consent. AGLM are required to obtain further approvals from the Planning Secretary for the ash dam augmentation and seepage collection infrastructure upgrade components of the application. All other proposed project stages were approved.

Due to the multiple components of this project, the Development Consent allows for the preparation and submission of any strategy, plans, or programs on a staged basis. Table 4 provides a breakdown of the components within Stage 1 and Stage 2.

Table 4. Baywater WOAOW Stages

Stage	Description of work	Date of commencement	Estimated duration
Stage 1	Ravensworth ash line	August 2022	18 months

Stage	Description of work	Date of commencement	Estimated duration
	▪ Construction and operation of a new coal ash pipeline to Ravensworth Void No. 3 for ash emplacement		
Stage 2	Ash dam augmentation ▪ Augmentation of the existing Bayswater Ash Dam ▪ Improvements to water management structures and systems Coal handling plant upgrades ▪ Improvements to the management of water and waste materials within the sediment basin and drainage system Ash harvesting upgrades ▪ Increase coal ash recycling ▪ Upgrades to existing fly ash harvesting infrastructure including the installation of weighbridges, construction of a new 240 tonne silo, tanker wash facility and additional truck parking Salt cake landfill ▪ Construction and operation of a salt cake landfill Borrow pits 1 to 4 ▪ Construction and operation of borrow pits Ancillary infrastructure works ▪ Repositioning of underground pipelines to above ground ▪ Replacement or upgrades to aging pipelines ▪ Vegetation clearing	2023	To be determined

This plan is drafted to gain approval to start the development of Stage 1 for the Ravensworth Ash Line component but will serve as the strategy to be used by all subsequent strategies and management plans.

The Development Consent condition D1 sets out the requirements for the Environmental Management Strategy which states the strategy must include:

- The strategic framework for environmental management of the development
- The statutory approvals that apply to the development
- Descriptions of the roles, responsibilities, authority, and accountability of all key personnel involved in the environmental management of the development
- Procedures that would be implemented to:
  - Keep the local community and relevant agencies informed about the operation and environmental performance
  - Receive, handle, respond to, and record complaints
  - Resolve any disputes
  - Respond to non-compliance
  - Respond to emergencies
- Reference to any strategies, plans and programs approved under the Development Consent
- A monitoring plan that complies with the conditions of the Development Consent.

The strategy must be approved by the Secretary and implemented by the AGLM and all Contractors.

4. Environmental Policies

All management plans, strategies and programs must consider and incorporate the objectives and targets set in AGLM's Environment Strategy and Health, Safety and Environment (**HSE**) Policy.

4.1 AGL Health, Safety and Environment Policy

AGLM's Health, Safety and Environment Policy was revised April 2021, and applies to all AGLM employees, contractors, products, services, and joint ventures under AGLM's operational control. The Health Safety Environment System sets out how the policy is implemented. The policy states AGLM will:

- *Visibly lead their people to promote a strong HSE culture across all aspects of their business, taking care in every action to minimise harm to people and the environment.*
- *Demonstrate integrity always through prioritisation of HSE consideration in the way they work in order to meet or exceed the requirements of their compliance obligations.*
- *Deliver their best by proactively identifying, effectively controlling, and monitoring, and ensuring awareness of, the HSE risks that have the potential to harm people and the environment.*
- *Consult and work collaboratively with their employees, contractors, and the community on HSE issues.*
- *Shape tomorrow by setting, measuring, and reviewing their objectives priorities and targets to demonstrate proactive processes are in place to continuously reduce HSE risk exposure and improve HSE performance.*
- *Support employees who are injured at work to return to safe and sustainable work as soon as possible, and make reasonable adjustments, where appropriate, for non-work-related injuries and illnesses.*

5. Environmental Risk Management

5.1 Risk Management and Approach

The Contractor for each stage of development is responsible for creating and managing an Environment Risk Assessment (ERA) for all activities with potential for environmental impacts and will revise the risk assessment throughout the construction phases of the project. The process for managing risk should align with the following steps:

1. Identify and describe risks – Risks include both positives (opportunities) and negative (threats); the cause or source of each risk should be included
2. Understand the risk (rating) – Evaluate the likelihood and consequence of the inherent risk
3. Review controls and re-assess risk (rating) – Evaluate the residual risk rating after controls are implemented
4. Evaluate and respond to risk – assess risk escalation and timing, and determine a strategy that includes timeframes and monitoring requirements
5. Check process (continual updates) – Update Environmental Management Plan, associated subplans and Monitoring requirements (e.g. monitoring programs within associated subplans) based on control effectiveness, and review and update the risk register frequently.

The avoidance hierarchy will support construction management - this hierarchy prioritises avoiding impacts, rather than minimising, repairing, or offsetting impacts. Where impacts cannot be avoided, Contractors will undertake all on-site activities in a manner that will minimise the impact of the Project on the environment.

An initial construction risk assessment will be generated based on the outcomes of the environmental impact assessments conducted as part of the EIS and is to be updated prior to commencing construction with site- and equipment-specific information. A risk register will be produced and maintained by the Contractor for each stage of development and made available to other Contractors to include into their risk assessments.

5.2 Risk Assessment

An initial environmental risk assessment will be prepared by the Contractor prior to construction commencing and the results will be incorporated into the Contractor's risk register. A risk assessment should be conducted for each stage of construction works, operations, and decommissioning/rehabilitation.

The initial environmental risk assessment's purpose is to identify significant environmental aspects and impacts that could eventuate during construction of the Project. Aspects and impacts for all construction activities that could contribute to harm or impact on the environment, including air, noise, water, heritage, waste, and biodiversity will be included.

The initial risk assessment will include the environmental aspect, cause, and consequence, and include a matrix of likelihood and consequence ratings. Mitigations measures to eliminate or reduce the risks would be included, and residual likelihood and consequence ratings assigned. Risks with impacts categorised as 'major' or 'severe' require a risk owner to be identified by the Contractor or AGLM.

Table 5 shows the criteria that will be employed in the risk assessment process to classify the impact and likelihood of each environmental risk. The significance of risk should consider potential impact to environmental aspects, and cost or delays to Project development as described in **Table 6**.

Table 5. Suggested Risk Matrix

		Impact				
		Not significant	Minor	Moderate	Major	Severe
Likelihood	Almost certain *Expected to occur regularly under normal circumstances*	Medium	Medium	High	Very High	Very High
	Likely *Expected to occur at some time*	Low	Medium	Medium	High	Very High
	Possible *May occur at some time*	Low	Medium	Medium	Medium	High
	Unlikely *Not likely to occur in normal circumstances*	Low	Low	Medium	Medium	High
	Rare *Could happen, but probably never will*	Low	Low	Low	Low	Medium

Table 6. Risk impact definitions

Impact description					
	Not Significant	*Minor*	*Moderate*	*Major*	*Severe*
Schedule delay	<3 hours	< 2 days	< 1 week	>1 week	Permanent disruption
Environment	Minor incident of environmental damage that can be reversed	Isolated but significant instance of environmental damage that can be reversed with moderate effort	Significant instance of environmental damage that can be reversed with intense efforts	Major loss of environmental amenity and danger of continuing	Severe widespread loss of environmental amenity and irrecoverable environmental damage
Stakeholders	Short term complaints	Short term but significant complaint	Sustained complaint(s)	Sustained and significant complaint(s)	Relationship with stakeholder irreversibly damaged
Legal and compliance	Issues of non-compliance and breach of regulation	Minor breach of legislation and or non-compliance	An event that results in fines or notice issued from regulatory authority	Major event that results in prosecution and or fine	A critical event that results in prosecution, jail and /or fine

6. Community and Stakeholder Management

6.1 Overview

Procedures for external communications to and from relevant stakeholder and or interested parties are outlined in the *Environment Communications* AGLM-HSE-PRO-008.06 document and apply to all employees and contractors operating for or on behalf of AGLM at the Bayswater. AGLM will tailor consultation, cooperation and coordination of relevant environmental aspects and ensure that the relevant key stakeholder considerations are incorporated into the services.

The AGLM Public Website contains information available to the public and is updated by the AGL Corporate Affairs department. The website contains contact details to lodge enquiries or complaints.

AGLM maintains a stakeholder consultation standard which it applies across the development of new projects, expansions of existing infrastructure, and ongoing operations. The standard requires AGLM to:

- Conduct consultation with stakeholders, including government groups, asset owners, local community groups, businesses, residents, and local media
- Establish constructive working relationships and communication channels with stakeholders
- Consider Aboriginal cultural heritage issues in the consultation process
- Seek community feedback and
- Provide regular updates to interested communities on the progress of projects.

6.2 Stakeholder and Community Consultation

SEARs for the Project were issued to AGLM on 30 November 2018 which included a requirement that the AGLM consult with relevant local, State or Commonwealth Government authorities, exploration licence and mining lease title holders, service providers, community groups and affected landowners and describe the consultation that was carried out, identify the issues raised, and identify where the design of the infrastructure has been amended in response to these issues or a short explanation where amendments have not been made. Any conditions relating to consultation in the Development Consent are to be included in the CEMP or relevant management plans.

6.2.1 AGL Macquarie Community Dialogue Group

Bayswater has been established within the local community since it was built in the 1980's and has developed strong community relationships during this time. AGLM maintains a community reference group known as the AGL Macquarie Community Dialogue Group which meets quarterly. Membership of this group includes representatives from the surrounding community interest groups, Muswellbrook Shire Council, Singleton Council and Upper Hunter Shire Council, local business chambers and local Indigenous stakeholder groups, and is independently chaired

The Project stages will be discussed with the Community Dialogue Group prior to construction in person; where in person meetings are not possible, meetings take place over Microsoft Teams. All Community Dialogue Group meeting agendas, meeting minutes, presentations can be found on the AGL Community Webpage.

No concerns have been brought forward from the community on this stage of the project to date. Quarterly meetings will continue to be held with the AGLM Macquarie Community Dialogue Group, and all concerns and complaints will be addressed at the meeting, and written responses will be provided to the group within one week.

6.2.2 Government authority consultation

AGLM has corresponded with various stakeholders to introduce the Project.

A summary of Agencies who provided comments on the SEARS is listed below:

- Department of Planning & Environment – Division of Resources & Geoscience, now known as Department of Planning, Industry and Environment (**DRG**)

- Environment Protection Authority (**EPA**)
- Office of Environment and Heritage, now known as the Biodiversity Conservation Division (**BCD**)
- The Department of Primary Industries - NSW Department of Industry Crown Lands and Water Division), now known as Department of Planning, Industry and Environment (Crown Lands in NSW)
- NSW Rural Fire Service (**RFS**)
- Department of Transport - Roads and Maritime Services (**Roads and Maritime**), now known as Transport for NSW (**TfNSW)**
- Singleton Council
- Muswellbrook Shire Council
- Dams Safety NSW.

These responses document each authority's key concerns and assessment requirements. The agency input into the environmental assessment requirements was provided to DPIE and incorporated at DPIE's discretion.

6.2.3 Indigenous stakeholder engagement

Aboriginal stakeholder engagement and involvement is important for the identification of Aboriginal cultural values relevant to the Project. Consultation through the EIS process was conducted in four stages, from May 2019 to November 2019. Any condition within the Development Consent relating to indigenous stakeholders during construction must be included in the CEMP.

6.3 Complaint, Enquiry, and Dispute Management

ALGM's Community Complaints and Feedback Policy outlines AGLM's commitment to effectively manage complaints and resolve disputes for all existing and planned projects. AGLM aim to come to an early resolution on all feedback for complaints. Personnel and contractors are to direct all community complaints to the Manager Environment, and a response is to be provided to the complainant as soon as practicable and recorded in the *Community Complaints Register* AGLM-HSE-REG-008.09.2. Community complaints can be made through the following:

AGL Complaints and Enquiries Hotline: 1 800 039 600

Email: AGLCommunity@agl.com.au, or,

Mail: AGL Community Complaints and Enquiries
Locked Bag 14120 MCMC
Melbourne, Vic 8001

If feedback is received onsite, or directly to a Contractor, the Contractor's environmental representative will not respond to complaints from the public or other stakeholders but will immediately (or as soon as practicable) forward details of complaints onto the AGLM Manager Environment, who will assign a Case Manager from the Government and Community Relations Team. The Case Manager will contact the complainant or enquirer and make a preliminary assessment (level of feedback required) of the type of feedback needed to resolve the issue. For urgent feedback, the Case Manager will work with AGLM team members with a target resolution time of 24-hours. AGLM target feedback to the complainant or enquirer within five days for standard feedback, and thirty days for complex feedback.

Where the complainant or enquirer does not consider their feedback resolved, AGLM will escalate the issue to the Senior Manager of Government & Community Relations, who will act as the Case Manager and will respond to urgent, standard, and complex feedback. Where required, the Case Manager may consult with and bring in an independent third-party (e.g. technical expert, mediator) to assist with the investigation or resolution. If this does not lead to resolution, the complainant or enquirer may refer the matter to an independent external body (e.g. NSW Land and Water Commissioner, State Planning Departments, Tribunals and Courts), and AGLM will cooperate with the requirements and processes dictated by the external body.

Contractors will support AGLM in investigating and addressing complaints. Contractors must include a complaint and enquiry management procedure within their management plans or strategies, which should outline actions to be taken when a compliant or enquiry is received, and the roles and responsibilities of the core team requirement to implement the procedure.

6.4 Development Consent Consultation Requirements

The Development Consent outlines specific management plans that require consultation prior to being approved, those plans are summarised in Table 7. Condition A9 of the Development Consent states that if consultation is required:

a. Consultation with the relevant party must occur prior to submitting the document to the Planning Secretary for Approval; and
b. Provide details of the consultation that took place, including the outcome, matters resolved or unresolved, and details of remaining disagreements and how the AGLM or the Contractor will address those matters.

A strategy, plan or program that is staged or updated may not require consultation from all parties outlined in the Development Consent, if the Secretary agrees.

Where Consultation is required, each document (e.g., assessment or management plan) should clearly outline the consultation requirements and provide details of communication with the relevant party, the outcomes, and where they are addressed in that document.

Table 7. Consultation Requirements

Development Consent Condition	Assessment/Management Plan/Other	Consultation Requirements
A5	Updated Surface and Groundwater Assessment	EPA NSW
B7	Water Management Plan	EPA NSW and Natural Resources Access Regulator (**NRAR**)
B9	Arranging alternate access to monitoring station 210110	WaterNSW
B10	Retirement of Biodiversity credits for Offset Stages 1 through 5	Biodiversity, Conservation and Science Directorate (**BCS**)
B11	Amendments to the ecosystem and species credit requirements	BCS and Department of Agriculture, Water, and the Environment (**DAWE**)
B12	Biodiversity Management Plan	BCS
B22	Salt Cake Landfill Environmental Management Plan	EPA NSW
B26 and B27	Aboriginal Heritage Unexpected Finds	RAPs, Heritage NSW
B29	Aboriginal Cultural Heritage Management Plan	Registered Aboriginal Parties (**RAPs**) and Heritage NSW
B34	Rehabilitation Strategy	DPIE Water, EPA NSW, Muswellbrook Shire Council (**MSC**), and Singleton Council (**SC**)
C1	Construction Environmental Management Plan	EPA NSW, MSC, SC

7. Environmental Management Framework

7.1 AGL Macquarie Environmental Management System Overview

AGLM has established a Health, Safety and Environmental Management System (**HSEMS**) for operations at Bayswater and Liddell Power Stations and other associated infrastructure. Key processes, procedures, documents, management plans, and responsible people for the construction of this project are described in this section. All management plans required as part of the Development Consent, including the Construction Environment Management Plan (**CEMP**), should be written in accordance with the processes and procedures in place for operations at Bayswater Power Station.

The purpose of the HSEMS is to ensure that works are planned and performed so that the adverse effects on the environment are either avoided or eliminated through engineering controls or are minimized. These works will be carried out in accordance with regulatory requirements and Development Consent conditions throughout the project life cycle.

7.2 Contractor Environmental Management System requirements

Contractors are required to have a corporate Environmental Management System or may operate under AGLM's HSEMS. If the Contractor chooses to adopt their own Environmental Management System, it will need to meet or exceed the minimum requirements set out in AGLM's HSEMS.

7.3 Roles and Responsibilities

This section outlines proposed key roles and responsibilities for both AGLM and Contractors and sub-contractors working on all stage of the project.

7.3.1 AGLM Key Personnel

AGLM's key personnel will sit above the Contractor's Environment Team and will assist with the responsibilities outlined in **Table 8.**

Table 8. AGLM Roles and Responsibilities

AGLM Role	Responsibility
Managing Director Chief Executive Officer Company Directors	▪ Ultimate managerial authority and responsibility for environmental affairs ▪ Provide leadership and strategic direction on environmental matters
AGLM General Manager	▪ Managerial authority and responsibility for all environmental matters within both Liddell and Bayswater Power Station. ▪ Regular review of environmental management programs including the establishment of environmental objectives and targets. ▪ Monitoring and improving environmental performance. ▪ Timely renewal of operating licences. ▪ Compliance with all licence conditions and regulatory reporting requirements
Manager Environment	▪ Ensure the Environmental Management System is established, implemented, and maintained in alignment with ISO14001. ▪ Report to the AGLM General Manager on the performance of the Environmental Management System and recommendations for improvement. ▪ Planning for and responding to emerging environmental trends. ▪ Co-ordinating the regular review of the Policy and the Environmental Management System generally. ▪ Initiating the external independent environmental audit program.

AGLM Role	Responsibility
	▪ Liaising with Management in the setting of environmental objectives and targets, defining the context of the organisation and maintaining the interested parties register and all associated actions. ▪ Communicating Environmental performance. ▪ Assisting in the management and investigation of major environmental incidents. ▪ Preparing the regular and periodic environmental reports for the Board.
AGLM Head of Engineering & Projects AGL Capital Projects Manager	▪ Ensuring effective internal and external communication programs are in place. ▪ Ensure that Environmental considerations are integrated into all business functions where practical ▪ Accountable for the effectiveness, suitability, and adequacy of the EMS ▪ Ensure Environment Policy and Objectives are established and implemented ▪ Promote continual improvement and provide support as required ▪ Ensure the EMS achieves its intended outcomes ▪ Ensure resources are available to support the EMS ▪ Define and maintain the context of the organisation and any Interested Parties
AGL Corporate Affairs	▪ Co-ordinating, in the context of standing emergency plans and procedures, a public relations/communication strategy to deal with environmental incidents ▪ Communication with the public and/or Interested Parties on environmental issues and initiatives.
Environment Team	▪ Assist the Manager Environment & Station Managers in carrying out their environmental management responsibilities, by - Provide necessary technical input - Co-ordinate environmental compliance. - Assist in developing environmental objectives and targets and environmental management programs. - Liaise with and provide information to the Independent Environmental Auditor
All AGLM personnel	▪ All Management and staff within AGLM have a role in achieving a standard of environmental performance consistent with the documentation referenced in this directory

7.3.2 Contractor Key Personnel

Table 9. Contractor Roles and Responsibilities

Contractor Role	Responsibility
HSE Advisor	▪ Preparing regular environmental reports to AGLM ▪ Ensure Contractor's Environmental Management System meets or exceeds the minimum requirements set out in AGLM's HSEMS. ▪ Planning for and responding to emerging environmental trends. ▪ Initiating and supporting any external independent environmental audit program. ▪ Communicating Environmental performance. ▪ Assisting in the management and investigation of major environmental incidents. ▪ Manage the contractor's environmental management responsibilities, by ▪ Provide necessary technical input ▪ Co-ordinate environmental compliance. ▪ Assist in developing environmental objectives and targets and environmental management programs. ▪ Liaise with and provide information to the Independent Environmental Auditor ▪ Identifies environmental Incidents
Project Manager Site Superintendent	▪ Ensuring effective internal and external communication programs are in place. ▪ Ensure that Environmental considerations are integrated into all business functions where practical

Contractor Role	Responsibility
	▪ Accountable for the effectiveness, suitability, and adequacy of the Environmental Management System ▪ Ensure Environment Policy and Objectives are established and implemented ▪ Promote continual improvement and provide support as required ▪ Ensure the Environmental Management System achieves its intended outcomes ▪ Ensure resources are available to support the Environmental Management System ▪ Define and maintain the context of the organisation and any Interested Parties ▪ Ensure employees are equipped with sufficient skills to meet the objective of competent delivery of the project ▪ Responsible for resourcing employee activities and ensuring plant is operated in an efficient manner ▪ Regular review of environmental management programs including the establishment and review of environmental objectives and targets. ▪ Monitoring and improving environmental performance. ▪ Compliance with all environmental requirements and regulatory and other reporting requirements.
Contractor staff Subcontractors	▪ All Contractors and staff have a role in achieving a standard of environmental performance consistent with the documentation referenced in this Environmental Management System. Contractors shall submit a HSE Management Plan for approval by a member of the AGLM ▪ Environment Team prior to commencement of works on site

7.3.3 Organisational Chart – Project Delivery

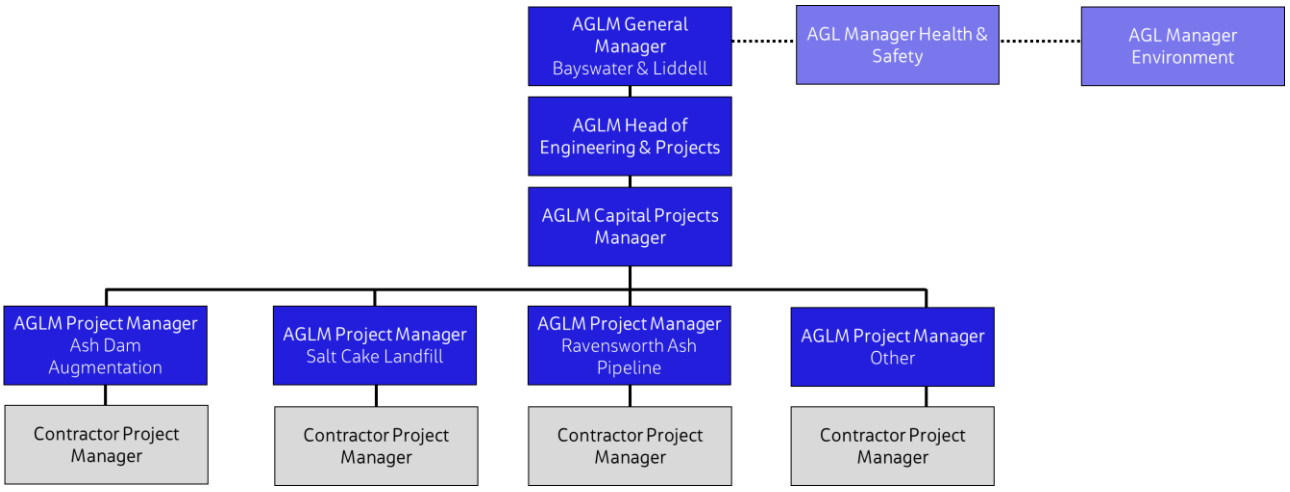


Figure 2. Organisational Chart

7.4 Training and Awareness Program

7.4.1 Training needs and competency evaluation

Training needs are determined through the Training Needs Analysis procedure, which describes the specific training required on site by evaluating significant aspects of the project, environmental incident trends, and Leadership Team requirements. This is completed for all personnel, contractors, and visitors to the Project site, to ensure compliance with site policy, standards, and procedures. Review of project specific training is reviewed in response to changes in site risks, trends in environment incidents or hazards, and annually.

7.4.2 Environmental training and awareness

AGLM have established a Project specific environmental training and induction program for all Personnel who perform tasks with the potential to cause environmental harm. The *Environment Training Procedure*

document AGLM-HSE-PRO-008.05 outlines the process to providing training and awareness to all personnel and contractors operating for or on behalf of AGLM at the Bayswater Power Station.

Internal environment training and awareness is provided to Production Crews where required by the Environment Team, and to all other teams by the Team Leaders each quarter.

Online training is available to all personnel, and the Manager Environment is responsible for developing and updating modules related to environment aspects and impacts, as well as changes in legislation, policy or Health, Safety, and the Environment Management System.

Contractors are to work with the Manager Environment to determine the environmental competency and training required for all Contractor staff and sub-contractors and are responsible for ensuring training is conducted prior to work. A record of all contractor training is to be kept in the Environment Training Needs Matrix AGLM-HSE-FRM-008-05.1

7.4.3 Site induction

AGLM utilises a global platform to induct both employees and contractors, through the Rapid Induct system. All AGLM employees were required to complete inductions prior to visiting any operational site, and all contractors are required to undertake the new induction and supply their licences and qualifications before work is commenced on the Project. Required training includes:

- AGLM Introduction
- Site Induction
- Site Entry Protocols during a Pandemic Event
- Bayswater Work Party Member Training.

7.4.4 Daily pre-start meetings and Toolbox Talks

Daily pre-start meetings will be included in all management plans, and attendance will be required by all personnel and contractors attending on-site each day. These meetings should inform personnel of the activities for that day, environmental protection practices, work area restrictions, activities that may affect the work, coordination with other trades, and hazards. These should be conducted before commencement of work each day or shift, or where changes occur during a shift.

All management plans should include Toolbox Talks. All personnel and contractors are subject to attending Toolbox Talks, which should raise awareness and educate personnel on environmental issues associated with upcoming works, or to discuss previous incidents. Key potential environmental impacts and controls to be implemented will be discussed for the relevant stage of the project.

Attendance at both the daily pre-start meetings and Toolbox talks will be recorded using a sign-in sheet, which should be retained and made available for audits.

7.4.5 Other training, induction, and awareness programs

All environmental management plans and strategies will include details on specific training, induction and awareness programs that are required for each stage of development. This should include:

- Training, induction, awareness program purpose
- Training needs determination
- Frequency of training
- Person responsible for delivering training is conducted.

7.5 Incident and emergency management

7.5.1 Incidents

AGLM has an HSE *Incident, Near Miss and Hazard Management Procedure* as part of AGLM's HSEMS (AGL-HSE-RO-012.1), which outlines the information required to ensure HSE incidents, near misses, hazards, and regulatory issues are identified, reported, and investigated. This procedure applies to all employees and contractors, contractor employees and their sub-contractors working on the Project. The General Manager of

Group HSE & Security is responsible for ensuring processes are implemented to manage HSE hazards, near misses, and incidents. The management process for all incidents, near misses, and hazard management is as follows:

Step	Action	Responsible person	Additional procedures required
1	Immediate response	Leader, or most senior person at the team, in consultation with the Manager Environment	For events that require emergency response, refer to *Emergency Preparedness, Response, and Management Standard* AGL-HSE-STD-101 and local Emergency Response Procedures
2	Leader notification	Person involved in the event if capable, or person administering assistance	None
3	Classification of incident	Leader, in consultation with the Manager Environment. If there are conflicting views relating to the event, the Head of Safety and /or Head of Environment, Health, Audit and Training	Risk assessment of event must be carried out in accordance with the HSE *Risk Management Standard* AGL-HSE-STD-044.1 Definitions of obligations of Regulatory Reportable Events are provided in the Notify Regulatory Authorities Guidelines AGL-HSE-GUI-012.1
4	Immediate notification report and escalation (if required)	Responsible Leader to immediately notify HSE Managers.	If event is a potential LTI, MTI, High Potential Event, Regulatory Reportable Events or Electrical Shock Incident, an *Immediate Notification Report* is required.
5	HSE brief (if required)	Head of Function with the HSE Business Partner and/or Head of Environment and Group Legal (where applicable). HSE Manager to distribute across AGL, operating sites, and to relevant Contractors	Brief to be in accordance with the HSE *Consultation and Communication Standard* AGL-HSE-STD-006
6 & 7	Significant event initial summary (if required) and myHSE recording	Person(s) involved (staff or contractor), or any other person involved in event or delegated the talk of the person or person's leader	Access to myHSE is through The Source (AGL) intranet
8	Investigations	Leader and HSE Business Partner	Utilise the 5-Whys Guideline (AGL-HSE-GUI-012.3) to determine root cause of incident *Incident Cause Analysis Method Tool* and *ICAM Guideline* AGL-HSE-GUI-012.2 to be used and applied, and investigation report using the *ICAM Investigation report template* AGL-HSE-TMP-012.3 to be prepared

Contractor incidents, near misses, and hazards must be entered into myHSE by the Contractor or by the responsible Contract Manager or Delegate, if the Contractor does not have access to myHSE.

7.5.2 Emergency Response

Each Contractor strategy or management plan will detail an emergency response plan that will deal with the management of incidents that constitute an emergency.

This section of the strategy or management plan will list the roles and responsibilities of project personnel responsible for managing environmental incidents and emergencies. Names and phone numbers of these

project personnel should not be included in the strategy or management plan; however, these details should be available on site, able to be easily accessed in an emergency and provided to AGLM.

This section should include:

- contact details for emergency services (ambulance, fire brigade, police, spill clean-up services and others if relevant)
- the location of on-site information on hazardous materials, including safety data sheets and spill containment materials
- procedures to minimise damage and to control an environmental incident or emergency
- a process for communication during the emergency
- a process for reviewing environmental incident and emergency planning, preparedness and response procedures following an environmental incident or emergency.

Communication protocols with AGLM must be included. These will detail when notification should occur, what details are to be communicated and how offsite communication should be managed (media, regulators, general public interactions etc etc).

7.5.3 PIRMP

A Pollution Incident Response Management Plan (PIRMP) has been prepared for EPL 779, which addresses the environmental, human, and life safety aspects of pollution incidents within EPL 779. The PIRMP applies to all AGLM employees, contractors, and visitors to the site.

Protocols within the PIRMP must be implemented in the event of any pollution incident, which links to the AGLM-HSE-PLN-010.02 AGLM Emergency Response Plan, AGLM Incident Management Procedure, and AGL-HSE-GUI-012.1 Obligations to Notify Regulatory Authorities.

The key hazards identified at the project site include spills, leaks, and emissions resulting in air, water, or land contamination, as well as unplanned water discharge from dam failure.

7.6 Inspections and audits

7.6.1 Environmental inspections

Environmental inspections at AGLM are conducted regularly at Bayswater and are driven by the environment risk in each area, with higher risk areas receiving more regular oversight.

The Environmental Team is responsible for reviewing the risks and inspection frequency for the Project and updating the *Environment Inspection* AGLM-HSE-CKL-006 checklist. Non-conformances and corrective actions from the Environment Inspection Checklist are recorded and entered into myHSE as an incident or hazard. A Corrective or Preventative Action for all non-conformances and non-compliances is to be implemented as soon as practicable in accordance with the *Corrective and Preventative Actions Procedure* AGLM-HSE-PRO-007.

7.6.2 HSEMP Audits

Contractor Environmental compliance audits are to be conducted at least annually (or as specified by AGLM), and additional audits are to be completed within one month when:

- A new contractor takes over a monitoring contract
- A new licenced monitoring point or requirement is added to a licence
- A new consent condition is being introduced
- There is a change in legislation or approved method occurs.

All non-conformances identified are to be raised with the Contractor and a plan for rectification is to be decided. An event report will be raised for the non-conformance if required. The Environmental Team and Contract Coordinator are responsible for ensuring these audits are conducted, documented, and that all non-compliances are recorded and addressed.

7.6.3 Internal Environmental Audits

The AGLM HSEMS is audited internally annually as part of the AGLM Group Operations Audit Program to assess legal compliance and the HSEMS effectiveness of the environmental management on site. Audits are conducted against ISO 14001, and audit criteria, scope, frequency, and methods are to be approved by the Manager Environment. The *Internal Audit Checklist* AGLM-HSE-FRM-008.08.3 is to be used, which requires staff interviews, observations, and a review of records and documentation. All non-conformances identified are to be recorded and reviewed to ensure action is taken.

Contractors will prepare a Compliance Register for the work they are conducting and to support the internal audits.

7.6.4 Independent Environmental Audits

Independent (external) environmental audits are conducted by government authorities, and the independent auditor must be agreed to in writing by the Secretary prior to the independent audit commencing. The Manager Environment is responsible for assisting in providing access to key personnel, site areas, and documentation as required. All actions and non-compliances are to be recorded and reviewed to ensure action is taken, and responses must be submitted to the Planning Secretary.

The frequency of independent audits was not provided in the Development Consent, therefore the frequency will at minimum, follow the requirements of the Independent Audit Post Approval Requirements (DPIE, 2020) listed in **Table 10**.

Table 10. Independent audit frequency

Development phase	Initial independent audit	Ongoing independent audit intervals
Construction	Within 12 weeks of commencement	At intervals no greater than 26 weeks from initial audit (or as agreed to by Secretary)
Operation	Within 26 weeks of commencement	At intervals no greater than 3 years (or as agreed to by Secretary)
Closure/Rehabilitation	Within 52 weeks from notifying of suspension/ceasing of operations	At intervals no greater than 1 year (or as agreed to by Secretary)

7.7 Compliance management

7.7.1 Environmental Non-Compliance

Environmental incidents and hazards (non-conformances and non-compliances) shall be entered into myHSE and managed in accordance with the *Incident, Near Miss and Hazard Management Procedure* AGL-HSE-PRO-012.1. Contractors or (Contract Manager or delegate if Contractor does not have access to myHSE) are to enter non-conformances and non-compliances into myHSE.

Corrective or preventative actions are to be managed by the *Corrective & Preventive Action Procedure* AGLM-HSE-PRO-008.

In the event non-compliances are found in an internal or external audit must be recorded on the AGLM HSE Audit Actions SharePoint site and appropriate responsibilities and due dates are to be determined. If contractors do not have access to this, they must work with the Manager Environment to record the non-conformance or non-compliance. The Contractor must work with the Manager Environment to determine actions to be taken, responsible parties, and progress on closing out items.

7.7.2 Compliance Register

A register or table of environmental compliance requirements will be prepared to assist with monitoring and recording compliance with requirements. The register will:

1. Provide an identification number for each compliance requirement
2. Identify the requirements in all SSD 9697 conditions of consent that must be complied with during the planning and conduct of works under the contract
3. Detail the compliance monitoring methods to be used to assess compliance with each compliance requirement
4. Detail the type of data or evidence that is to be collected to assess whether compliance has been achieved.

Prior to commencement of works under the contract, the contractor will provide the Compliance Register to AGLM for review. The register will be used to assist the contractor to meet relevant compliance requirements and provide support during project audits and the AGLM audit program.

An example Compliance Register based on the Development Consent is provided in Appendix B, however an alternative register may be prepared to incorporate compliance requirements from the EIS and various management plans.

7.7.3 Compliance reporting

AGL are required to report on compliance for the project. Compliance Reports of the project must be carried out in accordance with the Compliance Reporting Requirements outlined in the Compliance Reporting Post Approval Requirements (2020) and must be submitted to the Department in accordance with the timeframes set out in Table 11. AGLM must make each Compliance Report publicly available within 60 days of submitting it to the Planning Secretary.

Table 11. Compliance reporting

Compliance Report	Timing	Minimum Frequency
Operation Compliance Report	Reporting required for the duration of operation or as otherwise agreed by the Secretary.	At intervals, no greater than 52 weeks from the date of commencement of operation (annually) or if in care & maintenance, from the commencement date of care and maintenance (annually).
Post-Decommissioning Compliance Report	Report to be submitted to the Planning Secretary within 12 weeks of completion of decommissioning	Single report only

To support this, the contractor will provide regular reports detailing:

- Compliance with the compliance register
- Results of Audits and site inspections
- Status of any incidents or investigations
- Rehabilitation progress (where relevant)
- Change management
- Personnel changes where they impact responsible persons with respect to environment management.

Full reporting requirements will be determined on a contract-by-contract basis. Reporting level of detail will be determined by the environmental risk and scale of the works proposed under the contract. Should the works scope change, the level of reporting required may also change.

7.7.4 Corrective and Preventative Actions

A corrective and preventative action process should be initiated following the identification of a non-conformance and/or non-compliance. Contractors must report all non-compliances, and preventative actions to AGLM.

7.8 Continual improvement and review

7.8.1 Improvement and review

All strategies, management plans, and programs that are a produced to meet the Development Consent requirements are to be regularly reviewed as part of a continual improvement process to ensure they remain current and relevant to the project.

A strategy, management plan, or program will be reviewed and, where necessary, revised within three months of the following:

- Submission of an incident report
- Submission of an audit report
- Approval of any modification to the conditions of the Development Consent

A direction of the Secretary.

When a management plan, strategy or program is revised, it should be submitted to AGLM for assessment and approval in accordance with the review process outlined in each plan or strategy and submitted to DPIE if required. All reviews are to be documented and revisions noted.

7.8.2 Change Management

All changes to plant or associated services are subject to the AGLM change management process. The Manager Environment is responsible for reviewing any change management forms submitted.

8. Environmental Management

8.1 Overview

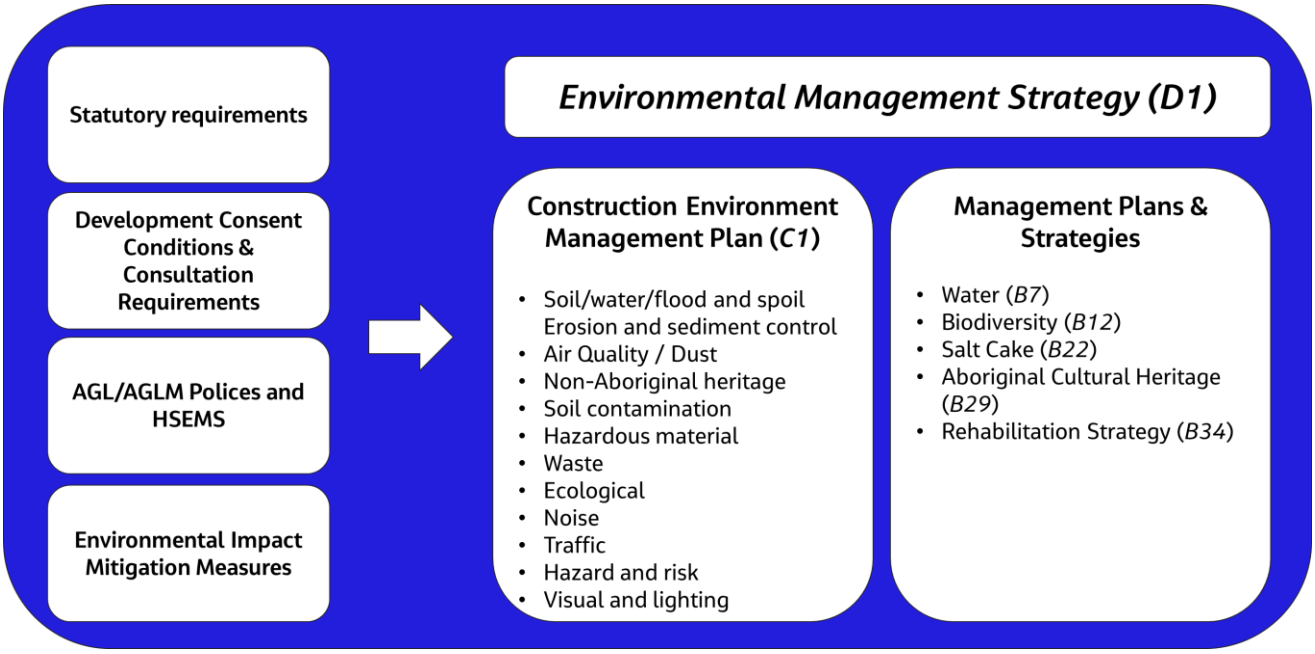
Preliminary Environmental Assessments were completed for the SEARs application, and the risk assessment outcome summary is shown in the **Table 12** below. There are two tiers of management that must be implemented for the environmental aspects that have the potential to be impacted by the development of both stages of this project (**Figure 3**). This Environmental Management Strategy addresses all environmental management requirements that apply to all stages of the development of this project.

1. **Management Plan or Strategy**: Three environmental aspects were identified as being 'high risk' as part of the EIS for the overall project and require a comprehensive management plan to be developed prior to the commencement of construction. This is also a requirement of the Development Consent. The requirements for these plans and a strategy to develop them is provided in Sections **8.2** through **8.5**. Stand-alone management plans that should be read in conjunction with this strategy include the following:
2. **Section within the CEMP:** All medium and low risk categories have associated mitigation measures that must be described within the CEMP to comply with relevant legislation. These sections must be included in the CEMP, which is a requirement of the Development Consent (C1). A strategy for how to address these aspects in the CEMP is provided in Sections **8.6** through **8.13.**

Table 12. Key risks and risk categories

Category	Environmental Aspects	Management Plan Requirements for Stage 1	Management Plan requirements for Stage 2
High	Water (surface, groundwater), ecology, Aboriginal cultural heritage	▪ Water Management Plan ▪ Biodiversity Management Plan ▪ Aboriginal Cultural Heritage Management Plan ▪ Construction Environment Management Plan	▪ Water Management Plan ▪ Biodiversity Management Plan ▪ Aboriginal Cultural Heritage Management Plan ▪ Construction Environment Management Plan
Medium	Soils and contamination, erosion and sediment control, non-Aboriginal heritage, traffic and transport, waste	Aspects to be included as sections within the Construction Environment Management Plan	Aspects to be included as sections within the Construction Environment Management Plan
Low	Socio-economic, noise and vibration, air quality (dust management), visual & lighting, hazards	Aspects to be included as sections within the Construction Environment Management Plan	Aspects to be included as sections within the Construction Environment Management Plan

Figure 3. Strategy and Management Plan requirement summary



8.2 Biodiversity management

A Biodiversity Management Plan (**BMP**) is required for the construction stage of the Project, and a strategy to produce this is outlined in **Table 13.** This is based on the findings from the Biodiversity Assessment Report (BDAR) prepared for the EIS, which outlines key risks to biodiversity, and associated mitigation measures. **Figure 4** shows a summary of the vegetations zones, habitat features, and ecosystems within and adjacent to the Project site.

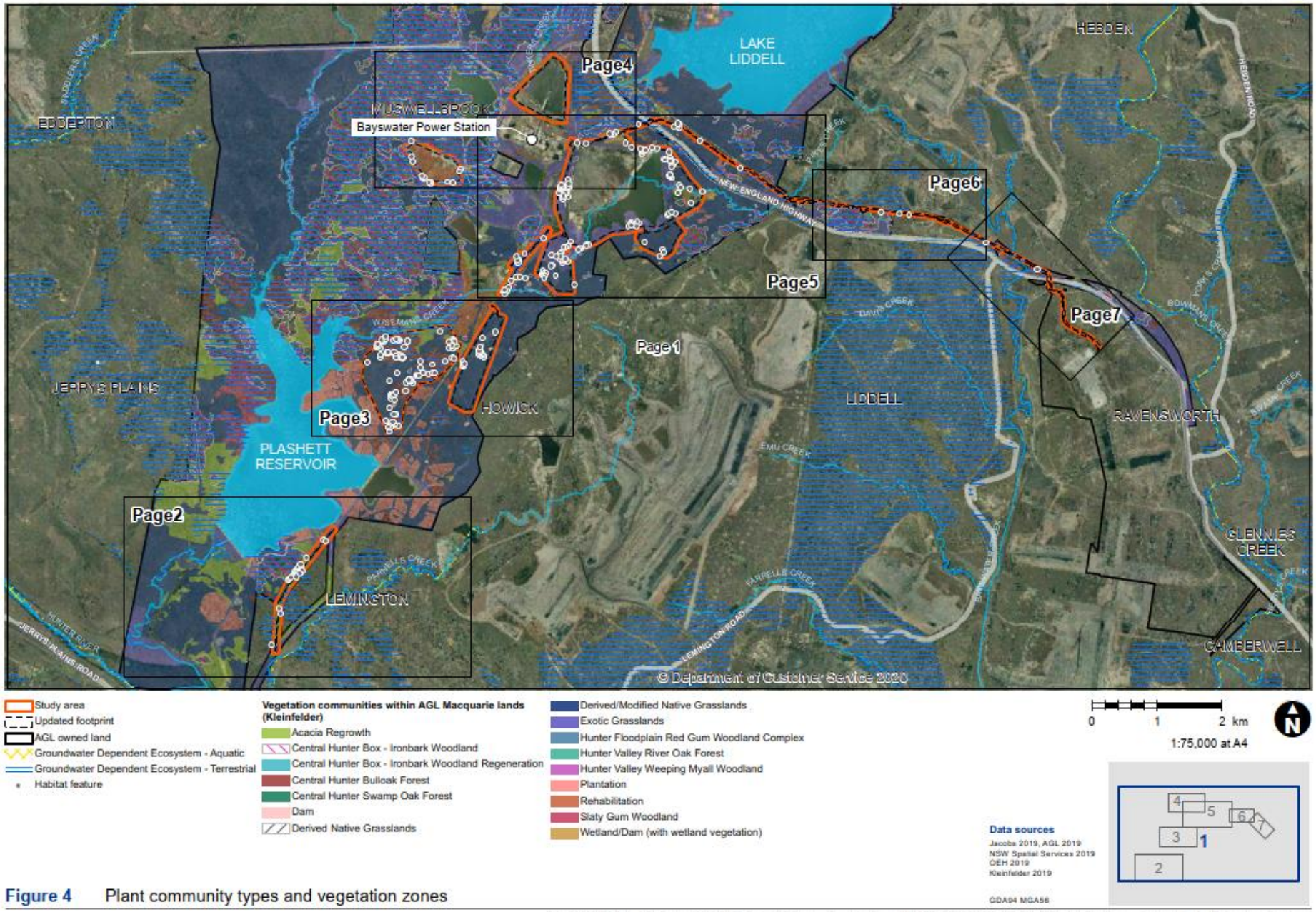


Figure 4 Plant community types and vegetation zones

Table 13. Biodiversity management summary

Biodiversity Management Summary	
Risk assessment summary	▪ No serious and irreversible impacts were identified within the Development site. ▪ Project is unlikely to have a significant impact on all but two threatened species: Striped Legless Lizard and *Prasophyllum* sp. Wybong, where the impact is uncertain due to the inability to quantify the extent of presence or absence of *Prasophyllum* sp. Wybong
Relevant legislation	▪ *Biodiversity Conservation Act 2016* ▪ *Environment Protection and Biodiversity Conservation Act 1999* ▪ *Environment Protection and Biodiversity Conservation Regulation* ▪ *EP&A Act 1979 and EP&A Regulations 2000* ▪ Muswellbrook Local Environmental Plan 2009 ▪ Singleton Local Environmental Plan 2013
Development Consent requirements (Condition reference)	▪ A Biodiversity Management Plan must be prepared prior to construction in consultation with the BCS and approved by the Planning Secretary. It must: - Be prepared by a suitably qualified and experienced biodiversity expert/s - Describe how biodiversity offsets required in Condition B11 will be retired - Describe measures to be implemented within the approved disturbance areas to: (i) minimise the amount of vegetation clearing, in particular, by designing surface infrastructure to minimise clearing of EECs and CEECs; (ii) minimise impacts on fauna, including undertaking pre-clearance surveys; (iii) minimise impacts on tree hollows, where reasonable and feasible; (iv) manage potential indirect and prescribed impacts on flora and fauna; and (v) maximise the salvage of resources, including tree hollows, vegetation, and soil resources, for beneficial reuse, including fauna habitat enhancement And describe the measures to be implemented on site to: (i) minimise impacts to threatened ecological communities listed under the BC Act and EPBC Act, and contribute to conservation strategies for these communities; (ii) minimise impacts on fauna habitat resources such as habitat trees, fallen timber and hollow-bearing trees; (iii) protect vegetation and fauna habitat outside of the approved disturbance areas; (iv) manage the collection and propagation of seed from the local area; and (v) control weeds and feral pests; and - Include a program to monitor, evaluate, and report on the effectiveness of the measures
Mitigation measures for all project stages (EIS Reference)	▪ Conduct targeted survey to determine impact on *Prasophyllum* sp. Wybong ▪ Limit extent of vegetation clearance where possible in design and construction planning (BD01) ▪ Develop Biodiversity Management Plan within CEMP (BD02) ▪ Pre-clearing protocol to be implemented, which includes pre-clearance surveys and qualified and trained fauna handler present to rescue and relocated displaced fauna (BD03) ▪ Exclusion fence placed around trees and woodland area to be retained within Project area (BD03) ▪ Avoid clearing, where practicable, during breeding and through egg hatching periods for Striped Legless Lizard (November – February) (BD04) ▪ Weeds and pathogens to be managed to prevent transfer (BD05) - Plant and equipment to be cleaned before arriving at site - Soil and seed material transfers to consider risks of weeds and pathogens being present - Weed infestations within site to be identified and mapped prior to construction

Biodiversity Management Summary	
	▪ If the Salt cake landfilling liner fails and there is an increase in salinity in the groundwater above background levels, monitoring of vegetation must occur. - If there is an impact of vegetation identified, additional mitigation measures must be implemented (B06) ▪ Borrow Pit locations must be rehabilitated once extraction works are complete, and a rehabilitation plan must be made for each pit (B07) ▪ Biodiversity offset credits would be retired in accordance with BC Act and EPBC Act requirements; to be refined as part of further survey and design detail (Prior to clearing for each Project component) (BD08) - Clearing staging plan to be prepared prior to commencement of works
Strategy to meet Biodiversity Management Plan requirements	▪ Reduce all impact to flora and fauna by addressing and completing all biodiversity mitigation measures throughout all development stages where possible ▪ Biodiversity Management Plan (BMP) Biodiversity Management Plan (BMP), Ravensworth-Bayswater Ash Line Upgrade - Kleinfelder Australia Pty Ltd (2022) was developed in accordance with the AGLM Land Management Plan AGLM-HSE-PLN-009.01. The main objective of the Ecology / Biodiversity section of this management plan is to maintain and protect biodiversity values ▪ Per Development Consent condition B33, the site must be rehabilitated progressively (as soon as reasonably practicable) following disturbance. Interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation, soil erosion, and weed incursion cannot be permanently rehabilitated ▪ BMP includes all requirements outlined in conditions B12 and B13 of the Development Consent (SSD 9697).

8.3 Surface Water Management

A Water Management Plan is required for the construction stage of the Project, and a strategy to produce this is outlined in **Table 14**. This is based on the findings from the Surface Water, Groundwater and Flooding Technical Paper (Jacobs, 2020a), and Water Balance Modelling Report (Jacobs, 2019b), and a summary of impacts and mitigations from these reports can be found in the EIS for this project. The Water Management Plan should include both the surface water and groundwater strategy. A map of the surface water within and adjacent to the Project site is shown below in **Figure 5.**

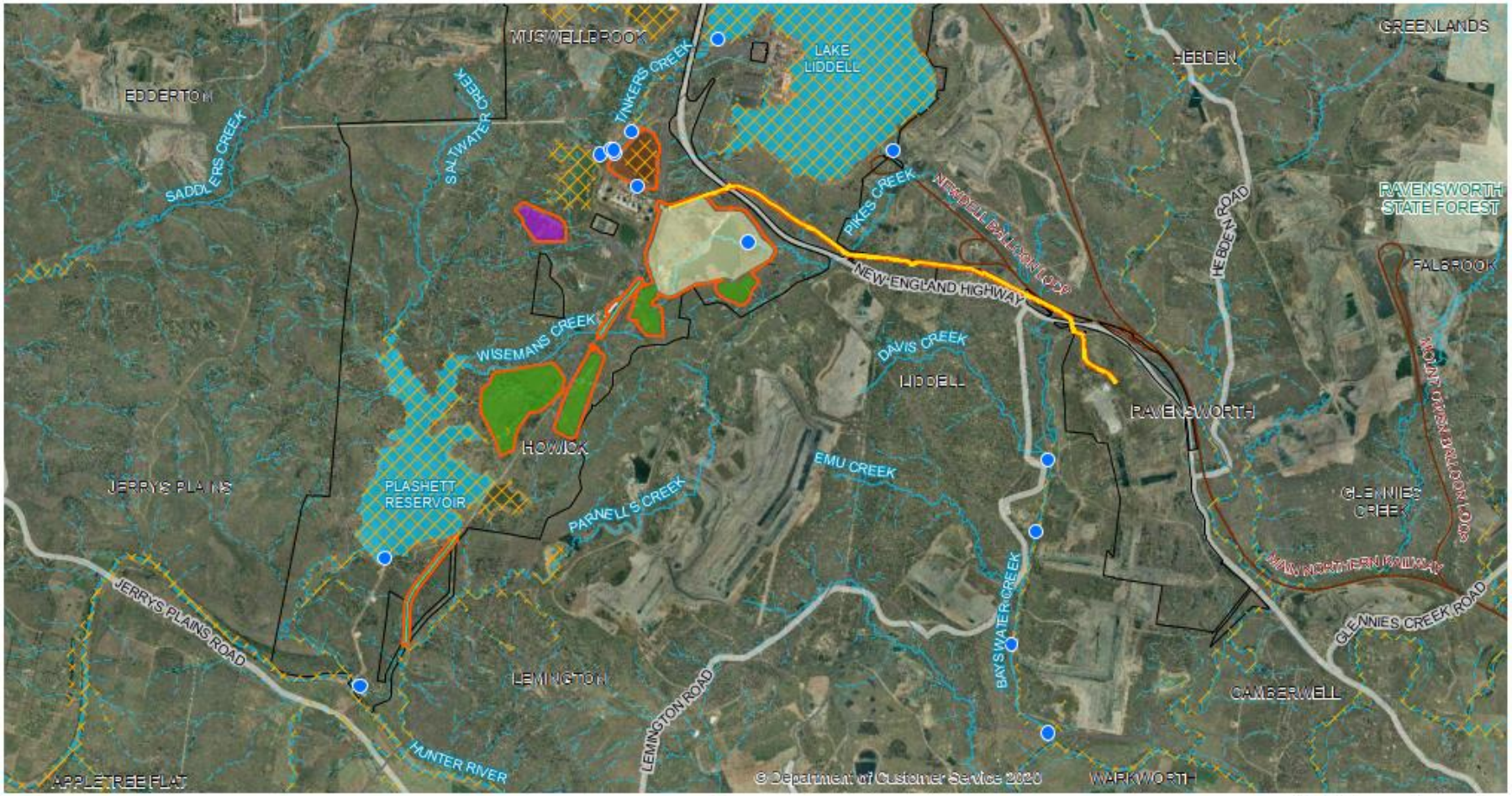


Figure 5 Surface water existing environment

Table 14. Surface water management summary

Surface Water Management Summary	
Risk assessment summary	▪ The Project's potential to negatively impact overall catchments or waterbody water quality is considered limited to sedimentation resulting from ground disturbance and run-offs, or from chemical spills from plant and equipment ▪ Impacts on flooding due to construction could include the following if management measures are not implemented: - Removal of vegetation, general earthwork (stripping of topsoil and excavation) - Stockpiling of topsoil, vegetation, and construction materials - Temporary works
Relevant legislation	▪ *Water Act 1912* ▪ *Water Management Act 2000* ▪ *Dams Safety Act 2015* ▪ *EP&A Act 1979 and EP&A Regulations 2000* ▪ *Muswellbrook Local Environmental Plan 2009* ▪ *Singleton Local Environmental Plan 2013*
Development Consent requirements (Condition reference)	▪ The Applicant must ensure that all surface discharges from the site comply with all relevant provisions of the POEO Act, including any discharge limits (both volume and quality) set for the development in any EPL (B2) ▪ All process operational wastewater generated by the activity must: (a) be captured and stored at the premises and must only be disposed of by tanker transport to a licensed wastewater facility; or (b) discharged in accordance with condition B2; or (c) managed via an existing site wastewater system (B3) ▪ Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain suitable sediment and erosion controls onsite, in accordance with the relevant requirements of *Managing Urban Stormwater: Soils and construction - Volume 1* (the Blue Book) (Landcom, 2004) (B4) ▪ Prior to the commencement of construction, or as otherwise agreed by the Planning Secretary the Applicant must prepare a Water Management Plan (WMP) for the development to the satisfaction of the Planning Secretary. The WMP must (B7): (a) be prepared by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with the EPA and NRAR; (c) detail the management of wastewater streams on-site; (d) detail the water licence requirements and water licences held for the development under the *Water Management Act 2000*; (e) a comprehensive water balance; (g) contain a Surface Water Management Plan, including: (i) detailed baseline data of surface water resources potentially impacted by the development; (ii) a comprehensive program to monitor surface water flows and quality, surface water storage and use and sediment basin operation; (iii) a surface water monitoring program, including a program for routine inspection, and monitoring of the Ravensworth ash line; (iv) measures to divert clean surface waterways from operational areas; (v) surface water impact assessment criteria, including trigger levels for investigating any potential adverse surface water impacts; (vi) a protocol for the investigation and mitigation of identified exceedances of the surface water impact assessment criteria; and (vii) a trigger action response plan to respond to any exceedances of the surface water performance criteria, and repair, mitigate and/or offset any adverse groundwater impacts of the development (B7)

Surface Water Management Summary	
Mitigation measures for all project stages (EIS Reference)	▪ Develop a construction water quality monitoring program (SW01) - Include measures to minimise/manage erosion and sediment transport - Include measurers to manage stockpiles (locations, waste types, sediment control and stabilisation) - Measures to manage groundwater dewatering and impacts - Processes for dewatering of water accumulated on site - Measures to manage accidental spills and maintenance of spill kits - Measures to manage potential saline soils - Details of surface water and groundwater quality monitoring prior to and during construction - Controls for receiving environments (no go zones for plant and equipment; creation of catch/diversion drains and sediment fences ▪ Erosion and sediment control measures to be implemented and maintained at all works sites; any water collected from worksites to be treated and discharged to avoid potential contamination or local storm water impacts (SW02) ▪ Alternative water supply options to potable water to be investigated, and recycled water to be used where possible (SW03) ▪ Stockpiles to be managed to minimise transport of dust, sediment, and leachate in runoff (SW04) ▪ Construction water quality monitoring program to be developed where appropriate and included in the CEMP, to observe changes to surface water and groundwater during construction (SW05) ▪ Bayswater site operational water quality monitoring program to be updated and implemented as required (SW06) ▪ Confirm water quality controls requirements throughout detailed design, prior to construction (SW07) ▪ Works within waterfront land to be managed in accordance with relevant guidelines (SW08) ▪ Implement practices to minimise disturbance of stream banks (SW08) ▪ Incorporate drainage features into design of project (SW08) ▪ Borrow Pits to be designed to minimise interference and disruption of natural surface water flows and water quality (SW09) ▪ Routine inspections and monitoring of the Ravensworth Ash line would be undertaken to ensure any leakages are identified and fixed (SW10) ▪ Temporary works would consider flood risks during construction (F01) ▪ If stockpiles are located on the floodplain, they are to be located and sized to insure not adverse impact on flood behaviour (F02) ▪ Flood management controls to be included in CEMP (F03) ▪ Temporary crossings on water courses are to be designed to consider flooding during construction (F04) ▪ Prepare dam break inundation maps (F05) ▪ Assess flood handling capacity for the BWAD for each augmentation stage (F06) ▪ Undertake a flood assessment for the Borrow Pits and Salt Cake Landfill (F07) ▪ Confirm design of Ravensworth Ash line has no adverse impact on flood behaviour, and assess potential damage of pipeline due to a storm event (F08)
Strategy to meet Water Management Plan requirements (Surface water only)	▪ Reduce all impact to surface water by addressing and completing all water management mitigation measures throughout all development stages where possible ▪ Water Management Plan (WMP) *Bayswater Power Station Ravensworth Ash Line Water Management Plan – Construction* - AECOM Australia Pty Ltd (2022) was developed in accordance with the AGLM Water Management Plan AGLM-HSE-PLN-009.02. The key objective of this management plan is to minimise surface water withdrawal, and both storm water and wastewater discharge, while protecting receiving waters

Surface Water Management Summary	
	▪ WMP to include all requirements outlined in Condition B7 of the Development Consent, which outline requirements for both Surface Water and Groundwater management ▪ WMP to address the Water Management Performance Measures out lined in Condition B6 of the Development Consent.

8.4 Groundwater management

A Water Management Plan is required prior to commencement of construction, and a strategy to produce this is outlined in **Table 15**. This is based on the findings from the Surface Water, Groundwater and Flooding Technical Paper (Jacobs, 2020) and a summary of impacts and mitigations from this report can be found in the EIS for this project. The Water Management Plan should be prepared using both the strategy for surface water and groundwater.

Table 15. Groundwater management summary

Groundwater management summary	
Risk assessment summary	▪ The project is expected to generate negligible impacts to groundwater, and risks to groundwater are assessed as low, apart from potential salinisation associated with the risk of seepage from the proposed Salt cake landfill, if the liner were to leak. ▪ There is no proposal to extract any groundwater for construction use, and the Project would source potable water from onsite utilities. ▪ Indirect impacts to groundwater during construction could occur as a result of spills or leaks of hazardous materials and migrate to the water table
Relevant legislation	▪ *Water Act 1912* ▪ *Water Management Act 2000* ▪ *Dams Safety Act 2015* ▪ *EP&A Act 1979* and *EP&A Regulations 2000* ▪ Muswellbrook Local Environmental Plan 2009 ▪ Singleton Local Environmental Plan 2013
Development Consent requirements (Condition reference)	▪ Prior to the commencement of construction, or as otherwise agreed by the Planning Secretary the Applicant must prepare a Water Management Plan (WMP) for the development to the satisfaction of the Planning Secretary. The WMP must (B7): (a) be prepared by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with the EPA and NRAR; (c) detail the management of wastewater streams on-site; (d) detail the water licence requirements and water licences held for the development under the Water Management Act 2000; (e) a comprehensive water balance; (f) contain a Groundwater Management Plan, including: (i) detailed baseline data of groundwater levels, yield and quality for groundwater resources potentially impacted by the development, including updated monitoring data from the existing groundwater wells (ii) a comprehensive program to monitor groundwater resources potentially impacted by the development; (iii) a detailed description of the groundwater management system; (i) groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts including potential impacts from the salt cake landfill and any groundwater interception during construction of the Ravensworth ash pipeline;

Groundwater management summary	
	(iv) a program to monitor and evaluate compliance with the relevant performance measures listed in Table 1 and the performance criteria in this plan; (v) reporting procedures for the results of the monitoring program; (vi) a trigger action response plan to respond to any exceedances of the groundwater performance criteria, and repair, mitigate and/or offset any adverse groundwater impacts of the development; Environmental performance issues relating to water should be addressed in the CEMP per C1(f)(i, ii)
Mitigation measures for all project stages (EIS Reference)	▪ Design Borrow Pit areas to avoid areas with shallow groundwater (GW01) ▪ If groundwater is intersected during Borrow Pit excavations, activity is to cease, and the interception is to be documented and conveyed to a hydrogeologist to determine next course of action (GW02) ▪ Salt cake landfill design should ensure leachate and salt cakes would not compromise the liner due to reactions (GW03) ▪ If drilling fluids are required, freshwater should be used; where this is not possible, biodegradable drilling fluid should be used when possible (GW04) ▪ Above ground sections of the Ravensworth ash line to be routinely checked for leaks and rectified (GW05) ▪ Minimise risk of spills and leaks (GW06) - Regular plant maintenance and checks - Onsite skill kits and procedures are to have adequate spills prevention and absorbent materials, equipment, and material to capture drips and spills, procedures to ensure spills are contained and cleaned up immediately, spill management protocol talks and methods ▪ Ash dam (BWAD) seepage flow rate to be monitored during construction, and appropriate upgrades are to be made (GW07)
Strategy to meet Water Management Plan requirements (Groundwater only)	▪ Reduce all impact to groundwater by addressing and completing all water management mitigation measures throughout all development stages where possible ▪ Water Management Plan (WMP) *Bayswater Power Station Ravensworth Ash Line Water Management Plan – Construction* - AECOM Australia Pty Ltd (2022) was developed in accordance with the AGLM Water Management Plan AGLM-HSE-PLN-009.02. The key objective of this management plan is to protect groundwater supplies from possible contamination ▪ WMP to include all requirements outlined in section B7 of the Development Consent, which outline requirements for both Surface Water and Groundwater management.

8.5 Cultural and Aboriginal Heritage Management

A Cultural and Aboriginal Heritage Strategy is provided as part of this overarching strategy for the Project and outlined in **Table 16**.

Table 16. Cultural and Aboriginal Heritage Management Summary

Cultural and Aboriginal Heritage Management Summary	
Risk assessment summary	▪ One heritage item within the vicinity of the Project was identified (former Chain of Ponds Inn, ~500m from proposed Ravensworth ash line) and is considered to be of sufficient distance from the Project not to be impacted ▪ No significant non-Aboriginal heritage constraints associated with project ▪ Areas to be impacted by the project were assessed and the field survey identified 23 sites and artefact scatters. Impacts to AGLM land has been cited by RAPs as a concern due to it being relatively undisturbed land within a highly disturbed area
Relevant legislation	▪ *Heritage Act 1977*

Cultural and Aboriginal Heritage Management Summary	
	▪ *National Parks and Wildlife Act 1974* ▪ *Native Title Act 1993* ▪ *EP&A Act 1979* and *EP&A Regulations 2000* ▪ Muswellbrook Local Environmental Plan 2009 ▪ Singleton Local Environmental Plan 2013
Development Consent requirements (Condition reference)	▪ The Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development. The plan must (B29): (a) be prepared by suitably qualified and experienced persons; (b) be prepared in consultation with Registered Aboriginal Parties and Heritage NSW; (c) unless otherwise agreed by the Planning Secretary, be submitted to the Planning Secretary for approval prior to carrying out construction under this consent; (d) describe the measures to be implemented on the site to: (i) comply with the heritage-related operating conditions of this consent; (ii) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions; (iii) protect, monitor and/or manage identified Aboriginal objects and Aboriginal places (including proposed salvage of objects within the approved disturbance area) in accordance with the commitments made in the document/s listed in condition A2(c); (iv) protect Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development; (v) manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development; (vi) maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and (vii) facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site; and (e) include a strategy for the care, control and storage of Aboriginal objects salvaged on the site, both during the life of the development and in the long term
Mitigation measures for all project stages (EIS Reference)	▪ Detailed design of the Project should avoid impacts to Aboriginal sites and areas of PAD where possible (AH1) ▪ Establish no-go areas to protect all sites and areas of PAD where activity could have an adverse impact (AH2) ▪ Where direct impacts are proposed to occur to areas of PAD the following should occur prior to construction (AH3): - Program of survey and test excavation to be carried out to assess archaeological material - Develop management measures for areas of subsurface archaeological material based on results of test excavations ▪ Collect surface artefacts from all sites impacted by Project; to be completed by qualified archaeologist and Site Officers supplied by the RAPs (AH4) ▪ Cultural awareness induction for any person involved in ground-breaking activities to be implemented (AH5) ▪ A CHMP including monitoring and salvage works procedures will be prepared prior to the commencement of construction (AH06) ▪ A Chance Finds (Unexpected Finds) Procedure should be included in the CHMP and be followed if any previously unidentified object is found during works (AH07)

Cultural and Aboriginal Heritage Management Summary	
	▪ Any historical archaeological remains discovered during construction will cause work to stop, the area cordoned off, and a heritage professional to be engaged to determine significance of the find (NAH01) ▪ Any human remains uncovered will cause construction to cease immediately and the area cordoned off. The local NSW Police will be notified to make an assessment (NAH02) ▪ An unexpected finds procedure will be developed and included in the CEMP to address any unexpected finds. ▪ A ground disturbance protocol will be developed for all works where ground is broken the protocol will trigger a review of information on the biodiversity and aboriginal heritage likely to be encountered in any such works. The protocol will also use GIS or mapping to ensure works are within approval boundaries and to cover underground services
Strategy to meet the Aboriginal Cultural Heritage Management Plan requirements	▪ Reduce or eliminate potential impacts to Aboriginal and Cultural Heritage by addressing and completing all mitigation measures prior to and during the development where possible Cultural and heritage management strategy, Bayswater Power Station Ravensworth Ash Line, Aboriginal Cultural Heritage Management Plan - AECOM Australia Pty Ltd (2022)complies with the AGLM Land Management Plan AGLM-HSE-PLN-009.01. The main objective of the European and Aboriginal Heritage Management section is to maintain and protect items of European and Aboriginal heritage value ▪ Comply with all conditions in Development Consent (B29, B30) which include: ▪ Target zero disturbance or damage to identified heritage items ▪ Notify relevant authorities of identification of any heritage items ▪ Environment Team to maintain a register of areas surveyed, and all heritage sites identified by surveys ▪ Document all non-compliances with Development Consent conditions and mitigations measures to correct and prevent future non-compliances.

8.6 Waste Management

A Waste Management Strategy is provided as part of this overarching strategy for the construction stage of the Project, outlined in **Table 17**. While a stand-alone Waste Management Plan is not required as part of the Development Consent, it is suggested a Waste Management Plan is produced for this Project, given the number of activities and contractors producing and disposing of waste in this phase. This should be incorporated into the CEMP, and waste management should be addressed in the Operational Environmental Management Plan (**OEMP**).

Table 17. Waste Management Summary

Waste Management summary	
Risk assessment summary	▪ No new or problematic waste streams require management as part of the Project
Relevant legislation	▪ *Waste Avoidance and Resource Recovery Act 2001* ▪ *Protection of the Environment Operations Act 1997* ▪ *Protection of the Environment Operations (Waste) Regulation 2014* ▪ *Coal Ash Order 2014 and Coal Ash Exemption 2014* ▪ *Protection of the Environment Operation Amendment (Illegal Waste Disposal) Act 2013* ▪ *Environmentally Hazardous Chemicals Act 1985* ▪ *NSW Waste Avoidance and Resource Recovery Act 2001* ▪ *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021* ▪ *NSW EPA Environmental Guidelines: Solid Waste Landfills 2016* ▪ *NSW Circular Economy Policy Statement 2019* ▪ *EP&A Act 1979 and EP&A Regulations 2000*

Waste Management summary	
Development Consent requirements (Condition reference)	▪ The Applicant must: (B19); (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); (c) dispose of all waste at appropriately licensed waste facilities or as expressly permitted in an applicable EPL; (d) manage on-site sewage treatment and disposal in accordance with the requirements of MSC; and (e) 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*. ▪ Except as expressly permitted in an applicable EPL or exemption under the *Protection of the Environment Operations (Waste) Regulation 2014*, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal (B20). ▪ Chemicals, fuels, and oils used on-site must be kept in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling of Liquids: Environment Protection – Participants Manual* (B21) ▪ Environmental performance issues relating to waste should be addressed in the CEMP per C1(f)(v)
Mitigation measures for all project stages (EIS Reference)	▪ Hierarchical waste management approach to be used, from most preferable (reduce, reuse, recycle) to the least preferable (disposal) (WR01) ▪ Promote use of materials with minimal packaging, and remove packaging offsite (WR01) ▪ Waste material to be segregated by type for collection and removal by licenced contractors (WR01) ▪ All waste types to be separated at source for recycling and apply a system of colour-coded waste storage containers (WR01) ▪ Appoint a licensed service provider to collect general solid waste and hazardous waste during construction (WR01) ▪ Each waste type to be classified for transfer to ensure correct handling (WR01) ▪ Any waste not recovered or recycled to go to a licensed treatment or disposal facility (WR01) ▪ Cleared vegetation to be mulched onsite for reuse or used to create habitat piles (WR02) ▪ Salt cake landfill to be designed and constructed in accordance with appropriate legislation (WR03) ▪ Ash recovery for offsite use would be undertaken in accordance with the coal ash order and exemption and approved sampling plans (WR04) ▪ Onsite disposal or reuse of materials generated through construction to be undertaken with appropriate legislation (WR05)
Strategy to meet the Waste Management Plan requirements	▪ Reduce all impact to the environment by addressing and completing all waste mitigation measures through all stages of project development ▪ Comply with all conditions of the Development Consent B19 through B21 ▪ Target no waste issues or notices as a result of the Project.

8.7 Air Quality Management

An Air Quality Management Strategy is provided as part of this overarching strategy for the construction stage of the Project, outlined in **Table 18**. All statutory requirements and mitigations measures are to be addressed in the strategy.

Table 18. Air Quality Management Summary

Air Quality Management Summary	
Risk assessment summary	▪ Potential air quality impacts during construction are associated with the disturbance of dust and particulates ▪ Dust generation and movement are dependent on the silt and moisture content of the soil and weather conditions
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *EP&A Act 1979 and EP&A Regulations 2000*
Development Consent requirements (Condition Reference)	▪ The Applicant must carry on any activity, or operate any plant, in or at the site by such reasonably practicable means as may be necessary to prevent or minimise air pollution (B14) ▪ The premises must be maintained and operated in a manner that minimises or prevents dust emissions from the site (B15) ▪ All operations and activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the site (B16) ▪ The Applicant shall not permit any offensive odour to be emitted beyond the boundary of the site (B17) ▪ Environmental performance issues relating to dust should be addressed in the CEMP per C1(f)(iii)
Mitigation measures for all project stages (EIS Reference)	▪ Where possible, limit the extent of exposed areas and quantity of stockpiled dispersible materials (AQ01) ▪ Minimise dust generation from stockpiles, haulage routes, work actives and exposed ground surfaces (AQ01) ▪ Minimise generator and vehicle emissions (AQ01) ▪ Apply suitable speed limits on site haulage routes to minimise dust emissions (AQ01) ▪ Water all unsealed trafficked haulage routes (AQ01) ▪ Apply watering activities involving the loading and unloading, compaction and handling of soil materials (AQ01) ▪ Cover or minimise truck loads (AQ01) ▪ Modify or cease dust generating works during unfavourable weather conditions (AQ01) ▪ Inspect and address corrective actions (AQ01) ▪ During operation of the augmented BWAD, the following controls must be implemented (AQ02) - Conduct routine inspections of the ash dam to identify whether floating ash have accumulated in dry areas beyond the decant pond; if identified, bury, harvest, or move them to the decant pond - Where possible, use less dispersive bottom ash to 'cap' fly ash deposits in the ash dam before they dry out - Restrict discharge from fly ash pipelines to one cell at a time, and use bottom ash to cap it before moving to the next cell - Use temporary flooding of individual ash dam cells prior to unfavourable meteorological conditions ▪ Make use of new access track to apply water or dust suppressing agents (AQ02) ▪ Undertake revegetation of rehabilitation areas at decommissioning (AW03)
Strategy to meet the Air Quality Management Plan requirements	▪ Reduce all impact to air quality by addressing and completing all air quality mitigation measures through all stages of project development ▪ Air Quality management to conform with objectives and requirements within the AGLM Air Quality and Greenhouse Gas and Noise Management Plan AGLM-HSE-PLN-009.04 ▪ Comply with all conditions of the Development Consent B14 through B17. ▪ Target no ongoing air quality and dust issues created as a result of the Project

8.8 Noise and Vibration Management

A Noise and Vibration Management Strategy is provided as part of this overarching strategy for the construction stage of the Project, outlined in **Table 19**. All statutory requirements and mitigations measures are to be addressed in the strategy.

Table 19. Noise and Vibration Management Summary

Noise and Vibration Management Summary	
Risk assessment summary	▪ Key activities considered to have the potential to generate noise and vibration during the Project construction include: earthworks associated with the BWAD augmentation, Salt cake landfill, Borrow Pits 1 to 4, and Ravensworth ash pipeline; Upgrades to the existing infrastructure; vegetation removal; and associated traffic movements ▪ Due to the large setback distance of the nearest residential receivers from the Project, it was concluded that noise and vibration from construction activities would not result in off-site impacts
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *EP&A Act 1979 and EP&A Regulations 2000*
Development Consent requirements (Condition reference)	▪ The Applicant must minimise the noise generated by the construction, operation, and decommissioning of the development (B18) ▪ Environmental performance issues relating to noise and vibration should be addressed in the CEMP per C1(f)
Mitigation measures for all project stages (EIS Reference)	▪ Identify construction activities with potential to have noise impacts and the controls required to avoid, minimise, and mitigate these impacts in CEMP (NV01) ▪ Construction Environmental Management Plan should include the following where reasonable and feasible (NV01): - Conduct activities during standard hours of construction, and noisy works during daytime hours - Schedule deliveries during standard hours of construction - Ensure on-site and public speed limits are adhered to - Plan traffic flow, parking, loading/unloading areas - Use mains power supply rather than generators - Switch generators off when not in use - Select low noise plant and equipment where possible - Operate and maintain plant and equipment in an efficient and proper manner - Turn off plant and equipment when not in-use - Consider alternative, low-impact construction techniques - Avoid dropping materials from height - Avoid dragging equipment and materials - Dampen or line metal trays as necessary - Ensure road plates are installed as per specifications - Delivery vehicles to be fitted with straps rather than chains for unloading where possible
Strategy to meet the Noise and Vibration management requirements	- Reduce all impacts and risk associated with noise and vibration by addressing and completing all noise and vibration mitigation measures prior to, and during construction where possible - Noise management to conform with objectives and requirements within the AGLM Air Quality and Greenhouse Gas and Noise Management Plan AGLM-HSE-PLN-009.04 - Comply with all Development Consent conditions (B18) - Target zero complaints relating to noise and vibration outside approved Project hours. - Document all complaints relating to noise and vibrations and complaint response - Develop mitigation measures to correct and prevent future incidents.

8.9 Traffic and Transport Management

A Traffic and Transportation Management Strategy is provided as part of this overarching strategy for all development stages of the Project, outlined in **Table 20**. All statutory requirements and mitigations measures are to be addressed within the CEMP.

Table 20. Traffic and Transport Management Summary

Traffic and Transport Management Summary	
Risk assessment summary	▪ Peak construction traffic movements related to the Project are expected to be 160 light vehicles to and from Bayswater, 10 heavy vehicles to and from Bayswater, and 3 heavy vehicles to and from Liddell. ▪ The internal road network within Bayswater has sufficient capacity to accommodate the increased vehicle movements and no additional upgrades to the internal network are required
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *Roads Act 1993* ▪ *EP&A Act 1979 and EP&A Regulations 2000*
Development Consent requirements (Condition reference)	▪ Environmental performance issues relating to traffic should be addressed in the CEMP per C1(f)(vii)
Mitigation measures for all project stages (EIS Reference)	▪ Oversized vehicle permit to be sought for all oversized vehicle movements (TT1) ▪ Oversized vehicles to be escorted and endeavour to travel outside of peak traffic periods (TT1) ▪ Haulage contractor to prepare and implement a traffic management plan for oversized vehicles (TT2) ▪ The site induction is to inform all personnel of risks associated with risk of collisions (TT3)
Strategy to meet the Traffic and Transport management requirements	▪ Comply with all Development Consent conditions (C1) which requires environmental performance issues associated with traffic to be addressed within the CEMP ▪ Reduce all impacts and risk associated with traffic and transportation by addressing and completing all traffic and transportation mitigation measures prior to, and during construction where possible ▪ Target zero externally reportable incidents relating to traffic and transportation ▪ Document all externally reportable incidents ▪ Develop mitigation measures to correct and prevent future incidents.

8.10 Soil and Contamination Management

A Soil and Contamination Management Strategy is provided as part of this overarching strategy for all development stages of the Project, outlined in **Table 21**. All statutory requirements and mitigations measures are to be addressed in the strategy.

Table 21. Soil and Contamination Management Summary

Soil and Contamination Management Summary	
Risk assessment summary	▪ The chemical concentrations identified in soil and groundwater within the study areas are unlikely to represent a significant risk to human health and/or the environment given appropriate management and the continued use of the site as a power station ▪ The potential contamination risk associated with the study areas are considered, overall, to be low and acceptable
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *EP&A Act 1979 and EP&A Regulations 2000*

Soil and Contamination Management Summary	
	▪ *Contaminated Land Management Act 1997*
Development Consent requirements (Condition reference)	▪ Environmental performance issues relating to soil and contamination management should be addressed in the CEMP per C1(f)(i, v) ▪ Any construction activities in identified areas of acid sulphate soil risk are undertaken in accordance with the Acid Sulphate Soil Manual (Acid Sulphate Soil Management Advisory Committee, 1998) (B5)
Mitigation measures for all project stages (EIS Reference)	▪ Demarcation and restriction of access to asbestos impacted areas in the coal storage area and along pipelines with the BWAD augmentation to be undertaken to reduce exposure (SC01) ▪ CEMP to identify appropriate control measures to mitigate the potential for pollution incidents (SC02) ▪ CEMP to include an unexpected finds protocol to manage actual or potential contamination encountered during construction (including sampling, analysis, and interpretation) (SC02) ▪ Asbestos Management Procedure to be updated as required during construction phase to reduce risk of workers being exposed to airborne asbestos fibres (SC03) ▪ A rehabilitation plan will be developed covering all project elements, which would include measures to remediate the land where required following decommissioning (SC04)
Strategy to meet the Soil and Contamination management requirements	▪ Comply with all Development Consent conditions (C1), which requires environmental performance issues associated with soil and contamination to be addressed within the CEMP ▪ Reduce all impacts and risk associated with soil and contamination by addressing and completing all mitigation measures prior to, and during construction where possible ▪ Target zero externally reportable incidents relating to soils and land contamination ▪ Document all externally reportable incidents ▪ Develop mitigation measures to correct and prevent future incidents.

8.11 Visual and Lighting Management

A Visual and Lighting Management Strategy is provided as part of this strategy for the construction stage of the Project, outlined in **Table 22**. All statutory requirements and mitigations measures are to be addressed in the strategy.

Table 22. Visual and Lighting Management Summary

Visual and Lighting Management Summary	
Risk assessment summary	▪ Project components are largely screened by existing vegetation and topography and are typical of existing infrastructure from publicly accessible locations ▪ Visual impacts during construction would be limited to AGLM personnel, and construction personnel
Relevant legislation	▪ Protection of the Environment Operations Act 1997 ▪ EP&A Act 1979 and EP&A Regulations 2000
Development Consent requirements (Condition reference)	The Applicant must: (a) minimise the off-site visual impacts of the development, including the potential for any glare or reflection; (b) ensure the visual appearance of infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and (c) not mount any commercial advertising signs or logos on site, except where this is required for identification or safety purposes
Mitigation measures for all project stages (EIS Reference)	▪ Visual impacts to be considered in the detailed design to minimise visual impacts where compatible with biodiversity and heritage management measures, and Project requirements (VI01)

Visual and Lighting Management Summary	
	▪ A rehabilitation management plan would be developed and include prioritising screening vegetation in areas able to support larger vegetation around permanent, natural landforms (VI02)
Strategy to meet the Visual and Lighting management requirements	▪ Reduce all visual impacts addressing and completing all visual mitigation measures prior to, and during construction where possible ▪ Comply with all requirements within Development Consent conditions B24 and B25 ▪ Target zero complaints relating to visual or lighting aspects of the Project ▪ Document all complaints relating to visual and lighting aspects of the project and complaint response ▪ Develop mitigation measures to correct and prevent future complaints.

8.12 Socio-economic Management

A Socio-economic Management Strategy is provided as part of the overarching strategy for the construction stage of the Project, outlined in **Table 23**.

Table 23. Socio-economic Management Summary

Socio-economic Management Summary	
Risk assessment summary	Potential socio-economic benefits and impacts of the Project would mainly be associated with direct and indirect employment opportunities, benefits for businesses that support construction activities, increased construction traffic, demand for workforce accommodation, and potential impacts on community values
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *EP&A Act 1979 and EP&A Regulations 2000*
Mitigation measures for all project stages (EIS Reference)	▪ Manage increase in construction traffic, including heavy and oversized vehicles on the New England Highway by implementing a Traffic Management Plan; considering timing of tourist activities and events; and communication with key stakeholders and communities about changes in traffic (SE1) ▪ Identify opportunities to maximise the use of local suppliers and businesses in the provision of goods and services (SE2)
Strategy to meet the Socio-economic management requirements	▪ Reduce all socio-economic impacts by addressing and completing all socio-economic mitigation measures prior to, and during construction where possible ▪ Target zero complaints relating to socio-economic aspects of the Project ▪ Document all complaints relating to socio-economic aspects of the project and complaint response ▪ Develop mitigation measures to correct and prevent future complaints.

8.13 Hazard and Bushfire Management

A Hazard Management Strategy is provided as part of the overarching strategy for the construction stage of the Project, outlined in **Table 24**. All statutory requirements and mitigations measures are to be addressed in the strategy.

Table 24. Hazard Management Summary

Hazard Management Summary	
Risk assessment summary	▪ Due to the existing separation between the Project and storage locations for hazardous chemicals, there is a low and manageable risk that the Project could interact with the storage

Hazard Management Summary	
	▪ The Project does not have any hazardous impact on the existing operation or contribute to the escalation of any event in a manner that could impact land inside the plant, through to off-site receptors
Relevant legislation	▪ *Protection of the Environment Operations Act 1997* ▪ *Rural Fires Act 1997* ▪ *EP&A Act 1979 and EP&A Regulations 2000* ▪ State Environmental Planning Policy No 33 – Hazardous and Offensive Development
Development Consent requirements (Condition reference)	▪ The Applicant must ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards and the Dangerous Goods Code (B31) ▪ The Applicant must (B36): (a) ensure that the development: (i) provides for asset protection in accordance with the relevant requirements in the *Planning for Bushfire Protection* (RFS, 2019) guideline; and (ii) ensure that there is suitable equipment to respond to any fires on the site; and (b) assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site
Mitigation measures for all project stages (EIS Reference)	▪ Risks associated with the Project to be managed through a Management of Change process (HR1) ▪ Any major change must undergo a detailed risk assessment using AGLM's Risk Management and Assessment Framework for all Project components (HR1) ▪ Complete all actions arising out of the management of change process (HR2) ▪ Temporary construction compounds to be maintained in a tidy and orderly manner (HR4) ▪ Construction activities involving flammable materials and ignition sources would be managed to ensure the potential for fire is effectively minimised (HR5) ▪ High risk construction activities would be subject to a risk assessment on total fire ban days and restricted or ceased as appropriate (HR5) ▪ Construction personnel to be inducted into the requirement to safety dispose of cigarette butts (HR5) ▪ Storage and management of dangerous goods and hazardous materials would occur in safe, secure locations (HR6) ▪ Risks associated with Project to be managed through a Management of Change process (HR7)
Strategy to meet the Hazard management requirements	▪ Comply with all conditions in Development Consent (B31) relating to dangerous goods, and all Waste Management conditions (B19), and all Bushfire Management Conditions (B36) ▪ Hazard management must comply with AGLM Bushfire Management Plan PSSI-HSE-40 ▪ Reduce all hazard impacts by addressing and completing all hazard mitigation measures prior to, and during construction where possible ▪ Target zero reportable incidents ▪ Document all reportable incidents ▪ Develop mitigation measures to correct and prevent future incidents

9. Monitoring

The environmental monitoring program has been developed to meet the requirements of the SSD 9697. The monitoring program contains commitments outlined in the Construction Environment Management Plan, and all subplans associated with this strategy. When carrying out the monitoring identified within this section, the individual management plans should be referred to for further detail on the monitoring requirements.

Table 25 summarizes the monitoring obligations required for this project and references all relevant subplans and sections that contain the details of each monitoring program. These programs should be reviewed in accordance with this strategy as outlined in Section 7.8.1.

Table 25. Monitoring and Inspection Program Summary

Aspect	Monitoring Obligation	Management Plan(s) reference	Section(s) applicable to monitoring requirements
Surface Water	Monitor surface water flows and water quality, surface water storage, and use, and sediment basin operation (*per Condition B7.g.(ii)*)	Water Management Plan – Construction Construction Environmental Management Plan	WMP Section 7: Monitoring Program WMP Section 10.1: Reporting of Monitoring Results CEMP Section 4.3: Surface water and hydrology CEMP Monitoring and Review, Table 5.1
	Inspection of Ravensworth Ash Pipeline (*per Condition B7.g.(iii)*)		
	Monitor Ravensworth Ash Pipeline (*per Condition B7.g.(iii)*)		
Groundwater	Groundwater resource monitoring (B7.g.(ii)) Monitor and evaluate compliance (B7.g.(iv))	Water Management Plan – Construction	WMP Section 7: Monitoring Program WMP Section 10.1: Reporting of Monitoring Results
Biodiversity	Include a program to monitor, evaluate and report on the effectiveness of mitigation measures (*per Condition B12.f*)	Biodiversity Management Plan	BMP Section 3.5.1: Monitoring Program BMP Section 3.5.2: Reporting, Tables 2 and 3
Aboriginal Cultural Heritage	The CHMP must describe the measures implemented on site to protect, monitor, and or/manage identified Aboriginal objects and Aboriginal places (*Per condition B29.d.(iii)*)	Aboriginal Cultural Heritage Management Plan	ACHMP Section 4: Management of Aboriginal Cultural Heritage Values

Appendix A. Legislative Summary

Legislation	Relevance to Project
EP&A Act & EP&A Regulations	Project is a State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional development) 2011, requiring assessment in accordance with Division 4.7 of the EP&A Act due to the capital investment value exceeding $30 million. Development Consent is required for this Project.
Muswellbrook Local Environmental Plan 2009	Project is partially located within the Muswellbrook Local Environmental Plan and is zoned SP2-Infrastructure: Power Station. The Project is considered compatible with the objectives of the SP2 zone, and Principal Development Standards, Heritage Conservation, Terrestrial Biodiversity and Earthworks requirements were all addressed in the EIS prepared for this project.
Singleton Local Environmental Plan 2013	Project is partially located within the Singleton Local Environmental Plan and is zoned RU1 - Primary Production; the Project is considered compatible with the objectives of the RU1 zone. Principal Development Standards, Heritage Conservation, Earthworks, Flood Planning, and Riparian land and water courses requirements were all addressed in the EIS prepared for this project.
Stage Environmental Planning Policy 2011 (State and Regional Development)	Applies to developments that are SSD; this project applies as the capital investment value is expected to be >$30 million.
Surveying and Spatial Information Regulation 2017	Required to remove or replace a permanent survey mark in accordance with Clause 90.
Mine Subsidence Compensation Act 1961	Required for the erection or alteration of an improvement or subdivision of land within a mine subsidence district.
Crown Lands Management Act	Lease, licence, permit, easement or right of way over a Crown Reserve.
Roads Act 1993	Permit required.
State Environmental Planning Policy (Infrastructure) 2007	The Project can be considered an expansion of an existing facility that may exceed vehicle generation thresholds to be a traffic generating facility. TfNSW has been consulted in the preparation of the SEARs for the Project and development of the EIS and the Traffic Impact Assessment.
State Environmental Planning Policy No 33 - Hazardous and Offensive Development	The Project involves the expansion of existing operations on a site that is appropriately zoned and isolated from sensitive receptors. The Project does not involve the use of hazardous chemicals above screening levels that would trigger consideration as potentially hazardous development. The extensive buffer lands are owned by AGLM and are appropriately zoned to prevent encroachment of development incompatible with the ongoing operations of Bayswater.
State Environmental Planning Policy No 55 - Remediation of Land	Site was determined to be suitable in its current state for the project.
State Environmental Planning Policy (Koala Habitat Protection) 2019	The Biodiversity Development Assessment Report assessed the Project in relation to Koala habitat and concluded there is no evidence of Koala activity; no further assessment under the SEPP is required.
Protection of the Environment Operations Act 1997 (POEO Act)	Key legislation that governs the issues of waste generation, reuse, recycling, transport, and disposal and establish a waste hierarchy. The Act defines what is included in waste, and how it is classified. Bayswater operates under EPL 779 issued by the EPA. EPL779 authorises the carrying out of scheduled activities of: Coal works (>5,000,000 tonnes per annum) Chemical storage waste generation (>100 Tonnes annual volume of waste generated or stored) and Generation of electrical power from coal (>4000 GWh annual generating capacity).
Waste Avoidance and Resource Recovery Act 2001 (WARR Act)	Key legislation that governs the issues of waste generation, reuse, recycling, transport, and disposal and establish a waste hierarchy.
Protection of the Environment Operations (Waste) Regulation 2014	Outlines strict thresholds for obtaining an EPL and waste levy system. The supply of coal ash for beneficial reuse is regulated by the Coal Ash Order 2014 made under the POEO Waste Regulation.

Legislation	Relevance to Project
Coal Ash Order 2014	Regulates the supply of coal ash for the beneficial use under POEO Waste regulation.
Protection of the Environment Operations Amendment (Illegal Waste Disposal) Act 2013	Amendment to the POEO Act to define and restrict illegal waste disposal activities.
Environmentally Hazardous Chemicals Act 1985	Provides the EPA with the authority to declare chemical substances as chemical wastes and to make chemical control orders relating to those substances that are declared as chemical wastes.
NSW Waste Avoidance and Resource Recovery Act 2001	Outlines the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development. The WARR Act outlines the requirement for the EPA to develop a waste strategy for the State. Chapter 18 of the EIS assesses the waste management components of the Project in relation to this Act.
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021	A significant part of the Project includes expanding facilities to recycle a greater proportion of fly ash and bottom ash. This directly meets the aims of the NSW government WARR strategy, and achievement of these aims would also assist AGLM in prolonging the life of the BWAD.
Coal Ash Order (2014) and Coal Ash Exemption (2014)	Coal Ash generated by Bayswater and used off-site must comply with the conditions of the Coal Ash Order and Coal Ash Exemption, which specifies the conditions under which coal ash or blended coal ash can be exempted from certain requirements under the POEO Act. The proponent has an established sampling plan for the testing of fly ash and are in the process of approving their sampling plan for bottom ash with the NSW EPA.
NWS EPA's Environmental Guidelines: Solid Waste Landfills (2016)	The new Salt cake landfill facility will be designed, constructed, operated, and decommissioned in accordance with these guidelines.
NSW Circular Economy Policy Statement 2019	The proposed upgrade to the CHP aims to improve the quality of discharges from the site to the environment. Increasing the quantity of fly ash and bottom ash to be recycled will directly meet principles 1 and 2 of the Circular Economy Policy.
Contaminated Land Management Act 1997	The contamination status of the site is suitable in its current state for the Project. There is a duty to notify any contamination under Section 60 of the CLM Act and this would be undertaken in the event that any previously unidentified contamination is encountered that exceeds notification thresholds.
Dams Safety Act 2015	The BWAD is currently prescribed under the NSW Dam Safety Act 2015 (DS Act) and as a result has several conditions applied to it to ensure the safety of the structure and to minimise risk to the downstream population. The DS Act is administered through the Dams Safety NSW (DSNSW).
Heritage Act 1977	There are no known relics located within the study area. The impact assessment completed for the EIS provides details of the heritage items in the vicinity of the Project and the required mitigation measures to avoid any significant impacts.
Biodiversity Conservation Act 2016	The Biodiversity Development Assessment Report assesses the Project in relation to biodiversity and includes measures to avoid, mitigate and offset impacts to biodiversity in accordance with the BC Act and Biodiversity Assessment Method.
Native Title Act 1993	Searches of the register maintained by the National Native Title Tribunal indicate there are no native title claims registered with respect to the land within the project footprint. Notification requirements under section 24KA of the Native Title Act 1993 apply where construction work is required on Crown land. Notification in accordance with this section will occur concurrently with the public exhibition of the EIS.
Crown Land Management Act 2016	The Crown Land Management Act 2016 provides for the ownership, use and management of Crown land in NSW. Ministerial approval is required to grant a 'lease, licence, permit, easement or right of way over a Crown Reserve'. The Project area intersects with one area of Crown land.

Legislation	Relevance to Project
Mine Subsidence Compensation Act 1961 (Repealed)	Part of Borrow Pit 1 and sections of the Ravensworth Ash pipeline within the Singleton LGA are within a mine subsidence district. Subsidence Advisory NSW would be consulted during the assessment process and the Project would need to be designed to be structurally safe if mine subsidence is possible in the specific Project area.
Pipelines Act 1967	The Ravensworth ash pipeline is exempt under the Pipelines Act.
Rural Fires Act 1997	The Project would be located partially on Bush Fire Prone Land (BFPL). Consideration of possible bush fire risks is provided in Chapter 19 of the EIS.
Roads Act 1993	The Project requires works within road reserve areas associated with the Ravensworth ash pipeline. A Roads Act approval cannot be refused if it is necessary for carrying out SSD that is authorised and is to be substantially consistent with the consent.
Water Act 1912 and Water Management Act 2000	The construction and operation of the Project would not alter AGLM's overall water requirements with all necessary water to be drawn from within existing entitlements. AGLM currently holds a number of water access licences (WAL) associated with the ongoing operation of Bayswater. As no groundwater would be abstracted during construction of the Project and harvesting of surface water is covered by existing entitlements, a new WAL or modification to existing WAL/s would not be required. While the Project involves works within waterfront land, a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the WM Act are not required for SSD. The design of the Borrow Pits would be developed to avoid aquifer interference.
Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)	Primary Commonwealth legislation relating to the environment. The EPBC Act Protected Matters Search Tool indicate that MNES within the area of influence of the Project are limited to biodiversity and has been included in the Biodiversity Development Assessment Report (BDAR) in the EIS. A referral was submitted under the EPBC Act and on 20 April 2020 and a delegate of the Commonwealth Minister for the Environment determined that the Project is a controlled action under the EPBC Act with the controlling provisions being listed threatened species and communities under sections 18 and 18A. The Project will be assessed under the Bilateral Agreement (Amending Agreement No.1, 2020) between the Commonwealth and NSW Governments. The assessment requirements for the Commonwealth MNES relevant to the Project were provided on 28 April 2020. These requirements have been addressed within this EIS.
Environment Protection and Biodiversity Conservation Regulation	The Addendum SEARs issued for the Project require that the EIS must address the matters outlined in Schedule 4 of the EPBC Regulations in relation to the controlling provisions and is summarised in Chapter 3.20 of the EIS.

Appendix B. Example Compliance Register

Category	Development Consent Condition	Activity trigger / timing	Compliance Requirement	Responsible person
General	A6(a)-(f)	12 months from date of commencement of development	Surrender development consents: ▪ 138/93 (MSC) ▪ 12/2017 (MSC) ▪ 89/2017 (MSC) ▪ 12/2018 (MSC) ▪ 06_0047 (Planning Secretary) ▪ 06_0259 (Planning Secretary)	AGLM Manager Environment
General	A8 (a)-(e)	Two weeks prior to development	Notify the department in writing prior to: ▪ Physical commencement of the development ▪ Pre-construction activities ▪ Construction of the Ravensworth ash pipeline(s) ▪ Construction of the salt cake landfill ▪ Construction of the coal handling plant area upgrades	AGLM Manager Environment
General	A10	Environmental management Strategy finalisation	Provide approval from the Planning Secretary that a staged approach to the Environmental Management Strategy and subplans can be prepared on a staged basis	AGLM Manager Environment
Water	B1	Prior to water usage as it relates to commencing development	All water licences must be obtained	AGLM Manager Environment
Water	B3(a)	Production of operational wastewater	Wastewater must be captured and stored at the premises and disposed of by a licensed wastewater facility. Waste receipts to be maintained for audit purposes	Contractor
Water	B4	Prior to construction commencement	Sediment and erosional controls must be constructed	Contractor
Water	B6	Post-construction of Ravensworth Ash Pipeline	Leak detection monitoring and response system must be installed	Contractor
Water	B7(a)-(f)	Prior to construction commencement	Water Management Plan must be approved by the Planning Secretary, which includes both a Surface and Groundwater Management Plan	AGLM Manager Environment
Biodiversity	B10	Prior to vegetation clearance	Biodiversity offset credits must be retired (for Offset Stages 1,2,3,4,5)	AGLM Manager Environment

Category	Development Consent Condition	Activity trigger / timing	Compliance Requirement	Responsible person
Biodiversity	B12	Prior to construction commencement	Biodiversity Management Plan must be approved by the Planning Secretary	AGLM Manager Environment
Air Quality	B17	Life of development	No offensive odour to be emitted beyond boundary of site – to be included in site inspection checklist	AGLM Manager Environment
Waste	B19(b)	Life of development	All waste must be classified in accordance with the Waste Classification Guidelines (EPA, 2014); a record of waste and classification should be kept onsite for audit purposes	Contractor
Waste	B19(c)	Life of development	Disposal of waste may only occur at appropriately licensed waste facilities; waste receipts to be kept onsite for audit purposes	Contractor
Waste	B21	Life of development	All chemicals, fuels, oils used onsite must be bunded; this should be included in the site inspection checklist	Contractor
Aboriginal Heritage	B29	Prior to construction commencement	Aboriginal Cultural Heritage Management Plan must be approved by the Planning Secretary, and be prepared in consultation with RAPs and Heritage NSW	AGLM Manager Environment
Rehabilitation	B34	Within 12 months of commencing development	Rehabilitation Strategy must be submitted and approved by the Planning Secretary	AGLM Manager Environment
General	C1	Prior to construction commencement	A Construction Environmental Management Plan must be prepared in consultation with the EPA, MSC and SC, and approved by the Planning Secretary.	AGLM Manager Environment
General	D1	Prior to construction commencement	Environmental Management Strategy must be approved by the Planning Secretary.	AGLM Manager Environment
Incidents	D4	Immediately after an incident	Planning Secretary must be notified of an incident via the Major Projects website immediately after AGLM/the Contractor become aware of the incident	AGLM Manager Environment & Contractor
Compliance	D5	Within seven days of AGLM/the Contractor becoming aware of a non-compliance	Planning Secretary must be notified of the incident via the Major Projects website	AGLM Manager Environment & Contractor
Compliance	D9	As per Compliance Reporting Post Approval Requirements (2020):	Compliance reports to be submitted to the Planning Secretary	AGLM Manager Environment

Category	Development Consent Condition	Activity trigger / timing	Compliance Requirement	Responsible person
		▪ N greater than every 52 weeks (one year) from commencement of operation ▪ Within 12 weeks of decommissioning		
Audit	D12	Within 12 weeks of commencement of construction	Initial independent audit to be conducted	AGLM Manager Environment
Audit	D12	Within 26 weeks of commencement of operation	Initial independent audit to be conducted	AGLM Manager Environment
Audit	D12	Within 52 weeks from notification of ceasing operations	Initial independent audit to be conducted	AGLM Manager Environment
Audit	D15	Within two months of undertaking an independent audit site inspection	Independent Audit Reports and AGLM's response must be submitted to the Planning Secretary	AGLM Manager Environment