SOUTH32 Illawarra Metallurgical Coal

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN – EARLY WORKS

APPIN MINE VENTILATION AND ACCESS PROJECT

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DOCUMENT REVISION LOG

Persons authorising this plan

NAME	TITLE	DATE
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Revision History

REVISION	DESCRIPTION OF CHANGES	DATE
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Persons involved in the review of this Plan

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GLOSSARY AND LIST OF ABBREVIATIONS

Term or Abbreviation	Definition
AMVA Project or Site	Appin Mine Ventilation and Access Project
ACHMP	Aboriginal Cultural Heritage Management Plan
ARI	Average Recurrence Interval
AS	Australian Standard
BSO	Bulli Seam Operations
CEMP	Construction Environmental Management Plan
Council	Wollondilly Shire Council
CWEA	Coal Wash Emplacement Area
dB	Decibels
DDGs	Dust Deposition Gauges
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DCoC	Drivers Code of Conduct
DO	Dissolved Oxygen
EA	Environmental Assessment
EC	Electrical Conductivity
EPA	NSW Environmental Protection Authority
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EMS	Environmental Management System
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan

Term or Abbreviation	Definition
GBD	General Biosecurity Duty
HSE	Health, Safety and the Environment
ICNG	Interim Construction Noise Guideline
ICHPL	Illawarra Coal Holdings Pty Ltd
IEA	Independent Environmental Audit
IMC	South32 Illawarra Metallurgical Coal
ISO	International Organisation for Standardisation
km	Kilometres
kV	kilovolt
m	Metres
mm	Millimetres
m3	Cubic meter
NATA	National Association of Testing Authorities (Australia)
NML	Noise Management Level
NMP	Noise Management Plan
NSW	New South Wales
Project Approval (PA) 08_0150	the Mine Approval
PCT	Plant Community Type
PIRMP	Pollution Incident Response Management Plan
PM	Particulate Matter
RBLs	Rating Background Levels
RMS	Roads and Maritime Service

Term or Abbreviation	Definition
ROM	Run of Mine
SEMP	Stakeholder Engagement Management Plan
SoW	Scope of Works
SWMS	Safe Work Method Statements
TCP	Traffic Control Plan
TfNSW	Transport for NSW
TGS	Traffic Guidance Schemes
TMP	Appin Mine Traffic Management Plan
TSP	Total suspended particulate
µm	micrometer
VS	Ventilation Shaft
WCCPP	West Cliff Coal Preparation Plant

1. DOCUMENT SCOPE AND PURPOSE

1.1 Introduction

Appin Mine incorporates the underground mining operations, which extract coal from the Bulli Seam, and associated surface activities, including the West Cliff Coal Preparation Plant (WCCPP) and Coal Wash Emplacement Area (CWEA). Appin Mine is located approximately 25 kilometres (km) north-west of Wollongong in New South Wales. Appin Mine is owned and operated by Endeavour Coal Pty Ltd, a subsidiary of Illawarra Coal Holdings Pty Ltd (ICHPL), which is a wholly owned subsidiary of South32 Limited. Appin Mine, Cordeaux Colliery and Dendrobium Mine (and associated facilities) collectively operate as South32 Illawarra Metallurgical Coal (IMC).

ICHPL received Project Approval 08_0150[1] (the Project Approval) from the Planning Assessment Commission of New South Wales (NSW) under delegation of the Minister for Planning and Infrastructure on 22 December 2011 for current and proposed mining of the Bulli Seam Operations (BSO) for 30 years, and production of up to 10.5 million tonnes per annum of run of mine (ROM) coal. This approval incorporates underground mining, transport and coal wash emplacement activities undertaken 24 hours a day, seven days per week.

In April 2022 a modification of the Project Approval (MOD 3) was granted (pursuant to Section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), following an Environmental Assessment (EA) process, to allow for the construction and operation of two ventilation shafts (VS), mine access infrastructure and improved Site access at 345 Menangle Rd, Menangle NSW, herein referred to as the Appin Mine Ventilation and Access Project (AMVA Project or the Site) shown in **Figure 1-1**.

Condition 11 of Schedule 4A of the Project Approval requires the development of a Construction Environmental Management Plan (CEMP). This document has been prepared to address this requirement.

1.2 AMVA Project Scope

The AMVA Project includes construction of:

- Two (2) ventilation shafts VS7 and VS8.
- Mine access infrastructure at VS7.
- Upcast ventilation fans at VS8.
- Administration/bathhouse/storage buildings and other supporting surface facilities.
- High and low voltage electrical infrastructure.
- Utilities and security structures.
- Upgraded Site access to Menangle Road and internal Site access roads.

[1] As modified by MOD 1 (April 2015), MOD 2 (October 2016) and MOD 3 (April 2022)

- Other minor activities associated with the construction and operation of the ventilation shafts.

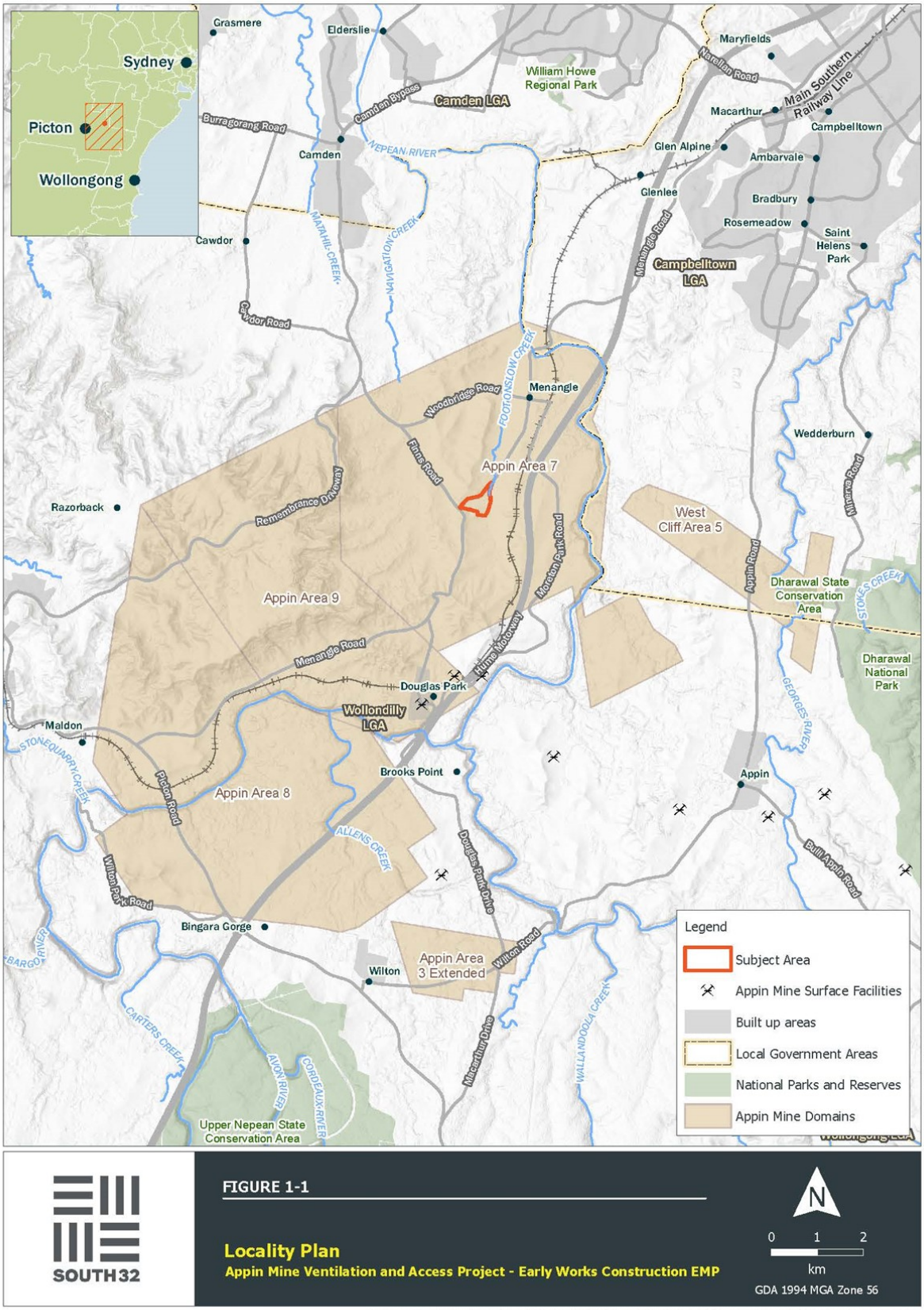


Figure 1-1 Locality Plan

1.3 Construction Schedule

The AMVA Project execution schedule has been staged to facilitate a safe working environment, reduce and control environmental impacts and deliver required works in a timely manner. In summary, these stages are described in Sections 1.3.1- 1.3.2.

1.3.1 Early Works

The construction activities associated with the Early Works stage will be undertaken as discrete packages of works by specialist contractors. These packages and the associated Scope of Works (SoW) are:

Electrical Infrastructure Works: Relocate the existing 11kV Over Head Line at the property development site, install and test 11kV switching station, install and test a 11kV High Voltage Connection point.

Intersection Upgrades: Upgrade of the Site access with Menangle Road (i.e. construction of acceleration and deceleration lanes and signage.) The concept design for the intersection update is shown in **Figure 1-3**.

Civil and Bulk Earthworks: General cut and fill activities to create the construction hardstand**,** landscaping, surface water management (e.g. sediment pond and diversion drain construction), commissioning of temporary tanks and pumps**,** Site establishment works required to support the construction phase (e.g. demarcating disturbance footprint/no go areas, install temporary amenities/facilities, security fencing/gates, connection of services and utilities [phone, power, water], vegetation clearing and topsoil stripping, demolition of existing structures, decommissioning of farm dam, installation of environmental control/management measures, monitoring equipment, erosion and sediment control structures).

Water Supply Upgrade: Being the installation of an overhead gravity tank at VS6, which will be fed from the existing tanks at VS6 via a new water supply line and electric pump. A truck turn around bay will be established on the existing hard stand to allow safe access for water carts to the gravity tank. Water from the overhead tank at VS6 will be transported to the Site via water cart for dust suppression should on Site sources be insufficient.

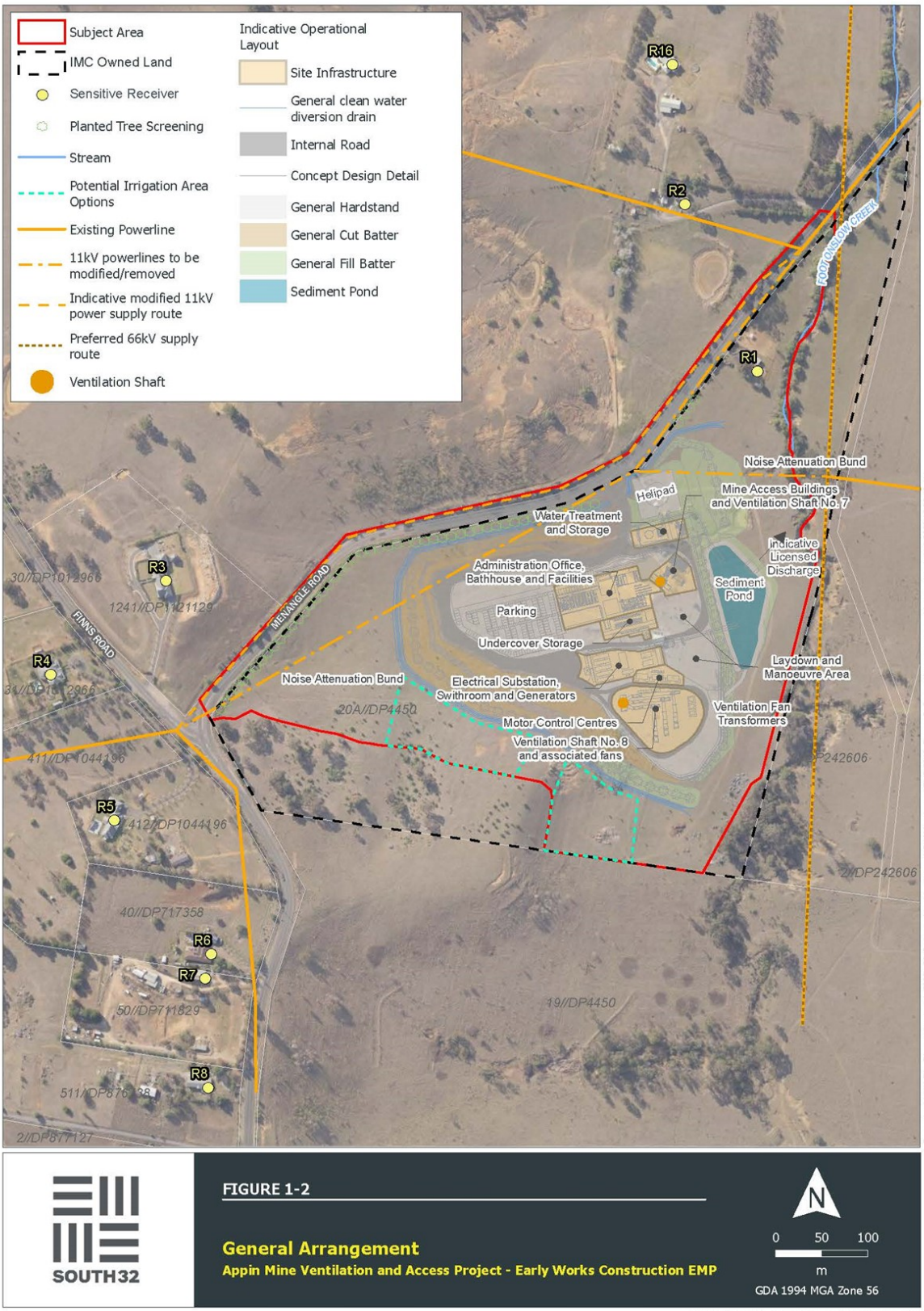


Figure 1-2 General Arrangement

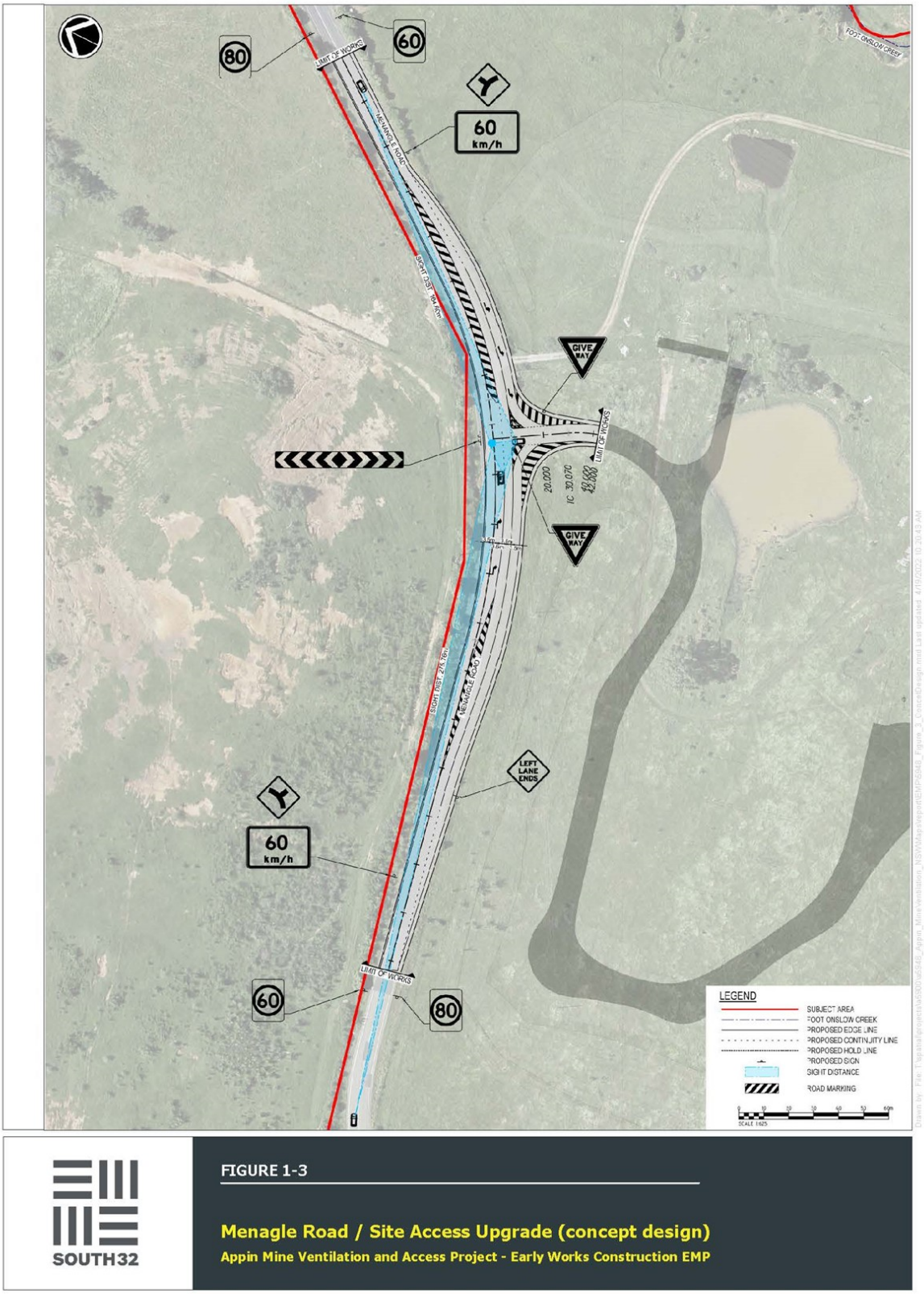


FIGURE 1-3

Menagle Road / Site Access Upgrade (concept design)

Appin Mine Ventilation and Access Project - Early Works Construction EMP

Figure 1-3 Menangle Road/Site Access Upgrade (concept design)

1.3.2 Primary Works

The construction activities associated with the Primary Works stage include:

- Construction of the VS pre-collar which will extend from the ground surface to solid/competent bedrock and provides a rigid support around the shaft to minimise water ingress and soil/rock becoming loose and falling down the shaft.
- Shaft sinking involves using mechanical excavation and/or blasting methods to excavate the shaft to the desired depth.
- Shaft lining involves progressively lining the shaft with concrete to a nominal thickness of 300mm.
- Spoil from the shaft excavation will be used as engineered fill and for the construction of the earthen bund.
- Civil and infrastructure works associated with the VS7 and VS8, ventilation and access buildings, administration office, bathhouse facilities, hardstand areas (e.g. parking and laydown areas), pavement/internal roads, transformers, electrical substation, switch room and generator.

1.3.3 CEMP Staging and Scope

Condition 13 of Schedule 2 of the Project Approval allows for the submission of strategies, plans and programs (including the CEMP) on a progressive basis, specifically:

> **With the approval of the Secretary, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis.**
>
> *Notes: While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on Site are covered by suitable strategies, plans or programs at all times; and*
>
> *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

IMC sought approval from the Planning Secretary in relation to this requirement for the CEMP required under Condition 11 of Schedule 4A. Accordingly, this Early Works CEMP relates to the works as described in Section 1.3.1 (i.e. Early Works). A subsequent CEMP will be prepared and submitted to Planning Secretary for approval prior to commencing of the works as described in Section 1.3.2 (i.e. Primary Works).

1.4 CEMP Purpose

A requirement of Condition 11 of Schedule 4A is the development of a CEMP which provides the specific environmental management and monitoring measures for the Early Works construction activities. As such, IMC have developed this Early Works CEMP for the purpose of:

- Identifying and implementing relevant environmental, legal/regulatory requirements applicable to the construction works.
- State objectives and targets for the environmental performance of the AMVA Project.
- Identifying the environmental management measures to minimise and manage the Project's impacts on the environment and community during construction.
- Outline how IMC will comply with the Mine Approval, licences and permits, during the construction of the AMVA Project.
- Assigning roles and responsibilities for the implementation, management and review process.
- Providing a consistent and uniform approach to environmental management.
- Providing all personnel working on the AMVA Project with sufficient information to undertake their works in accordance with the Project Approval, legal and other relevant environmental requirements.
- Enabling the commitments within the Project Approval documents to be captured and implemented.

1.5 Environmental Management Strategy

The Early Works CEMP provides the environmental management framework for managing and minimising the environmental impacts during the Early Works construction activities. This document has been developed to align with the AMVA Project's environmental assessment associated documentation and the accompanying technical specialist assessments.

An Environmental Management Strategy (EMS) is required under Schedule 6 of the project approval and is in place for Appin Mine. The EMS is generally in accordance with *International Organisation for Standardisation (ISO) 14001:2004 Environmental Management Systems*. The EMS includes environmental management plans and procedures that are used to manage key environmental issues and for the successful implementation of the environmental strategy, including aspects such as monitoring, communication, environmental risk assessment and training. Procedures have also been developed to appropriately manage areas of residual risk, with all relevant Site personnel trained in relation to these procedures. This Early Works CEMP has been prepared to address specific issues associated with the construction of the AMVA Project in consideration of the strategy provided in the EMS. IMC will review the existing environmental managements plans and update these as required to include relevant details for the AMVA Project.

1.6 Contractor Management Strategy

The EMS also follows a contractor management model in relation to how IMC will manage the environmental aspects of the construction project and the imposition of the environmental conditions (insofar as it is applicable to Contractors), under this Early Works CEMP for the AMVA project.

Accordingly, Early Works will be undertaken by a range of specialist contractors with expertise across electrical infrastructure installation, bulk earthworks, civil and roads construction. As such, this Early Works CEMP has been developed to provide clear guidance to all IMC staff and Contractors (and Contractor personnel) in relation to:

- What the environmental conditions are for Early Works.
- How the environmental conditions are to be managed.
- What the roles and responsibilities are in relation to IMC.
- What the roles and responsibilities are in relation to the Contractors during the performance of the Early Works.
- Identifying the task specific work plans that are required to be developed by the Contractors in order for the respective Contractor to ensure they meet all the environmental conditions imposed on them under contract as set out in the Early Works CEMP.

The task specific plans by the Contractors shall, but not be limited to, considering and assessing all potential impacts to Health, Safety and the Environment (HSE) for all tasks that are to be performed by the Contractor and the implementation of effective and appropriate controls in consideration of this Early Work CEMP, which will also be reflected in the Contractors environmental management plans specific to their respective tasks.

Figure 1-4 provides an overview of how the CEMP interacts with other environmental management strategies, documents and procedures (i.e. the Contractors HSE plans and documents) which are required for the AMVA project.

Dark green boxes denote those documents which will be developed by IMC and the Contractors before the Contractors mobilise and start to perform their respective scope of works in relation to the Early Works. IMC will review the Contractor's environmental management plans and/or procedures prior to the Contractors starting works and, insofar as is necessary, before the Contractor starts a new task or task conditions change.

When Contractors develop their own specific plans (as denoted in the dark green boxes), the Contractors must take into consideration all potential environmental impacts and appropriate controls in accordance with this Early Work CEMP.

It will be the responsibility of all contractors when planning and undertaking their work to ensure compliance with the environmental conditions (insofar as it applies to their scope of work and their roles and responsibility) under this Early Works CEMP as if the environmental conditions are imposed on the Contractor.

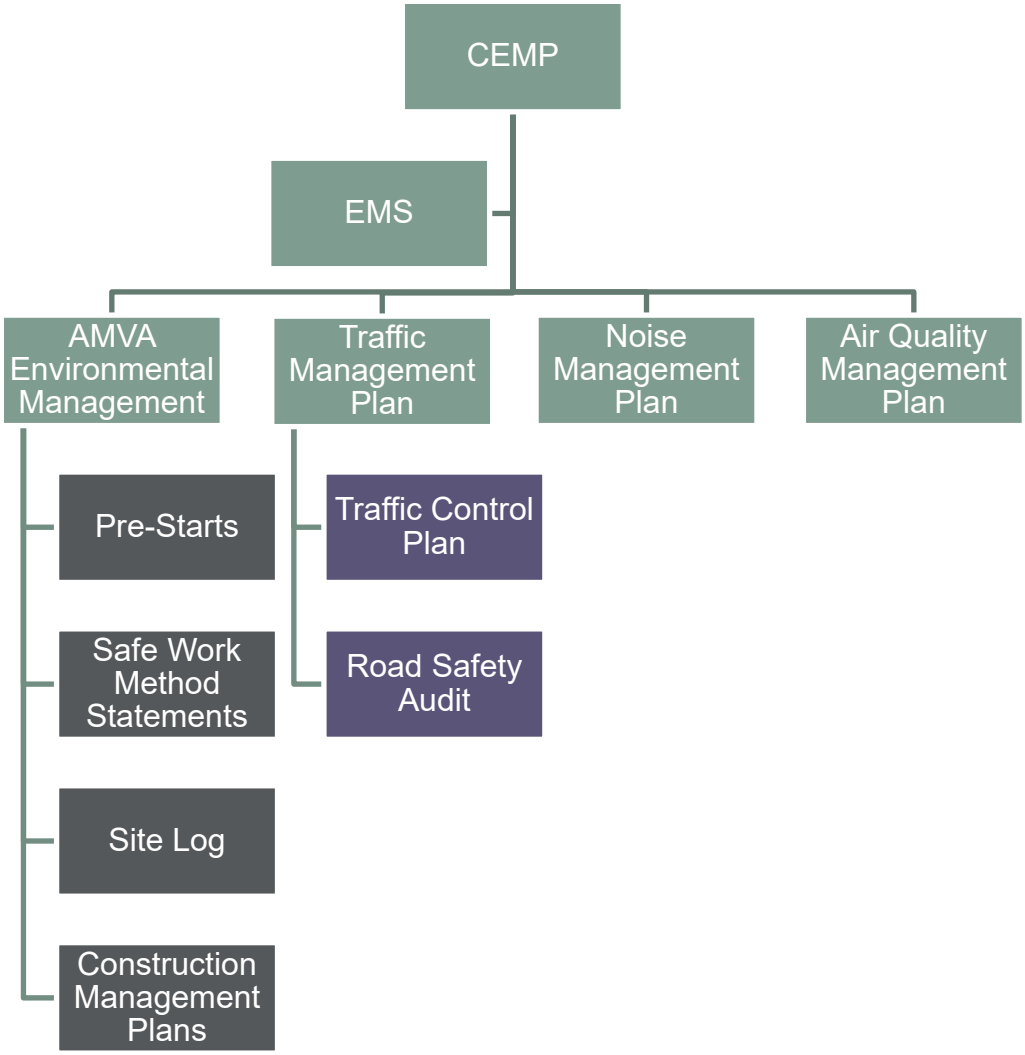


Figure 1-4 Hierarchy of Construction Environmental Management Tools and Strategies

Nothing in this Early Works CEMP should be read as restricting or limiting IMC's ability to manage HSE, including managing the environmental conditions under this Early Works CEMP by:

1. Engaging specialist contactors (e.g. the Contractors) to:
   - provide all necessary management, supervision and personnel to ensure the environmental conditions under this Early Work CEMP are identified, managed and effectively implemented; and
   - do all things necessary to ensure that the environmental conditions imposed under this Early Works CEMP are met (e.g. that the Contractor physically build or do a task to ensure compliance with the environmental conditions);
2. Verifying that the Contractors:
   - have in place the required environmental plans and procedures so that the Contractors have a system in place to manage environmental conditions and obligations as outlined under this Early Works CEMP; and

- are complying with the environmental conditions as stipulated under the Early Works CEMP and/or their contractor environmental plans and procedures.

Contractors will be required to keep a site log which is to be kept by the respective Contractor's site manager detailing all activities performed by the Contractor occurring on a daily basis.

IMC will audit Contractors pre-start, Safe Work Method Statements (SWMS) and site logs to ensure environmental controls are being adequately considered and implemented and as a management tool to confirm compliance with relevant criteria and conditions. The purple boxes are requirements which must be fulfilled by responsible and appropriately qualified third parties to assist in the management of environmental aspects at the project. Compliance by IMC and the Contractors shall be in accordance with the roles and responsibilities as outlined in Section 3.

2. REGULATOR AND COMPLIANCE REQUIREMENTS

2.1 Approval, Licences and Permits

All licences, permits and approvals required for the construction of the AMVA Project have or will be obtained and maintained, as required, throughout the construction period. The status of these licences, permits and approvals along with the required timing for each is shown in **Table 1**.

Table 1 Status of Approvals, Licences and Permits

LICENCE/APPROVAL DESCRIPTION	STATUS	APPROVING AUTHORITY	TIMING	COMMENT
BSO Project Approval (PA 08_0150)	Modified April 2022	DPIE	Pre-Construction	
Environment Protection Licence (EPL) No. 2504	Current (renewed annually 1 February)	NSW Environment Protection Authority (EPA)	Pre-Construction	Variation application for a premises change and discharge points to be sought from Environment Protection Authority (EPA) prior to commencement of construction.
Section 138 Road Opening Permit	Sought	Wollondilly Shire Council	Prior to commencing works in the road reserve	
Construction and occupation certificates	Principal Certification Authority has been engaged and applicable surface infrastructure being reviewed.	Principal Certifier	Prior to commencing construction or occupation.	Obtain (where applicable) for the proposed building works.
Water access licence (30145) (WAL) and water supply works approval (10WA117285)	Current (expires 14 November 2026 renewed at anniversary date)	WaterNSW	Prior to accessing water	The current allocations are sufficient to support the AMVA Project.
Subsidence Advisory NSW Development Approval	Sought	Subsidence Advisory NSW	Prior to works commencing	

2.1.1 Mine Approval

Condition 11 of Schedule 4A of the Project Approval requires the preparation of a CEMP. **Table 2** provides a compliance matrix of where each element of the condition has been addressed in the Early Works CEMP.

Table 2 Project Approval CEMP Conditions

CONDITION	DESCRIPTION	SECTION/S ADDRESSED
11	Prior to the commencement of Appin Mine Ventilation and Access Site early works, the Proponent must prepare a Construction Environmental Management Plan for the construction phase of the Appin Mine Ventilation and Access Site to the satisfaction of the Planning Secretary. This plan must:	This Document
(a)	be prepared in consultation with the EPA	Section 8.1
(b)	provide the specific environmental management and monitoring measures for construction works, including for:	
	i. minimising construction-related noise, dust, visual impacts, and surface disturbance;	Sections 5, 6, 4.7.1 and 4.3
	ii. stormwater management including erosion and sediment controls and clean water diversion;	Section 4.9
	iii. monitoring and managing groundwater inflows and impacts to groundwater resources as a result of shaft construction activities at the Appin Mine Ventilation and Access Site:	Groundwater management/monitoring is associated with shaft sinking. Shaft sinking is outside the scope of the Early Works CEMP.
(c)	include details of vegetation clearing protocols, including procedures to minimise the amount of the clearing required on the Appin Mine Ventilation and Access Site	Section 4.3
(d)	include a Construction Blast Management Plan prepared by a suitably qualified and experienced person/s in consultation with the EPA that: i. describes the measures that would be implemented to ensure compliance with the relevant conditions of this approval and that best management practice is being employed; ii. includes a real-time automated monitoring program prepared in accordance with the guidelines provided in Australian Standard 2187.2-2006: Explosives-Storage and use, Part 2: Use of explosives to: • evaluate the performance of the Project and compliance with the applicable criteria; • control flyrock; and • minimise fume emissions from the site; iii. includes public notification procedures to enable members of the public, particularly surrounding residents, to get up-to-date information on the proposed blast schedule; and iv. includes a protocol for investigating and responding to blast-related complaints; v. includes a protocol for investigating and responding to noise complaints.(sic)	Approval for blasting is not being sought in the Early Works CEMP. The Construction Blast Management Plan is therefore outside the scope of the Early Works CEMP.
(e)	include a Construction Traffic Management Plan prepared in consultation with the TfNSW and WSC, that:	Section 7
	i. includes strategies to manage construction traffic, including road closure protocols, community	Section 7.1

CONDITION	DESCRIPTION	SECTION/S ADDRESSED
	consultation and measures to avoid potential road safety conflicts with other road users;	
	ii. includes a program for conducting road safety audits, including both pre and post construction, of the intersection of the Appin Mine Ventilation and Access Site entrance with Menangle Road;	Section 7.5
	iii. includes a vehicle movement plan for:	Section 7.4
	• managing light, heavy and over-dimensional vehicles during construction works;	
	• transporting construction waste materials; and	
	• restricting construction or transportation hours to avoid road user conflicts; and	
(f)	include a Construction Noise Management Plan that:	Section 5
	i. describes the measures that would be implemented to ensure compliance with the noise conditions of this approval;	
	ii. includes a noise monitoring program that:	
	• uses a combination of real-time and supplementary attended monitoring to evaluate noise generated by the Project during construction ; and	
	• includes a protocol for determining exceedances of the relevant conditions of this approval.	
(g)	include a Construction Air Quality Management Plan that:	
	i. describes the proactive and reactive air quality mitigation measures that would be implemented to ensure compliance with Condition 9 of Schedule 4 of this approval;	Section 6.4
	ii. includes an air quality monitoring program that:	
	• includes real time monitoring to evaluate air quality impacts during construction; and	Section 6.3
	• includes a protocol for determining exceedances of the relevant conditions of this approval.	

2.1.2 Statement of Commitments

The AMVA Project Modification report (Niche/Element, 2021) considered the outcomes of the various technical specialist assessments as defined by the Project Approval. The subsequent statement of commitments is presented in **Table 3** including a reference to where each commitment has been addressed within the Early Works CEMP.

Table 3 Environmental Assessment (EA) Environmental Management commitments

ENVIRONMENT OR COMMUNITY ASPECT	COMMITMENT	SECTION/S ADDRESSED
Working hours and noise	Construction hours will minimise the impact on the community.	Section 4.5
	Activities will be undertaken as per the hours in the relevant project assessment (except emergencies), with a preference to undertake audible activities during day-light hours where possible.	

ENVIRONMENT OR COMMUNITY ASPECT	COMMITMENT	SECTION/S ADDRESSED
	Works will be designed with consideration to minimising impacts on the community.	
Public Consultation	IMC will continue to liaise with and provide information regarding surface activities via the IMC Community Consultative Committee, or any other such community group that is deemed appropriate.	Section 8
	IMC will continue to operate the Community Call Line to provide an alternative method for public information.	
Noise	Noise will be mitigated as per the relevant project assessment and/or management plans.	Section 5
	Project layout will give consideration to the mitigation of noise impacts as practicable.	
	Noise performance will be incorporated into contractor performance requirements for surface projects in noise sensitive areas.	
	IMC will undertake noise monitoring as per the relevant project assessment document or management plan.	
	Consultation will be undertaken with receivers subject to significant noise impacts from the Project. Consultation will address any additional noise mitigation measures proposed.	
Air quality and Greenhouse Gas	Construction activities will be managed to minimise the generation of dust.	Section 6
	Suitable measures, such as site layout design, dust suppression, stockpile management, appropriate road surfaces and rehabilitation of disturbed areas will be applied to minimise dust generation.	
	Plant and operating equipment will be maintained appropriately to minimise fuel consumption and associated emissions.	
	Electrical power consumption will be minimised during the operational phases of the Project where at all practicable.	N/A
Water resources	Stormwater runoff, soil and erosion control measures will be managed in accordance with guidelines detailed in the publication Soils and Construction, Volume 1, 4th Edition and Controlled Activities on Waterfront Land. Guidelines for Laying Pipes and Cables in Watercourses on Waterfront Land, 2012, where relevant. Water controls will be employed as per the applicable project assessment or management plan documentation.	Section 4.9
	Service supply boreholes will be cased and grouted to address any known regionally significant aquifers.	
	Drilling process waste water will be managed as per the relevant project assessment.	
	Water required for projects will be sourced from appropriate sources, such as:	
	○ Recycling captured water where possible,	
	○ Water Licence in accordance with the requirements of the Water Sharing Plan 2010 (DECCW 2009) and the *Water Management Act 2000*;	
	○ An authorised Sydney Water supply; or	
	○ Appin Mine Filtration Plant.	
Biodiversity	Biodiversity will be managed as per the relevant project assessment and/or management plans.	Section 4.7
	Projects will be designed and constructed to minimise the amount of clearing of native vegetation and mature trees where practicable.	
	A two-stage clearing process will be undertaken for the felling of any hollow bearing trees.	Not Applicable

ENVIRONMENT OR COMMUNITY ASPECT	COMMITMENT	SECTION/S ADDRESSED
		(there are no hollow bearing trees to be felled)
	Where native vegetation has been cleared, rehabilitation activities will include representative native seed where at all practicable.	Section 4.7
Heritage (Aboriginal)	Heritage will be managed as per the relevant project assessment and/or management plans.	Section 4.6
	Where identified sites are located adjacent to proposed activities a barrier will be installed to prevent interaction.	
	Where unexpected sites are identified during construction activities, works in vicinity of the site shall stop and a qualified archaeologist engaged.	
Heritage (Non-Aboriginal)	IMC will manage and conserve the Mountbatten Group in a manner consistent with its heritage values and in accordance with the Conservation Management Plan.	Not Applicable
	IMC will ensure the sympathetic placement of new buildings and structures on properties subject to heritage infrastructure (such as the Morton Park: Mountbatten Group).	Not Applicable
	Vegetation clearing for Project activities will be minimised and should not include historic plantings.	Not Applicable
	Any relics discovered during Project activities will be assessed and documented by an appropriately qualified cultural heritage expert. Where it is relevant to do so, relics will be retrieved and managed in accordance with any recommendations made by the cultural heritage expert.	Section 4.6
	Where surface projects interact with heritage items owned by other parties (e.g. the Water NSW Upper Canal), the infrastructure owner will be consulted and relevant approvals obtained prior to works.	Not Applicable
Traffic	Traffic will be incorporated into environmental assessment documentation. Where relevant, a Traffic Management Plan will be developed and implemented to minimise impacts and ensure continued road safety.	Section 7
	IMC will ensure any measures within a Traffic Management Plan will be implemented.	
	For large projects IMC will advise local residents of the commencement of works and any related potential disruptions to local traffic.	
Risks and Hazards	IMC will ensure contractors abide by Company HSEC policies and management systems.	Sections 1.6 and 3
	IMC will ensure contractors undertake the appropriate investigations with regards to underground service locations prior to the commencement of excavation works.	Noted
	Diesel storages and pipelines shall be constructed and maintained in accordance with the relevant standards.	Diesel storage and pipelines are not part of the AMVA Project.
	Appropriate risk management equipment (such as firefighting facilities and spill kits) will be present and maintained, with staff trained in their use.	Section 3.1

ENVIRONMENT OR COMMUNITY ASPECT	COMMITMENT	SECTION/S ADDRESSED
	Safety fencing will be installed around excavations and high risk areas of project sites to mitigate risks associated with unauthorised access. Vehicular accesses will be gated and locked when not in use.	Section 1.3.1
Waste	To minimise waste generation material generated from construction works will be utilised on site or as capping material at West Cliff emplacement area, where suitable.	Section 4.8
	Waste will be appropriately captured and transferred to suitable re-use, recycling or disposal locations.	
Visual Amenity	Clearing of native vegetation and mature trees will be minimised at projects where possible.	Section 4.7
	For long term infrastructure IMC will look to avoid the use of highly reflective materials or materials not commensurate with the surrounds, as is practicable.	Section 4.7.1
	Screening trees will be included in revegetation works, as and where appropriate for long term projects.	
	Permanent lighting will be installed as per the relevant standards but will consider visual amenity and light spill.	
	Temporary lighting will be arranged to minimise light spillage as much as possible without compromising safety or operations.	
Rehabilitation	IMC will undertake rehabilitation of any areas disturbed by the Project to ensure the environment is returned as close as possible to pre-project condition and/or to meet landowner specific requirements.	Not Applicable during the Early Works CEMP
	De-commissioning of boreholes and shafts will be undertaken in accordance with the requirements of the relevant government department/s.	
The Appin Mine Ventilation and Access Project	A care and control agreement will be prepared and implemented for the long term management of recovered artefacts.	Section 4.6
	IMC will provide biodiversity offsets under the NSW Biodiversity Offset Scheme for the Retirement of two (2) PCT 849 Ecosystem Credits.	Noted
	A Blast Management Strategy will be prepared.	Not Applicable (Blasting does not form part of the Early Works CEMP)
	IMC will continue to liaise with and provide information regarding the Project construction via the Menangle Advisory Panel.	Sections 8
	An Infrastructure Management Plan will be prepared in consultation with Transport for NSW, should the potential OSO1 be constructed at the Site during the operational life of the Site.	Noted

2.1.3 Water Access Licence

The AMVA Project will utilise IMC's existing Water Access Licence 30145, under the NSW *Water Management Act 2000*, issued for VS6.

IMC manages compliance with Water Access Licence 30145 as part of the wider Appin Mine management of water licences. The water use from Water Access Licence 30145 by the AMVA Project has not introduced any additional licence conditions.

2.1.4 Environment Protection Licence

IMC operates in accordance with Environment Protection Licence (EPL) 2504. IMC has sought a variation to EPL 2504 from the EPA to account for approved operations under the Project Approval including the addition of a licence discharge point.

2.1.5 Guidelines and Standards

During development of this CEMP, IMC applied the guiding principles found in:

- *ISO 14001:2015 Environmental Management Systems*.
- South32 Sustainability Policy.
- South32 Environment Standard.

Other relevant guidelines for the AMVA Project include:

- NSW Department of Environment and Climate Change (DECC) Interim Construction Noise Guideline (2009) (ICNG).
- Managing Urban Stormwater: Soils and Construction Manual.
- NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects (NSW Minerals Council 2010).

3. ROLES AND RESPONSIBILITIES

The roles and responsibilities associated with environmental management for the AMVA Project are defined in the Environmental Management Strategy. **Table 4** outlines the roles and responsibilities associated with the implementation and periodic review of the Early Works CEMP.

Table 4 Roles and Responsibilities

ROLE	RESPONSIBILITIES
All Personnel	• Carry out works in accordance with this CEMP. • Exercise due care, skill and foresight when carrying out the works. • Immediately report all environmental incidents to the IMC Environmental representative. • Comply with all permits, approvals, and subsequent plans associated with the works. • Be able to always locate a copy of this CEMP. • Inform the IMC Environmental representative immediately if it is not practical to comply with a requirement or if the specified controls are inadequate. • Implement corrective actions which have been approved by the appointed Site Supervisor.
IMC Project/Construction Manager or delegated IMC Construction Coordinators	• Verify all personnel are aware that works must be carried out in accordance with this CEMP. • Verify all reports and records are prepared as detailed in this CEMP. • Verify all required permits or approvals are approved as specified in the CEMP prior to commencement of works. • Verify compliance with all permit requirement as described in Section 2. • Ensure consultation and community liaison is undertaken in accordance with this CEMP. • Ensure compliance with this CEMP is a condition of engagement for contractors and staff.
Contractor's Managers and Supervisors	• Ensure compliance with all requirements in this CEMP and any applicable Guidelines, Approvals, Licenses or Permits as described in Section 2 • Ensure all personnel are adequately trained, resourced and aware of their responsibilities in regard to the CEMP. • Keep the CEMP accessible to all personnel. • Monitor environmental performance against requirements in the CEMP. • Stop work and report the IMC Environmental Representative and IMC Construction Manager immediately if it is not practical to comply with a CEMP requirement.

ROLE	RESPONSIBILITIES
Contractor's Representative	• Be the first point of contact for the IMC Construction Manager. • Implement this CEMP to comply with regulatory requirements, audit and non-compliance management. • Develop and implement specific EMPs/work method plans for their works as required. • Conduct and record daily inspections of Site environmental management controls. • Monitor and report environmental performance against the requirements of this CEMP. • Nominate the Contractor's Environmental Representative. • Ensure that all their staff, consultants and subcontractors are suitably skilled and have a clear understanding of the environmental requirements and consequences of their work. • Ensure adequate resources are supplied to ensure implementation of the CEMP. • Conduct relevant Site induction and maintain training records. • Assist in the conduct of Site audits where required. • Ensure that any plan record, inspection or document is retained insofaras compliance with this CEMP and be made available to IMC as requested.
IMC Environmental Representative	• Be available during construction and present on Site during any critical construction activities. • Conduct environmental monitoring as required. • Provide advice on contamination, soil management, heritage, vegetation management and protection, and provide environmental support as detailed by this CEMP. • Consider and advise on matters specified in the requirements in this plan and compliance with such. • Carry out environmental audits during construction work to verify compliance with this CEMP, and report findings to the Project/Construction Manager. • Liaise with government regulators and IMC senior leadership team in relation to arising CEMP issues.
IMC Corporate Affairs	Meeting the commitments contained within the CEMP in relation to stakeholder engagement.
IMC Approvals Manager IMC Superintendent Environment IMC General Manager Appin Mine	Provide the necessary resources and systems to meet the requirements of the CEMP.

3.1 Training and Awareness

All personnel (including subcontractors) are required to attend a compulsory Site induction that includes an environmental component before commencing work on Site. This is done to ensure all personnel involved in the AMVA Project are aware of the requirements of the CEMP, EPL and other relevant regulatory approvals. This will assist with minimising the risk of non-compliance with the Project Approval due to the actions of persons that attend the Site, including contractors, subcontractors. Short-term visitors undertaking inspections or entering Site (such as regulators) will be required to undertake a visitor's site familiarisation and to be accompanied by inducted personnel at all times.

The Site-specific induction for persons undertaking work will include as a minimum:

- Relevant details of the CEMP and EPL requirements including their purpose and objectives.
- Awareness of legislative responsibilities, including that penalties for failing to meet those responsibilities apply.
- Relevant conditions of environmental licences, permits and approvals.
- Incident response, reporting and notification requirements for pollution and other environmental incidents.
- Awareness of key environmental issues relating to the AMVA Project.
- Specific environmental management requirements and responsibilities What to do when working in or near environmentally sensitive areas and the associated risks.
- Hours of operation and Out of hours works.
- External communications procedures as described in this CEMP.
- Approved transport routes and parking arrangements.

Other generic inductions that may be required include:

- IMC Generic Surface Induction.
- Permit to Work for permit issuers.
- Contractors permit to work procedures.

To ensure that the CEMP and requirements of the EPL and other regulatory requirements are effectively implemented, each level of Project Management are responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP.

A training, qualifications and skills register will be maintained for the duration of the AMVA Project to ensure all personnel are inducted and hold appropriate licenses, training and qualifications for the work they will be undertaking.

4. ENVIRONMENTAL MANAGEMENT PRACTICES

All construction works associated with the AMVA Project will be undertaken in accordance with the Early Works CEMP. The following sections provide a summary of how impacts to relevant environmental aspects are to be managed during construction of the AMVA Project.

4.1 Environmental Performance Management

IMC EMS is built on the "Plan, Control, Check, Act" model (**Figure 4-1**). This model endorses the concept of continual improvement and is consistent with *ISO 14001: Environmental Management System*. An EMS is a continual cycle of planning, implementing, reviewing and improving the processes and actions that an organisation undertakes to meet its environmental obligations. In accordance with IMC's EMS (Section 1.5): Prior to undertaking a new task or as conditions change the following process will be followed:

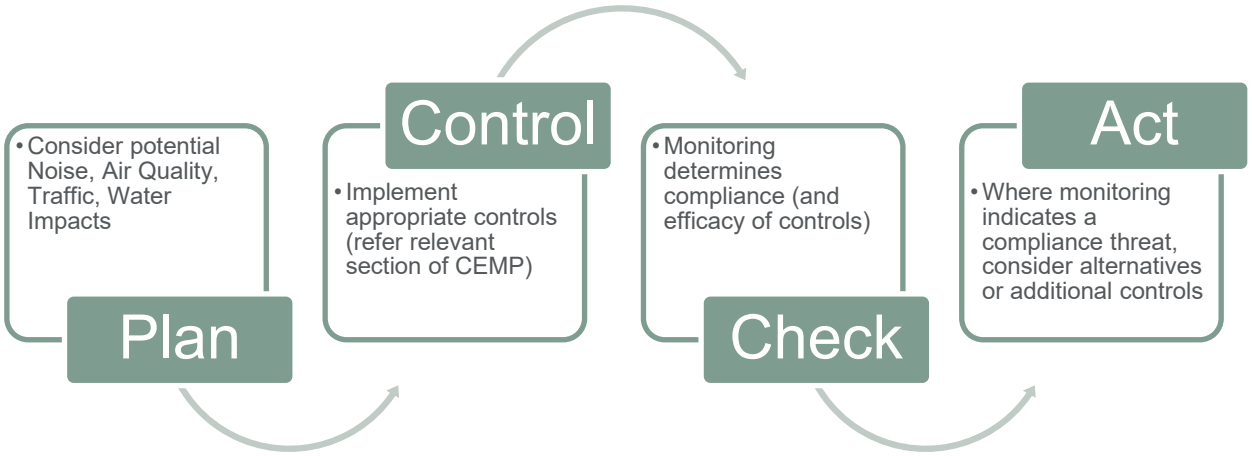


Figure 4-1 Performance Management Process

4.2 Works Planning

Planning is central to the EMS system. To enable relevant environmental controls to be identified and applied the following should be undertaken:

- Pre-start risk assessments to determine potential environmental impacts and apply job specific controls (considering activity, weather, location and interactions)
- Daily site logs. A record of site activities should be kept to allow for monitoring data to be correlated with activities. This will enable the review and audit process described in Section 9 as well as inform responses to complaints, enquiries and/or disputes.

Specific environmental controls for individual work areas will be developed based on the task and included in job planning documents (SWMS, pre-start and Construction Management Plans) these plans will be developed by specialist contractors and will be consistent with the requirements and strategies set out in this CEMP. IMC require that all works be subject to these documented risk assessments prior to works commencing and review as conditions change. These will be available on request and will be developed in reference to this CEMP

4.3 Ground Disturbance Permit Procedure

Disturbance is classified as any direct activity with the potential to disturb natural features or cultural heritage. These include, but are not restricted to, clearing of native vegetation, tree removal for bushfire hazard reduction works, construction works, and drilling exploration boreholes.

Any form of disturbance for the AMVA Project must be conducted in accordance with IMC's:

- Permit to Disturb Procedure (IMC Document ID: IMCP0207) (Appendix A).
- Permit to Disturb Form (IMC Document ID: ICHF0209) (Appendix B).

If there are changes to existing activities/processes or new projects are proposed that have potential for environmental impact, a Permit to Disturb Form is required. One of the purposes for the Permit to Disturb Form, is consideration of whether the proposed works have the required environmental approval and that the person(s) undertaking the works have appropriately managed the risks to minimise impacts on the environment and community. The Permit to Disturb Form process is a standardised system used by IMC which sets minimum requirements for authorising works and contains a checklist of environmental aspects that must be reviewed and approved by the IMC Environment Representative prior to the commencement of any work.

4.4 General

The following controls are applicable to all construction activities and areas:

- Work areas will be clearly defined prior to any works.
- All building materials, plant and equipment must be contained wholly within the confines of the AMVA Project boundary.
- Vehicles must remain within designated access routes. Avoid disturbance to peripheral vegetation.
- All personnel must carry out their work in accordance with the responsibilities outlined in Section 3.

- All construction personnel must be made aware of this CEMP in accordance with Section 3.1.
- All media enquiries are to be directed to the IMC Project/Construction Manager immediately the Construction Manager should refer to the procedures set out in Section 8.1.1 or if in doubt, direct the enquiry to IMC's community specialist.
- Employing routine industry Site 'house keeping' management practices during the works, such as:
    - Maintaining an orderly and tidy workspace.
    - Ensuring all building materials are appropriately stored or disposed of upon cessation of use.
- Include Early Works CEMP and environmental controls awareness specific to the AMVA Project in the Site inductions of staff.
- The Early Works CEMP should be readily available on Site and include a Site plan(s) which shows:
    - No go areas (e.g. heritage) and boundaries of the work area.
    - Location of environmental controls (i.e. erosion and sediment controls, fences and/or other measures to protect vegetation or fauna, spill kits).
    - Location and full extent of any vegetation disturbance.

4.5 Construction Hours

The construction activities and the corresponding hours for Early Works at the AMVA Project detailed in Condition 7B of Schedule 2, of the Project Approval are reproduced in **Table 5**.

Table 5 Early Works Construction Hours

ACTIVITY	HOURS (OTHER THAN FOR EMERGENCY OF SAFETY PURPOSES AS APPROVED BY THE PLANNING SECRETARY IN THE CONTSTRUCTION TRAFFIC MANAGEMENT PLAN REQUIRED UNDER SCHEDULE 4A CONDITION 12(SIC))
Early Works Construction Hours	
Construction, including: • Appin Mine Ventilation and Access Site early works • fans, evase(s), ancillary site infrastructure and mine access infrastructure (winder, headframe, etc) • Shaft sinking activities prior to the construction of acoustic sheds/mitigation (NB these construction hours apply to the Early Works as defined in Section 1.3.1.)	7.00am to 6.00pm, Monday to Friday 8.00am to 1.00pm Saturday No works on Sunday or Public Holidays
Any works that are inaudible at residential premises	24 hours per day, 7 days per week

4.6 Heritage Management

There is one known Site which will be impacted by the AMVA Project (AHIMS ID #52-2-3687). A remaining artefact at the Site will be collected and buried outside the AMVA Project disturbance footprint in consultation with Registered Aboriginal Parties. This area will be demarcated and subject to restrictions on entry. An Aboriginal Cultural Heritage Management Plan (ACHMP) has been developed to manage the risks to Aboriginal cultural heritage from construction of the AMVA Project. This will be always available during construction and will form the basis of an update to the BSO Heritage Management Plan as required in Schedule 4 of the BSO approval.

In the unlikely event that addition heritage site(s)/item(s) are encountered, the unexpected finds methodology will be implemented. It is critical for the construction team to be aware that any suspected archaeological evidence must remain as it was found (in situ) until it is assessed by a qualified archaeologist, as per the below steps. These objects, where they are located and the material around them (referred to as the object's 'context') is critical for understanding their value to the Site and determining what may be located near to the area of the find. The object and its context are legally protected under the *NSW National Parks and Wildlife Act 1974* (aboriginal items or remains) or the NSW *Heritage Act 1977* (European historic heritage items or remains).

4.6.1 Discovery of Unexpected Suspected Archaeological Material – Site/item

An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which Roads and Maritime does not have approval to disturb or does not have a safeguard in place (apart from this procedure) to manage the disturbance.

These discoveries are categorised as either:

- Aboriginal objects (e.g. stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees that are not a handicraft made for sale).
- Historic (non-Aboriginal) heritage items may include:
- Archaeological 'relics' can include bottles, remnants of clothing, pottery, building materials and general refuse. A 'relic' is protected under the NSW *Heritage Act 1977* and is defined as any deposit, object or material evidence that:
    - Relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and
    - Is of State or local heritage significance.
    - Other historic items (i.e. works, structures, buildings or movable objects). Examples include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits.
- Human skeletal remains. These remains can be classified as:
    - Reportable deaths
    - Aboriginal objects.
    - Relics.

Step 1: If during works any previously unknown historical archaeological material or heritage sites/items are uncovered or identified, all work in the area of the item(s) shall cease immediately,

the area fenced off and a qualified heritage consultant/archaeologist consulted. If the archaeologist considers the material uncovered constitutes:

- An archaeological 'relic' or a heritage item, NSW Heritage Council will be consulted, in accordance with Section 146 of the NSW *Heritage Act 1977*, to determine an appropriate course of action prior to the recommencement of work in the area of the item.
- An Aboriginal object, Heritage NSW, the Local Aboriginal Land Council and Registered Aboriginal Party(ies) will be consulted.

Step 2: The archaeologist (and Aboriginal Sites Officer, if relevant) may determine from the photographs that no site inspection is required because no archaeological constraint exists for the project (e.g. the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'). Any such advice should be provided in writing.

Step 3: Subject to the archaeologist's assessment (and the Aboriginal Sites Officer's assessment, if relevant), work may recommence at a set distance from the item. This is to protect any other archaeological material that may exist in the vicinity, which has not yet been uncovered. Existing protective fencing established in Step 1 may need to be adjusted to reflect the extent of the newly assessed protective area. No works are to take place within this area once established.

Step 4: The archaeologist (and Aboriginal Sites Officer, if relevant) may provide advice after the site inspection and preliminary assessment that no archaeological constraint exists for the project (e.g. the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'). Any such advice should be provided in writing.

Step 5: Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains (see Section 4.6.2).

Step 6: Where the item has been identified as a 'relic', 'heritage item' or an 'Aboriginal object' the archaeologist should formally record the item.

Step 7: The regulator can be notified informally by telephone at this stage by the archaeologist or IMC Environmental Representative.

Step 8: The archaeologist must prepare and submit to IMC Environmental Representative an archaeological or heritage management plan (with input from the Aboriginal Sites Officer, where relevant) shortly after the site inspection. This plan is a brief overview of the following: (a) description of the feature, (b) historic context, if data is easily accessible, (c) likely significance, (d) heritage approval and regulatory notification requirements, (e) heritage reporting requirements, (f) stakeholder consultation requirements, (g) relevance to other project approvals and management plans etc.

Step 9: Review the archaeological or heritage management plan to confirm if regulator notification is required. Is notification required? If No implement archaeological or heritage management plan. If yes proceed to Step 10.

Step 10: Forward the signed notification letter to the relevant regulator (i.e. notification of relics must be given to the NSW Heritage Council, while notification for Aboriginal objects must be given to Heritage NSW.

Informal notification (via a phone call or email) to the regulator prior to sending the letter is appropriate. The archaeological management plan and the completed site recording form must be submitted with the notification letter. The Department will also be notified.

Step 11: Resume works once written clearance from IMC Environmental Representative and the archaeologist (and regulator, if required). Clearance will only be given once all archaeological excavation and/or heritage recommendations (where required) are complete. Resumption of project work must be in accordance with the all relevant project/heritage approvals/determinations

Step 12: If required, ensure archaeological excavation/heritage reporting and other heritage approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.

4.6.2 Discovery of Potential Human Skeletal Remains

In the event that a potential burial site or potential human skeletal remains are exposed during construction (e.g. surface disturbance works) the procedure below is to be implemented in accordance with the *Policy Directive – Exhumation of Human Remains* (NSW Department of Health 2008), *Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the NSW Heritage Act 1977* (NSW Heritage Office 1998) and the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (NPWS 1997):

- As soon as remains are exposed, work in this area is to halt in the immediate area to allow assessment and management (isolation of the site).
- **Contact New South Wales Police Heritage NSW, NSW Heritage Council, Local Aboriginal Land Council and Registered Aboriginal Party(ies).**
- If the remains are identified as forensic the area is deemed as crime scene.
- If the remains are identified as Aboriginal and not forensic, the Site is to be secured and the following protocol will be implemented.
- A physical or forensic anthropologist will inspect the remains in situ and make a determination of ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historic or forensic).
- If the remains are non-Aboriginal (historical) remains and not forensic, the Site is to be secured and NSW Heritage Council is to be contacted.
- If the remains are Aboriginal and not forensic, the Site is to be secured and Heritage NSW, Local Aboriginal Land Council and Registered Aboriginal Party(ies) will be contacted.

The above process functions only to appropriately identify the remains and secure the Site. From this time, the management of the remains is to be determined through liaison with the appropriate stakeholders (New South Wales Police Force, forensic anthropologist, DPE, Heritage NSW, and registered Aboriginal parties etc.) and in accordance with the NSW *Public Health Act 1991*.

Approval from NSW Health, under the NSW *Public Health Act 1991*, will be required prior to removing/exhuming any skeletal remains. If removal/exhumation is required and approved, controlled excavation and removal by the Site archaeologists and other appropriate specialists (forensic anthropologist, New South Wales Police Force, as appropriate) will be undertaken in accordance with *Heritage Council Skeletal Remains Guidelines* and any requirements of the Heritage NSW and NSW Health.

If removal/exhumation is required, a Site-specific management policy for the removal of any potential human skeletal remains uncovered within the Site will be developed by an appropriately qualified third party, in consultation with a physical anthropologist, Heritage NSW and relevant stakeholder

groups. The management policy will consider the issues detailed in the *Heritage Council Skeletal Remains Guidelines*. These issues include but are not limited to:

- Excavation issues – including personnel who may need to be required, Occupational Health and Safety and recording.
- Access issues – including limited access, security and public and professional participation.
- Management issues – including management during excavation and analysis, publicity, interpretation, location of interim resting place (in consultation with relevant stakeholders), ongoing curation of recovered materials and professional access to data.
- Re-interment and commemoration.

4.7 Vegetation Management and Biodiversity

The construction of the AMVA Project will result in the clearing of Plant Community Type (PCT) 849 *Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion.* The impact of this clearing will be offset via the retirement of two (2) ecosystem credits for this PCT within six (6) months of the commencement of construction, in accordance with Schedule 4, Condition 35A of the Mine Approval. This Section describes how IMC proposes to manage and protect vegetation during construction of the AMVA Project.

The AMVA Project disturbance footprint consists of highly modified native grassland vegetation which has a high representation of introduced species.

To mitigate the biodiversity impacts from the construction the AMVA Project will:

- Pre-construction:
    - Complete a Permit to Disturb (see Section 4.3 prior to the commencement of any ground disturbance activities. The Permit to Disturb will outline the control measures that will be implemented during construction works to minimise environmental impacts, including vegetation clearance and manage compliance with the Project Approval.
    - Demarcation of the project boundary.
    - Install fencing around woodland areas shown in (See **Figure 4-2**) fencing maintained throughout the construction phase of the AMVA Project
    - Implement the erosion sediment controls as detailed in Section 4.9.
    - Investigate opportunities to further minimise the area of disturbance during the detailed design and construction planning phases.
    - Clearly mark the disturbance boundary for the AMVA Project.
    - Undertake pest and weed management.
- Construction:
    - Undertake regular inspection and maintenance of erosion and sediment controls during construction and until disturbed areas are vegetated/stabilised.
    - Reduce the disturbance footprint where possible during construction.

- Undertake pest and weed management.

4.7.1 Visual Amenity

A visual impact assessment was undertaken as part of the modification environmental assessment. This assessment identified that while the building colour palette (i.e. use of green and grey tones) will help the AMVA Project blend in with colors in the surrounding landscape, the built form and bulk will not contrast well with shapes and contours in the surrounding landscape. IMC will therefore implement the additional management measures as detailed in Section 4.7.1 to further mitigate the visual impacts of the AMVA Project.

4.7.1.1 Management and Mitigation Safeguards

To provide visual amenity to neighbours and the community, tree screen plantings will occur along:

- The Project's boundary with Menangle Road.
- The external perimeter of the noise attenuation bund.
- The eastern edge of the Project Site.

Tree screening on the Site will consist of locally endemic native plant species. In planning for the tree screening, IMC will be mindful of the Wollondilly Development Control Plan, particularly Part 11.2, Recommended Species (for landscaping) (see https://www.wollondilly.nsw.gov.au/assets/Documents-NEW/Planning-and-Development/Guidelines-and-Controls/Wollondilly-Development-Control-Plan.pdf) and will engage a bush regeneration expert to plan the screening program.

To mitigate impacts from lighting IMC will:

- Arrange temporary lighting to minimise light spillage as much as possible without compromising safety or operations in accordance with AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting.
- Install permanent lighting as per the relevant standards but will consider visual amenity and light spill.

To mitigate visibility of the buildings/structures IMC will look to avoid the use of highly reflective materials or materials not commensurate with the surrounds, as is practicable.

4.7.2 Weeds

There is the potential for invasive weed species to become established at the Site due to ground disturbance activities. The NSW *Biosecurity Act 2015* includes mechanisms (i.e. regulatory tools) that can be used to manage weeds in NSW. Of relevance to the AMVA Project is the General Biosecurity Duty (GBD). The purpose of the GBD is to manage the spread and/or impact of all weeds that pose a biosecurity risk. The GBD is in addition to any requirements included in a control order, biosecurity zone or other instrument made under the NSW *Biosecurity Act 2015*.

For weeds, the GBD means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).

Figure 4-2 Vegetation to be Retained and Fenced

4.7.2.1 Weed Management Measures

IMC will implement the following mitigation measures to reduce the risk of weed establishment and spread during construction:

- Vehicles will enter and leave the Site via defined entry points and use constructed roads where practical.
- Personnel, vehicle and equipment hygiene procedures will be implemented to minimise the spread and/or introduction of weeds onto the Site.
- Disturbed areas will be re-sown as soon as practicable to minimise the area of exposed soil for weed establishment and spread.
- Weed species located on site will be controlled by a suitably qualified and licensed contractor.

4.7.3 Topsoil Management

4.7.3.1 Topsoil Salvage/Stripping

Topsoil is the surface soil layer which contains organic and mineral matter and is an important contributor to effective rehabilitation post-construction. Topsoil can have high environmental value as it contains both nutrients and native seed stock that can germinate following reinstatement.

Generally, topsoil is salvaged to the next soil layer (i.e. sub-soil). Most of the salvaged topsoil will be generated during bulk earthworks.

Where topsoil is available, the following measures will be adopted to protect its quality and enhance rehabilitation outcomes:

- Where practical, topsoil will be directly placed on reshaped disturbance areas which are available for rehabilitation.
- Topsoil stripping activities will be supervised to maximise topsoil recovery and minimise mixing of soil profiles.
- When direct placement of topsoil is not practicable, stockpiles will be formed, located away from traffic areas and watercourses.
- Topsoil and subsoils will be stockpiled separately.
- Level or gently sloping areas will be selected as stockpiles sites to minimise erosion and potential soil loss where practicable.
- Appropriate sediment controls will be installed at the base of stockpiles to prevent soil loss.
- Stockpiles to be kept longer than three (3) months will be sown with a suitable cover crop to minimise soil erosion and invasion of weed species.
- Weed growth will be monitored and subsequently controlled as necessary.

Topsoil stockpiles will be no greater than three (3) m in height to preserve soil structure, maximise surface exposure and biological activity.

4.8 Waste and Fuels Materials Management

The major waste streams expected and the primary waste minimisation strategy for the AMVA Project are shown in **Table 6**.

Table 6 Waste Stream Identification, Classification and Management Strategy

WASTE STREAM	MINIMISATION STRATEGY
Sewage/effluent	Off-site Recycle/Disposal as appropriate
Oily water	
Waste oil	
Parts, washers and liquid waste	
Degreaser	
Engine coolant	
Food Waste	Off-site Landfill
Municipal Waste	Off-site Landfill
Paper and cardboard	Off-site Recycle
Silt, sediment and leaf litter	Reuse on Site
Organic Waste	Mulch and reuse on Site
Wood Waste	Off-site Recycle/Disposal as appropriate
Concrete Waste	Off-site Recycle
Virgin excavated material	Reuse on Site
Building and demolition waste	Off-site Recycle/Disposal as appropriate
Scrap metal	Off-site Recycle
Air filters	Off-site Landfill/recycle as appropriate
Plastic drums	Off-site Recycle/Disposal as appropriate
Batteries	Off-site Recycle/Disposal as appropriate
Oily rags	
Oil absorbent material	
Aerosols	
Oil filters	
Empty oil drums	
Waste grease	

4.8.1 Waste Stream by Classification

Waste classification for the receival and the disposal of material for the AMVA Project will be undertaken in accordance with the *EPA Waste Classification Guidelines* (2014).

Under the guidelines (Part 1) waste is classified into six (6) waste classes:

- Special waste.
- Liquid waste.
- General solid waste (putrescible).
- General solid waste (non-putrescible).
- Hazardous waste.
- Restricted solid waste.

4.8.2 Fuel and Corrosive Materials Storage

Fuel will be stored and managed in accordance with AS1940 The storage and handling of flammable and combustible liquids. Corrosive substances will be managed in accordance with *AS 3780 The Storage and Handling of Corrosive Substances*.

4.8.3 Spill Response Protocol

The IMC spill management procedure defines the steps to be undertaken (i.e. spill response and clean up) to prevent environmental contamination by substances used at IMC and to ensure prompt, safe and effective spills management across all IMC sites.

The procedure applies to all substances in use, or being stored, handled and transported by employees, visitors and contractors of IMC that have the potential to cause harm to the environment or personnel. This includes (but is not limited to):

- Oils, fuels and greases (hydrocarbons).
- Chemicals.
- Degreasers.

For management of spills located on external roads (i.e. Appin Road etc.), spill response should be coordinated with Roads and Maritime Services (RMS). Call 000.

The key steps with regards to handling a spill on a IMC site are shown in **Figure 4-3**.

Figure 4-3 Spill Response Protocol

In summary the steps to be taken in the event of a spill are:

Consider

- Perform an appropriate risk assessment (Take 2 or Task Analysis) to assess the risk and determine what PPE or safety measures are appropriate for the spill event, substance and surrounding conditions.
- Refer to chemalert for handling requirements.

Contain/control

- Barricade the area to prevent unauthorised access. Personnel safety is paramount and should be assessed as the initial response if personnel are involved and/or injured.
- Isolate the source of the spill (if safe to do so and there is a no immediate risk of spilled material entering stormwater drains or the site water management system). This may include turning off a valve or tilting the leaking container.
- If safe, stop the spill from spreading and potentially entering drains and waterways via the use of spill kits, absorbent material, booms etc.

- If the spill has entered the site drainage system, isolate drain or pipe valves (where possible) to contain the spill in the existing drains to prevent the water entering into the site catchment ponds.
- If required, inform your site supervisor or Control to initiate emergency response operations through the site-specific Emergency Response Management Plan, or to gather more assistance or materials for containing large spills.
- If the spilled substance is entering the site water management systems or exiting the site, contact the Environment Team to coordinate the collection of samples to determine environmental impact (if relevant).

NOTE: Two types of spill kits are in use on sites – general purpose and hydrocarbons.

1. General purpose spill kits can be used for both chemical and hydrocarbon spills (usually for water soluble material (hydrophilic)).
2. Hydrocarbon spill kits can only be used for hydrocarbon (oil, grease and diesel) spills (usually for hydrophobic liquids, non-water soluble).

Clean up

- Clean up any remaining materials. Dispose absorbent material in accordance with the disposal requirements as detailed in Section 4.8.1.
- Small volumes of used absorbent material can be disposed in general waste or dedicated hydrocarbon waste bins, if applicable. General waste bins are located in various locations on the surface. Spill sorbent materials used from spill kits must be disposed of in a separate bin for appropriate disposal by a waste contractor.

Report - internal

Fill out an event report for entry into the incident reporting system. Spills are to be classified as follows:

- 0 – 25 L – Hazard Report
- 25 L and above – Event Report

Report - external

If there was actual or potential material environmental harm (as defined under s147 of the Protection of the Environment Operations Act), there may be a requirement to make a notification to the EPA or other regulatory agencies. This will be determined by the relevant Environment Team member.

Harm to the environment is determined to be material if:

- it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations).

Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

For the purpose of determining whether harm is material, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

4.9 Surface Water and Erosion Sediment Control Plan

Sediment and surface water runoff generated as a result of the AMCA Project has the potential to impact water quality. The uncontrolled release of sediment-laden waters may cause impacts to water quality by changing water quality parameters such as turbidity, pH, dissolved oxygen (DO) and electrical conductivity (EC).

The measures implemented to control and manage erosion and sediment that may result from construction activities include:

- Minimising all disturbed areas and progressively stabilising as soon as practical.
- Identifying and delineating disturbance areas and ensuring that disturbance is limited to those areas.
- Designing and constructing diversion banks upslope of disturbance areas, where practical, to direct clean water runoff away from disturbed areas and allow clean surface water to return to natural watercourses.
- Constructing catch drains to capture runoff from disturbed areas and direct dirty water to the sediment pond.
- Constructing other erosion and sediment control measures such as sediment fences and check dams and energy dissipation structures within catchment areas.
- Constructing drainage controls such as table drains at roadsides and on hardstand areas and toe drains on stockpiles/emplacement areas.
- Constructing a sediment pond to capture runoff from infrastructure areas.
- Managing sediment pond as per design requirements in regard to freeboard, settlement zone and sediment storage zone and flocculation.
- Placing geotextile liners and rock check dams in drains as required to reduce water velocities and prevent scouring.
- Regularly maintaining all controls and inspecting all works weekly and after storm events to ensure erosion and sediment controls are performing adequately.
- Revegetating final landforms (natural landform and drainage design) and disturbed areas, as soon as possible.
- Repairing or redesigning erosion and sediment controls that are not performing adequately, as identified by in field inspections.
- Completing a Permit to Disturb (Section 4.6) prior to the commencement of ground disturbance activities. The Permit to Disturb will reference the erosion and sediment control plan for the construction works to manage dirty water discharges from the Site and protect the clean water systems.

4.9.1 Erosion and Sediment Control Structures

IMC will implement (i.e. construct and maintain) the Erosion and Sediment Control Plan (ESCP) as shown on **Figure 4-4**. The ESCP incorporates a range of permanent structures which have been designed to minimise the discharge of polluted water off Site.

The principal erosion and sediment controls used by IMC include:

- Clean water diversion drains.
- Catch drains for dirty water.
- Sediment ponds for dirty water management.
- Temporary controls (e.g. sediment fence).

Specific environmental controls for individual work areas will be developed based on the task and included in job planning documents (SWMS, pre-start and Construction Management Plans) these plans will be developed by specialist contractors and will be consistent with the requirements and strategies set out in this CEMP.

4.9.1.1 Clean Water Diversion System

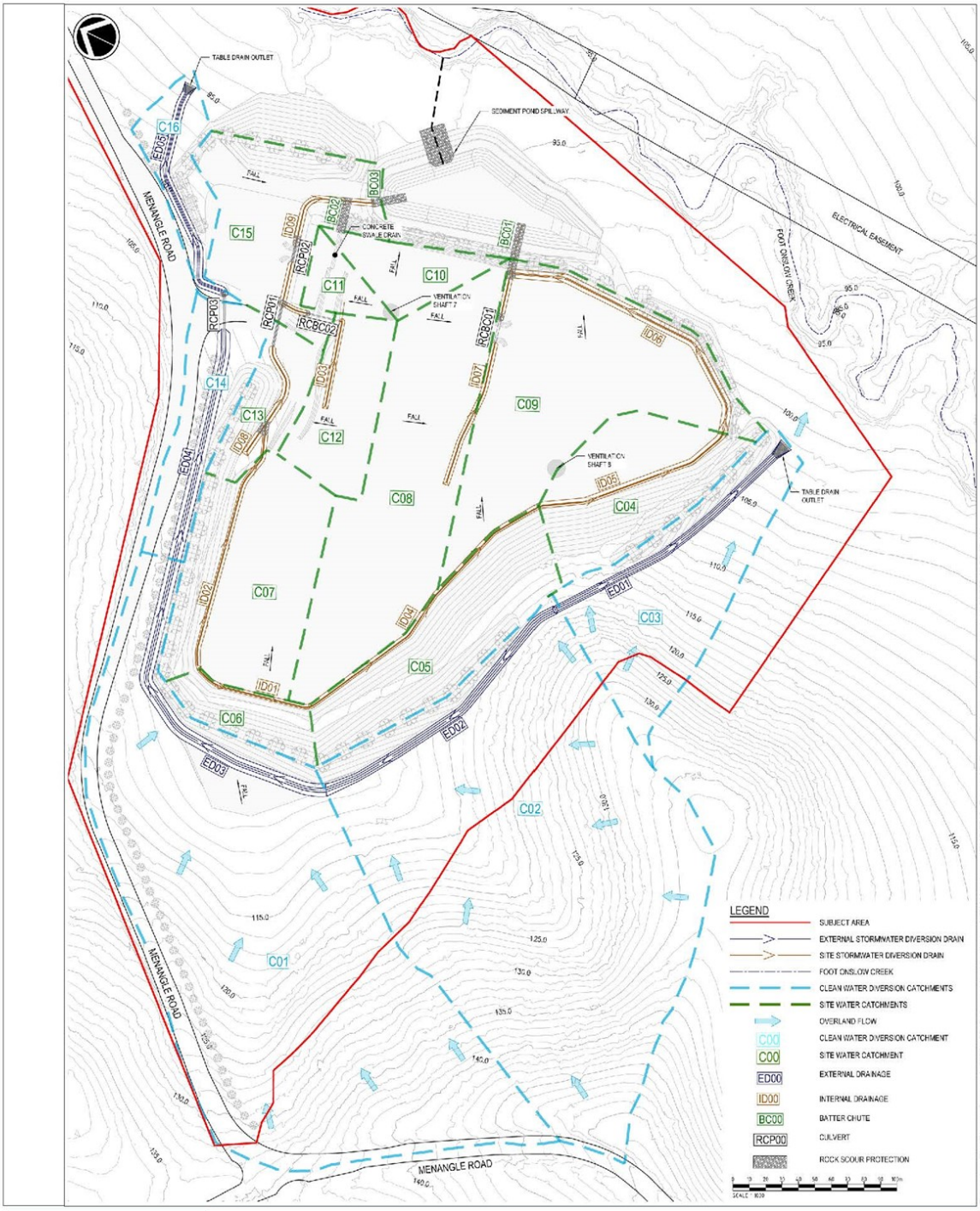
To minimise the volume of water managed by the AMVA Project's dirty water management system, diversion drains are constructed upslope of disturbance areas to convey clean water runoff away from the disturbed areas and prevent water from entering the construction areas and the dirty water management systems. This clean water runoff is diverted into nearby watercourses.

All diversions are designed in accordance with the the 'Blue Book' *Managing Urban Stormwater – Soils and Construction Volume 1 (Blue Book) (Landcom, 2004) and Volumes 2A, 2C, 2D and 2E (DECC 2008)* to cater for a minimum 100 year Average Recurrence Interval (ARI) storm event.

4.9.1.2 Catch Drains

The AMVA Project's dirty water management system includes diversion drains, catch drains, batter chutes and scour protection and a sediment pond. The catch drains and associated structures are established to convey runoff from the disturbed areas to the sediment pond. The pad has been designed to be free-draining and directs all dirty water to the sediment pond via a series of diversion drains, chutes and culverts which are located primarily along the perimeter of the pad.

All catch drains are designed to convey peak discharges from a minimum critical duration of a 1 in 10-year ARI storm event.



SOUTH32

FIGURE 4-4

Erosion Sediment Control Plan

Appin Mine Ventilation and Access Project - Early Works Construction EMP

Figure 4-4 Erosion Sediment Control Plan

4.9.1.3 Sediment Pond

The sediment pond will be constructed within the dirty water catchment and will be used to capture and treat dirty water prior to discharge. The sediment pond will be installed prior to any land disturbance activities occurring and maintained following completion.

The sediment pond has been designed to capture a 1 in 10-year, 72-hour duration storm event. The pond will have a maximum capacity of 12,660 m^3, a depth of 4.93 m, a wall height of 2.5 m and a 150 mm freeboard.

The sediment pond will be maintained in a drawn down state as far as practicable. This is achieved by using the sediment pond water for:

- Dust suppression bulk earthwork compaction, revegetation and shaft sinking activities. While water may be sourced from the sediment pond for shaft sinking activities, any processing and storage of the water generated during shaft sinking is separate to the sediment pond and will be addressed in the Main Works CEMP.
- Treated to the relevant water quality criteria as described in the EPL prior to being discharged from the Site.

The sediment pond will be inspected by IMC and cleaned out as required to maintain capacity (i.e. settling and sediment zones) in accordance with the 'Blue Book'.

If necessary, flocculation is used to improve the quality of sediment laden water prior to discharge (in accordance with the 'Blue Book').

5. NOISE MANAGEMENT PLAN

Noise for Early Works (defined in Section 1.3.1) will be managed in accordance with the requirements of the ICNG.

The ICNG provides guidelines for the assessment and management of construction noise. The ICNG focuses on applying a range of work practices to minimise construction noise impacts rather than focusing on achieving numeric noise levels. The main objectives of the ICNG are to:

- Promote a clear understanding of ways to identify and minimise noise from construction works
- Identify and minimise noise from construction works.
- Focus on applying all 'feasible' and 'reasonable' work practices to minimise construction noise impacts.
- Encourage construction during the recommended standard hours only, unless approval is given for works that cannot be undertaken during these hours.
- Reduce time spent dealing with complaints at the Project implementation stage.
- Provide flexibility in selecting Site-specific feasible and reasonable work practices to minimise noise impacts.

This Noise Management Plan (NMP) describes how IMC proposes to manage and protect the noise environment during construction of the AMVA Project and has been prepared to address the requirements of Condition 11(f) of Schedule 4A of the Project Approval.

5.1 Receivers

The AMVA Project is located within an area of mixed land use consisting of grazing, rural residential, residential township (Menangle), mixed agriculture and small business. The identification of the surrounding receivers was completed as part of the modification environmental assessment (

Figure 5-1). Minimising noise from Early Works at these receivers is the key performance objective of this NMP.

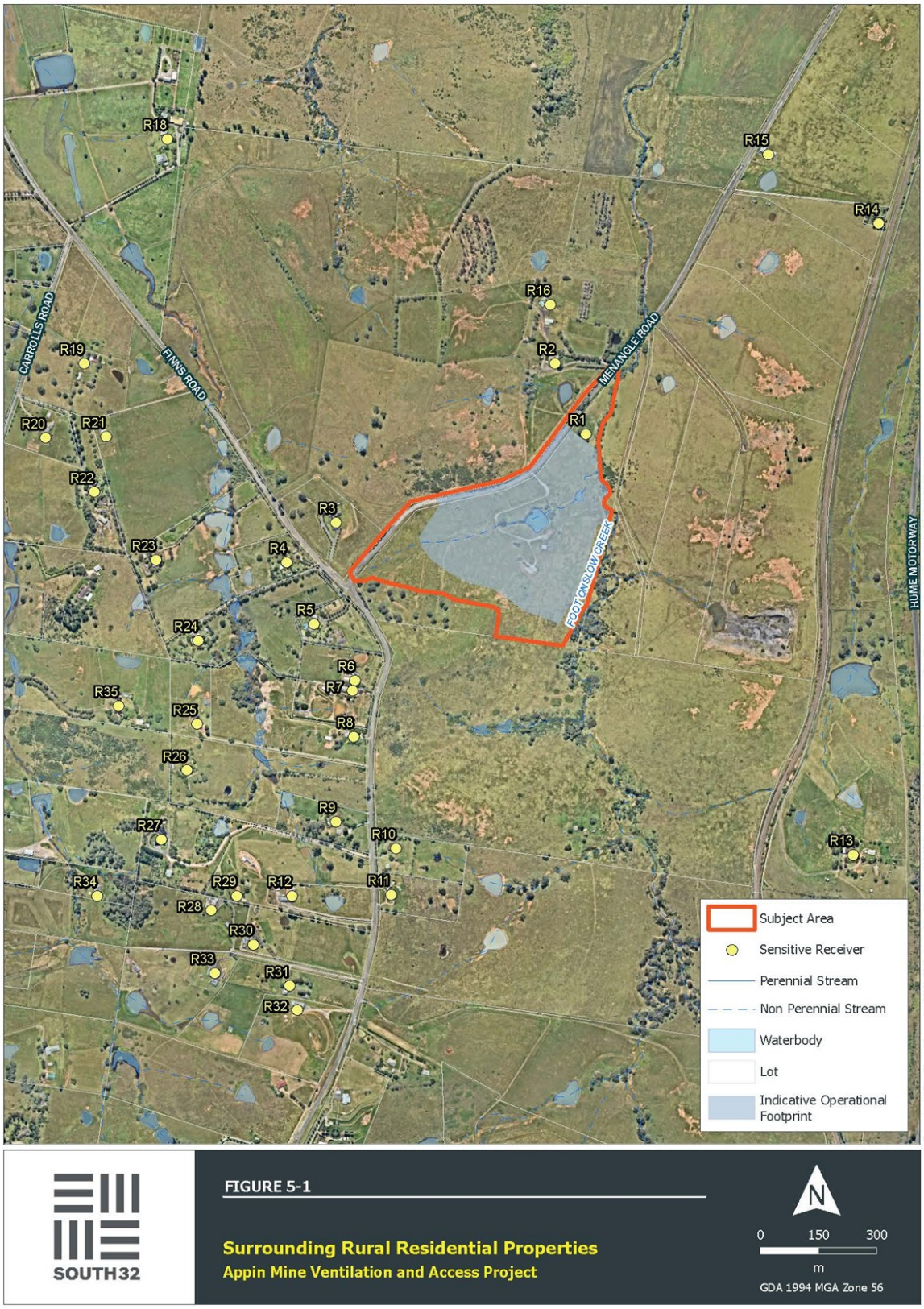


Figure 5-1 Surrounding Rural Residential Properties

5.2 Predicted Noise Impacts for Early Works

Based on the construction noise and vibration impact assessment conducted during the Environmental Assessment for the modification of the BSO approval[2] noise levels associated with construction activities during standard hours are predicted to comply with the noise management levels (NML) at Receivers during all proposed activities except for the civil works and intersection works;

- During the proposed civil works, noise levels are predicted to exceed the NML at R2 and R3 by 5 dBA and 1 dBA, respectively.
- During the proposed intersection works, noise levels at R2 are predicted to exceed the NML by up to 4 dBA.

5.3 Construction Noise Management Levels

The NML for the project have been derived in accordance with the ICNG. **Table 8** shows the NMLs at residences and how they are to be applied during construction of the AMVA Project.

5.3.1 Noise background levels

Background noise monitoring was undertaken in October and November 2020 as part of the modification environmental assessment, at R1, R4, R7 and R13 to quantify the existing ambient noise levels and Rating Background Levels (RBLs) (

Figure 5-1). The noise monitoring locations were chosen to be representative of the nearest and most potentially affected surrounding receivers and were used to establish the AMVA Project specific construction NML.

The RBLs for the AMVA Project are summarised in **Table 7**.

Table 7 AMVA Project Rating Background Levels

RECEIVER	TIME OF DAY	RBL (dBA)
All nearby residences	Day	38
	Evening	39
	Night	34

Source: Noise and Vibration Impact Assessment (RWDI, 2021)

[2] (RWDI, 2021) Noise and Vibration Impact Assessment

5.3.2 Application of Construction Noise Management Levels

Table 8 Application of ICNG Noise Management Levels

TIME OF DAY	NOISE MANAGEMENT LEVEL LA EQ (15MINS)	HOW TO APPLY
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL +10 (48 dBA)	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured LAeq (15 min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise Affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: • times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences • if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community.

Source: Interim Construction Noise Guideline (DECC, 2009)

A summary of the noise management measures for the AMVA Project is provided in Section 5.3.3.

5.3.3 Noise Agreements

In accordance with Condition 2C of Schedule 4 of the Project Approval, the noise limits do not apply if the proponent has an agreement with the relevant landowner(s) to generate higher noise levels.

5.4 Noise Monitoring Program

5.4.1 Attended noise monitoring

The intent of attended noise monitoring is to confirm that construction activities are complying with applicable NML throughout the project schedule. The Noise and Vibration Impact Assessment (NVIA)3 undertaken in support of the modification EA, predicted exceedances of the daytime NML of between 1-5 dB(A) at two receivers (R2 and R3) during civil and earthworks and intersection upgrades. Therefore, attended noise monitoring for the Early Works CEMP will be undertaken at closest, potentially impacted receivers (R2 and R3) within one month of commencement of each of the civil and intersection packages described in Section 1.3.1 to confirm compliance with noise levels specified in **Figure 5-2** and determine the requirement for additional, feasible and practicable noise

[3] (RWDI, 2021) Noise and Vibration Impact Assessment

management measures to be applied. In accordance with ICNG, the process shown in **Figure 5-2** will be undertaken based on the results of attended monitoring.

4.24.2

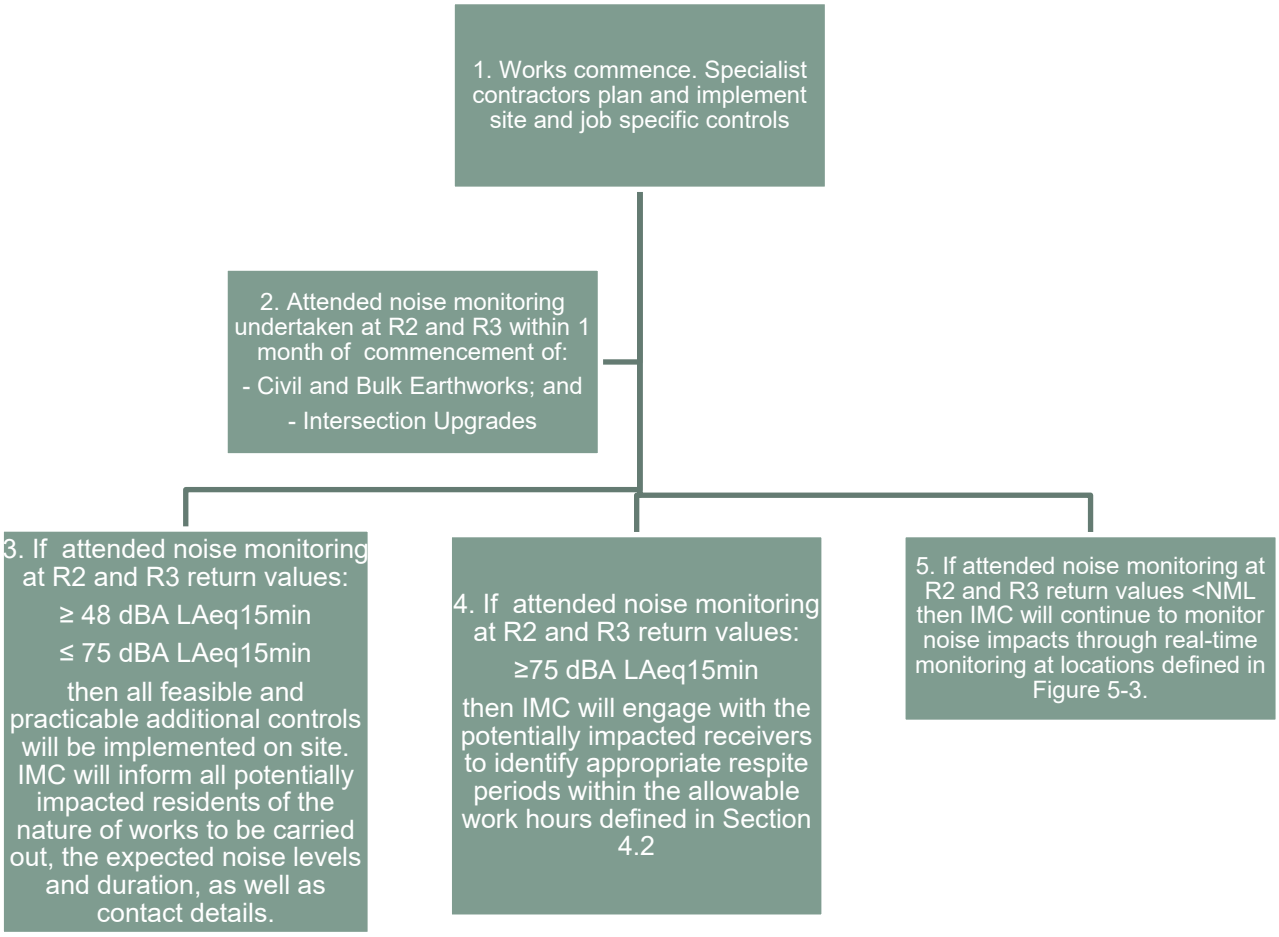


Figure 5-2 Protocol for Attended Noise Monitoring

Attended noise monitoring will be undertaken in accordance with the relevant Australian Standards and EPA approved methods for sampling including:

- *AS1055-1997 Acoustics - Description and Measurement of Environment Noise – General Procedures.*
- *AS IEC 61672.1 – 2004 - Electroacoustics – Sound Level Meters, Class 1 sound level meter and calibrator.*

All acoustic instrumentation used for monitoring under the Noise Monitoring Program shall comply with the requirements of *AS 1259.2-1990 - Sound Level Meters* and will have current National Association of Testing Authorities (Australia) (NATA) or manufacturer calibration certificates.

5.4.2 Real-time noise monitoring

Real-time (unattended) noise monitoring will be undertaken throughout the project schedule, at the locations as shown on

Figure 5-3. These locations were selected to be located in the direction of the receivers at the relevant site boundary. Placement at these locations will allow IMC to assess noise levels being generated in the direction of receivers and allow for operational management of noise at the site. Therefore, where unattended monitoring indicates that there are no exceedances of the noise criteria at these locations it would indicate that there would be no exceedance of criteria at the relevant receiver locations, given the receivers are located further away from the AMVA Project. Data collected by the monitors will be analysed daily to evaluate noise levels. The real-time noise monitoring units will be used to:

- Identify variations in noise levels which can be related to construction.
- Evaluate the effectiveness of noise mitigation measures.
- Monitor noise generated at the Site.
- Make predictions to determine when impacts are approaching the NML prescribed in Section 5.3.2
- Manage construction activities on site to comply with noise criteria at receiver locations.

Real-time monitoring will be a key tool used by the AMVA team to inform, monitor and improve environmental performance for noise consistent with the approach to environmental performance management detailed in Section 4.1. The triggers associated with real-time noise monitoring are shown in **Figure 5-4**.

5.4.3 Meteorological Monitoring

Meteorological data will be used to confirm:

- The applicability of meteorological conditions at the time of monitoring.
- Evaluate the likelihood of the AMVA Project being the noise source and validity of noise data.

The Campbelltown West Bureau of Meteorology station complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline. Meteorological data from the Campbelltown West Bureau of Meteorology station will be used when assessing attended and unattended noise monitoring results.

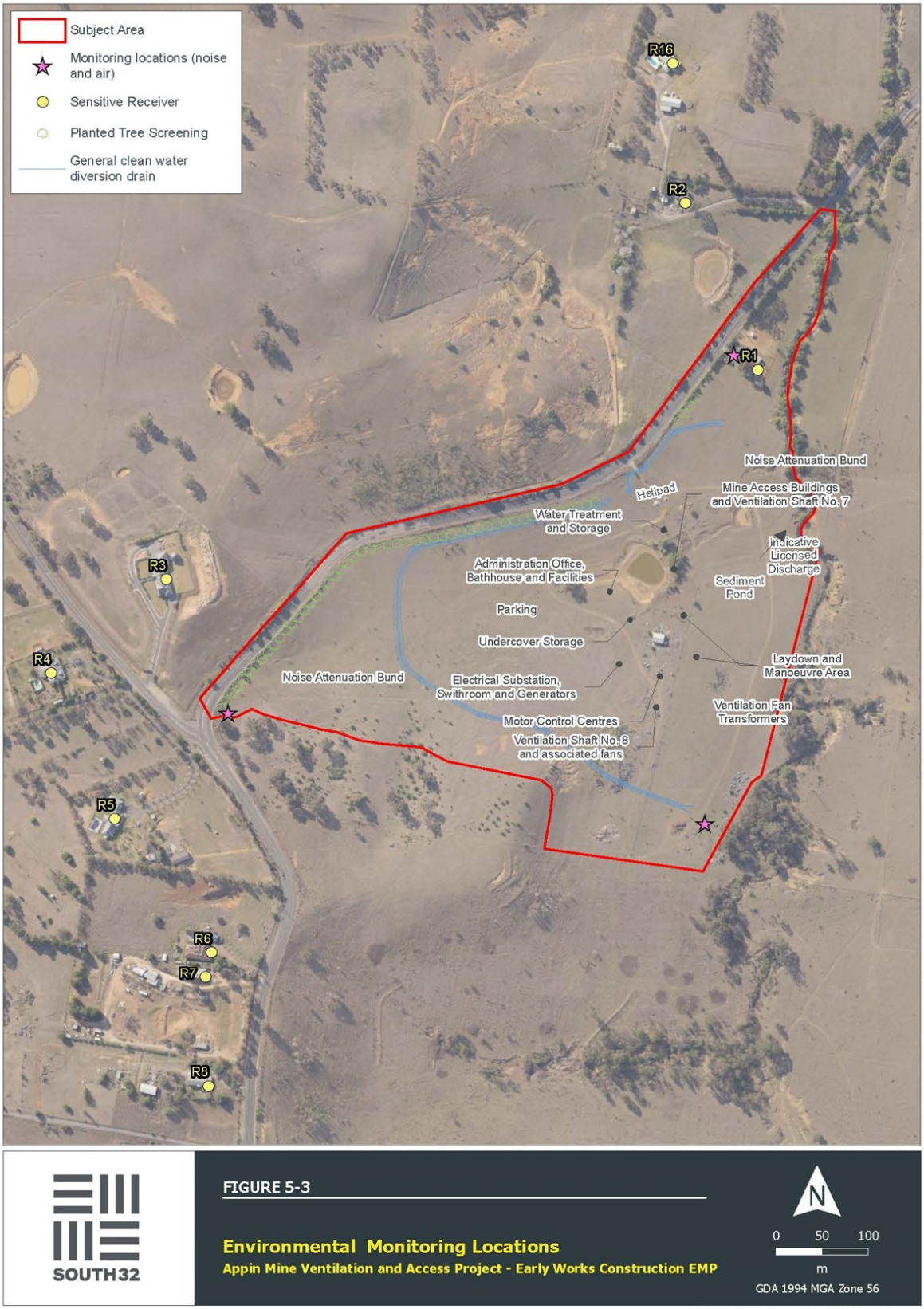


Figure 5-3 Monitoring Locations

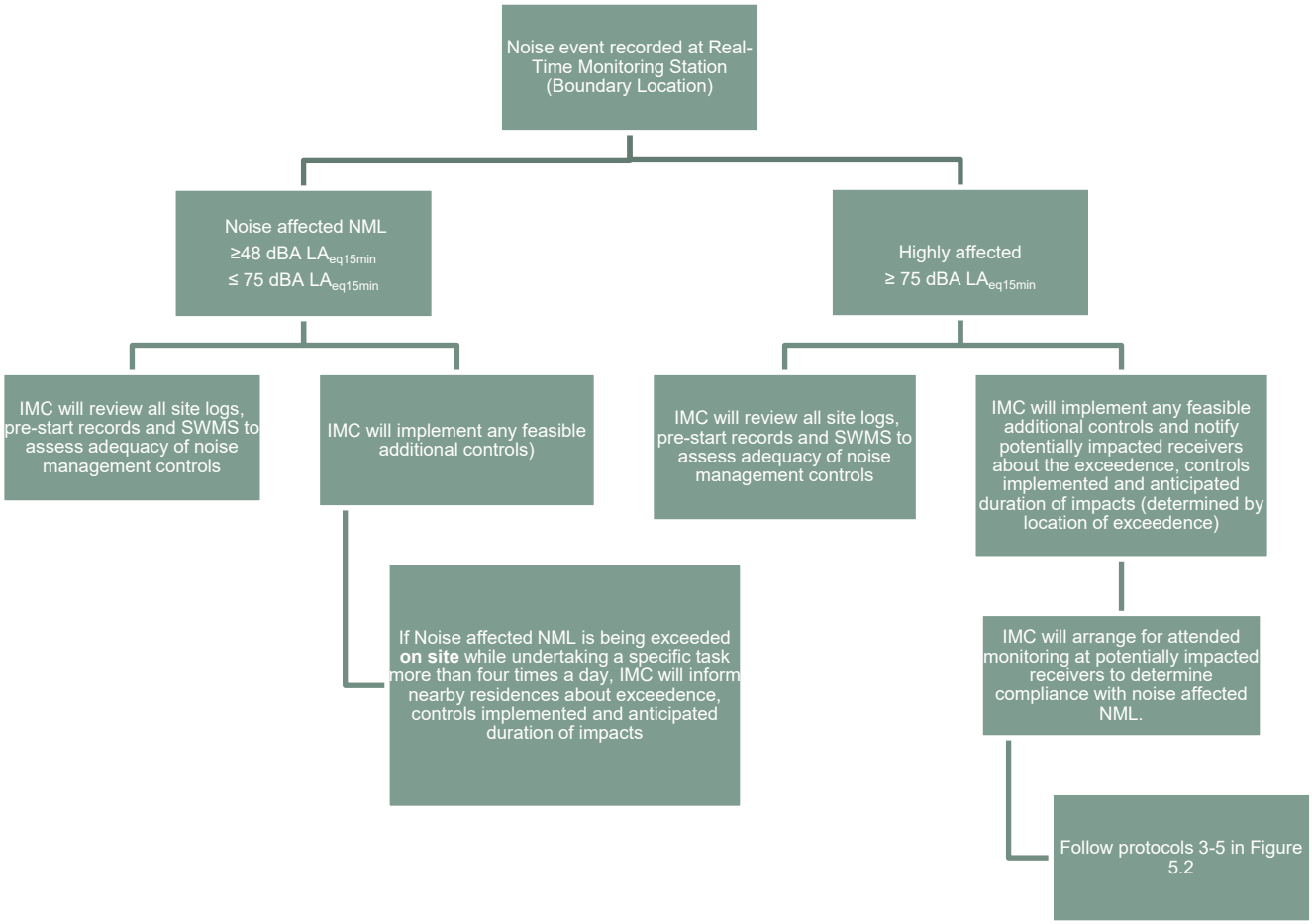


Figure 5-4 Realtime Monitoring Protocols

5.5 Noise Management and Mitigation Measures

The Noise and Vibration Impact Assessment[4] predicted exceedances of the daytime NML of between 1-5 dB(A) at two receivers (R2 and R3) during civil works and intersection works. In accordance with the ICNG, where noise affected levels are anticipated to be exceeded, IMC will apply all feasible and reasonable work practices to meet the noise management levels (identified in accordance with the protocols described in Section 5.4.2)

Where monitoring (or previous modelling) indicates that noise affected NMLs are being exceeded, then the following management strategies may be implemented:

- Considering the selection of plant and processes with reduced noise emissions.
- Controlling noise at the source by using equipment fitted with appropriate sound attenuation, where practical (5-10 dBA reduction).

[4] (RWDI, 2021) Noise and Vibration Impact Assessment

- Turning off machinery when not is use (1-5 dBA reduction).
- Orienting equipment away from sensitive receivers (3-5 dBA reduction).
- Carrying out loading and unloading away from sensitive receivers (3-5 dBA reduction).
- Employing non-noise generating structures such as Site offices, storage sheds, stockpiles and tanks as noise barriers (5-10 dBA reduction).
- Using screens or enclosures for stationary equipment (10-15 dBA reduction).
- Avoiding using noisy plant simultaneously and/or close together, adjacent to sensitive receivers (2-3 dBA reduction).
- Using dampened tips on rock breakers (3-6 dBA reduction).
- Maximising the offset distance between noisy plant items and sensitive receivers (3-6 dBA reduction).
- Using portable temporary screens (5 -10 dBA reduction).
- Where possible, strategically placing plant and equipment to minimise noise escaping from Site and containing within suitably designed noise mitigation structures.
- Maintaining equipment to manufacturer specifications to ensure high availability and to meet noise emission criteria.
- Conducting noise management training with relevant personnel and completion of regular toolbox talks to enforce the importance of noise mitigation.
- Undertaking the process of change management prior to commencing new construction activities or when construction equipment changes.
- Implementing a Driver's Code of Conduct.
- Monitoring the number of plant on Site and their SWL in relation to that shown in Table 9.
- Undertaking monitoring to assess the noise levels generated by the construction activities.

Table 9 Modelled Equipment Sound Power Levels

EQUIPMENT	SWL, LEQ(15MINUTE) DB(A)	QUANTITY	ACTIVITY SWL (DBA)
Deliveries			
Truck	103	2	106
Services to Site			
Trencher	111	1	113
Underborer	95	1	
Crane	105	1	
Truck	103	1	
Civil Works			
Excavator (incl. rock breaker)	122	2	127
Grader	113	2	
Dump truck	110	2	
Roller	109	1	
Compactor	106	1	
Dozer	116	2	
Water truck	107	1	
Road intersection works			
Pavement laying machine	114	1	118
Dump truck	110	1	
Asphalt truck and sprayer	103	1	
Concrete truck	109	1	
Smooth drum roller	107	1	
Concrete saw	118	1	
Signposting and line marking			
Road truck	108	1	111
Scissor lift	98	1	
Franna crane	98	1	
Line marking truck	108	108	

Source: Noise and Vibration Impact Assessment (Wilkson Murray 2021)

6. AIR QUALITY MANAGEMENT PLAN

This section describes how IMC proposes to manage and protect air quality during construction. This Plan includes both pro-active as well as reactive management measures to minimise the impact of dust on the surrounding environment, including surrounding properties and receivers.

6.1 Predicted Construction Air Quality Impacts

Within the Air Quality and Greenhouse Gas Assessment undertaken as part of the modification EA[5] An emissions inventory was developed for a single construction year, selected to assess the worst-case air quality impacts when material handling/movement is at a maximum (not anticipated during Early Works). The highest predicted dust concentrations during construction occur at the closest assessment location (R2). Modelling predictions indicated that there would be no days over the 24-hour average impact assessment criterion for Particulate Matter < 10 µm (PM_{10})and Particulate Matter < 2.5 µm ($PM_{2.5}$)and no exceedances of the annual average impact assessment criterion at any assessment location for PM_{10}, $PM_{2.5}$, Total Suspended Particulate (TSP)and dust deposition shown in **Table 10**.

IMC will however undertake real-time air quality monitoring to monitor compliance with conditions on-site and provide a mechanism for comparison of site and regional air quality to determine the cause of any potential exceedance.

6.2 Air Quality Criteria for the AMVA Project Site

The air quality criteria for the AMVA Project are detailed in Condition 9 of Schedule 4 of the Project Approval and are summarised in **Table 10**. The criteria apply to all residences on privately owned land.

Table 10 Project Approval Air Quality Criteria

POLLUTANT	AVERAGING PERIOD	[D] CRITERION	
Long Term Impact Assessment Criteria for Particulate Matter			
Particulate Matter < 10 µm (PM_{10})	Annual	[a] 25 µg/m^3	
Particulate Matter < 10 µm (PM_{10})	24-Hour	[a] 50 µg/m^3	
Particulate Matter < 10 µm ($PM_{2.5}$)	Annual	[a] 8 µg/m^3	
Particulate Matter < 2.5 µm ($PM_{2.5}$)	24-Hour	[a] 25 µg/m^3	
Total Suspended Particulate (TSP)	Annual	90 µg/m^3	
Deposited Dust	Annual	Maximum increase in deposited dust level	Maximum total deposited dust level
		2 g/m^2/month [b]	4 g/m^2/month [a]

[5] EMM, (2021) Air Quality and Greenhouse Gas Assessment for Appin Mine Ventilation and Access Project.

Notes:

- [a] *Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources)*
- [b] *Incremental impact (i.e. incremental increase in concentrations due to the project on its own)*
- [c] *Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and*
- [d] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Planning Secretary in consultation with EPA.*

Source: Mine Approval Schedule 4, Condition 9

6.3 Air Quality Monitoring

6.3.1 Realtime Monitoring Protocols

Air Quality monitoring will be carried out throughout the construction phase. The intent of this monitoring program will be:

- Collect information about air quality dynamics at the site and provide insights into how construction activities may be impacting on air quality.
- Compare site air quality monitoring results to local and regional scale air quality.
- Realtime monitoring units will be placed along with real-time noise and imagery instruments at the locations specified in **Figure 5-3**.

These units collect the following data in 15 minute increments:

- TSP
- PM10
- PM2.5

IMC will receive daily reports from each monitoring station with air quality dynamics ($PM_{2.5}$, PM_{10} and TSP) over the day. IMC will also be issued with alerts when potential exceedances for the 24-Hour $PM_{2.5}$ criteria occurs.

When an exceedance is noted, IMC will review the site data imagery taken at monitoring locations and site logs and local and regional air quality data to determine the potential cause of exceedance, suitability of existing controls and any opportunities to improve air quality management.

In the event of a complaint, IMC will review real time data, site information and local and regional air quality data to determine the cause. If it is determined that construction activities may be contributing to the exceedance, IMC will undertake attended or targeted monitoring to confirm ongoing performance of the activity. If an exceedance of the air quality criteria listed in Condition 9 of Schedule 4 of the Project Approval occurs, IMC will comply with the notification protocols set out in Schedule 5 including:

As soon as practicable and no longer than 7 days after obtaining monitoring results showing:

- an exceedance of any relevant criteria in Table 10, IMC shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
- IMC shall send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

6.3.2 Deposited Dust

A network of dust deposition gauges (DDGs) have been utilised at Appin Mine (installed over the period of 2012 – 2014). The DDGs have provided a long-term baseline of deposition in the area however do not feed into dust control actions or provide timely information regarding air quality conditions at a fine time scale. The existing data set from the site does not indicate that any of the operational sites or activities at Appin Mine are a cause for concern for particulate exposure to residents of the area. The network of DDGs were decommissioned in 2020.

Targeted temporary residential air quality monitoring may be undertaken using DDGs in response to community complaints, or for construction activities (for background data and air quality during construction).

6.4 Air Quality Management and Mitigation Measures

This section describes how IMC proposes to manage and protect the traffic environment during construction of the AMVA Project and has been prepared to address the requirements of Condition 11(g) of Schedule 4A, of the Project Approval.

Specific environmental controls for individual work areas will be developed based on the task and included in job planning documents (SWMS, pre-start and Construction Management Plans) these plans will be developed by specialist contractors and will be consistent with the requirements and strategies set out in this CEMP.

6.4.1 Visual Monitoring and Inspections

Regular monitoring and inspections will be carried out during construction. Monitoring and inspections will include, but are not limited to:

- Daily Site inspections by the IMC Environment Representative to identify and action any air quality issues related to:
    - Visible sources of dust.
    - Visible dust emissions.
    - Implementation and effectiveness of dust controls.
    - No continuous visible vehicle/plant/equipment emissions for longer than 10 seconds as per the *Protection of the Environment Operations Clean Air Regulation*.
    - No mud tracking off-site; check main exit/entry points and material on public roads.
    - Weather forecast (e.g. rainfall) will be checked daily to allow for proactive dust management actions to be implemented.
- Documented Site inspections by IMC or designated principal contractor while construction works are occurring. The frequency of these inspections is to be reflective of the risk associated with potential activities. The objectives of the inspections are to identify and action any air quality issues related to:
    - Visual monitoring of dust

  - Haul/access road integrity.
  - Any other relevant mitigation measures listed in Section 6.4.2. An adaptive approach to dust management will be implemented, where mitigation measures will be amended and improved if they are found not be meeting the required outcomes.
- Monitoring weather conditions at the premises.
- Pre-use plant inspections will be conducted and recorded to ensure that plant is in good working order.

Site inspections required actions and ongoing issues will be recorded and actioned appropriately within agreed timeframes by relevant AMVA Project personnel. These inspections are to be recorded as part of Environmental Inspection Checklist (internal document).

6.4.2 Standard Controls and Management Measures

IMC or nominated representative will undertake the following standard controls where required in relation to Air Quality Management:

Reporting and record keeping:

- Record any exceptional incidents that cause dust and/or air emissions, either on or off Site, and the action taken to resolve the situation.
- Dust generation – general:
  - Weather forecast (e.g. rainfall and wind) will be checked daily to allow for proactive dust management actions to be implemented.
  - Erect screens or barriers around potentially dusty activities and material stockpiles, where practicable.
  - Provide an adequate water supply on the construction Site for effective dust/particulate matter suppression/mitigation.
  - Prevent on Site runoff of dirty water or tracking of mud.
  - Temporarily stop or alter non-essential dust generating activities during high wind conditions.
  - Schedule activities to avoid adverse weather conditions by reviewing weather forecasts.
  - Implementing effective dust/particulate matter suppression/mitigation. This may include the application of a crusting agent to assist with minimising dust emissions from non trafficable areas.
- Materials handling:
  - Not overloading trucks to reduce spillage during loading/unloading and hauling.
  - Minimise drop heights from loading, unloading or handling spoil/excavated material.
- Soil Stripping:
  - Soil stripping will be limited to areas required for construction.
- Exposed Areas:

- Minimum the disturbance area.
- Exposed areas will be stabilised as soon as practicable.
- Long-term soil stockpiles will be revegetated.
- Progressive reshaping of overburden emplacement and topsoil areas in preparation for progressive rehabilitation.

- Dust generation from vehicles moving on paved and unpaved roads:
  - Haul roads will be constructed with competent material.
  - All haul roads will be graded and shall be subject to regular maintenance (use of crushed gravel to sheet roads etc.) to reduce fines build up and minimise dust generation.
  - Watering of main haulage routes or applying dust suppressants, as required.
  - Routes to be clearly marked and speed limits enforced.
  - Ensure vehicles entering and leaving Sites are covered during off Site transport.
  - Install a wheel wash or shaker grid or hose down area to prevent wheel tracking of material.
  - Removal of sediment/dust from sealed trafficable areas (e.g. Road sweeper).

7. TRAFFIC MANAGEMENT PLAN

This section describes how IMC proposes to manage and protect the traffic environment during construction of the AMVA Project and has been prepared to address the requirements of Condition 11(e) of Schedule 4A, of the Project Approval.

7.1 General Management and Mitigation Safeguards

IMC is committed to implementing the following controls in order to comply with its traffic commitments during construction:

- Drivers are to follow road traffic signage and directions for emergency personnel.
- Compression breaking is to be avoided unless in an emergency situation (f note is the hill on Finns road towards Site).
- Vehicles are to be clean of any mud, material which may become loose during transport, prior to existing the Site.
- A wash down bay or hose down area will be established on Site for vehicles and machinery entering the Site for the first time (or those that require periodic cleaning); the wash down bay will be maintained.
- All bulk material loads are to be covered.
- No idling engines while on Site (other than in designated areas/times - i.e. concrete trucks).
- Where heavy vehicle GPS data is recorded, this information is to be provided to IMC to investigate incidents reported by community and compliance with recommended routes, when requested.

7.2 Traffic Monitoring

IMC will ensure traffic impacts are minimised utilise the existing strategies for monitoring and management of traffic including:

- Ensuring enforcement of the AMVA Drivers Code of Conduct (DCoC) (Appendix C)
- Monitoring of compliance against the transport routes both internally (via operational employees) and externally (via the Community Call Line).
- Investigation of all complaints.
- Following up breaches with the person or contract company involved and recorded in the event reporting system G360.
- Undertaking disciplinary action, where required.

7.3 Traffic Control Plan and Road Closure Protocols

IMC has sought approval from Council, as the relevant roads authority under s138 of the *Roads Act 1993),* for activities on and in connection with public roads associated with Modification 3 of the Project Approval (s138 Application). IMC will address any special conditions issued as part of the s138 Application

Council, as the roads authority, has control over Menangle Road and any proposal to close Menangle Road requires Council permission. IMC intends to minimise disruption to normal traffic conditions through the application of traffic control measures in accordance with the Australian Standard *AS1742.3: Manual of Uniform Traffic Control Devices, Part 3: Traffic Control for Works on Roads*. Traffic will be controlled at the Menangle Road intersection upgrade in accordance with the required standards and a Traffic Control Plan (TCP) will be developed and submitted to the Council for acceptance.

In addition to requirements associated with WsC approval for road occupancy pursuant to Section 138 of the Roads Act, A Road Occupancy Licence is required for any activity likely to impact on traffic flow, even if that activity takes place off-road. The planning, coordination and licensing of road occupancies in the Sydney region is the responsibility of the Network Access Coordination Unit at the Transport Management Centre. For regions outside Sydney, Transport for NSW manages the process.

7.3.1 Community Consultation for Road Closures

The TCP will outline measures to advise motorists of changes in the road network conditions/operation or the expected vehicle movements to/from the Site (NB TCP are now referred to by Transport for NSW (TfNSW) as Traffic Guidance Scheme (TGS). TGS is a diagram(s) showing signs and devices arranged to warn traffic and guide it around, past or, if necessary through a work site or temporary hazard. In accordance with TfNSW specifications, during construction, the contractor shall each morning, prior to commencing work, ensure all signage is erected in accordance with the TGS and is clearly visible to motorists. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required, or appropriate for the stage of the works.

If required, traffic controllers will be used to facilitate the safe movement of construction vehicles entering and exiting the Site.

Any temporary traffic controls, signage or works within a public road corridor must have approval under s138 of the *Roads Act 1993*.

7.4 Vehicle Movement Plan

7.4.1 Construction Vehicle Transport Routes

Figure 7-1 shows the transport routes to be used by heavy and light vehicles during the construction of the AMVA Project. These are described as:

- **Traffic to/from the South:** Traffic will access the Site via the Hume Motorway M31, Picton Road and Menangle Road.

- **Traffic from the North:** Traffic will access the Site via the Remembrance Driveway, Finns Road, Woodbridge Road and Menangle Road. (Note: the section of Finns Road between Woodbridge Road and Menangle Road has a 15-tonne limit).
- **Traffic existing the Site:** all traffic exiting the Site is to do so via a left-hand turn.

These transport routes apply to all heavy vehicles including vehicles transporting construction waste materials.

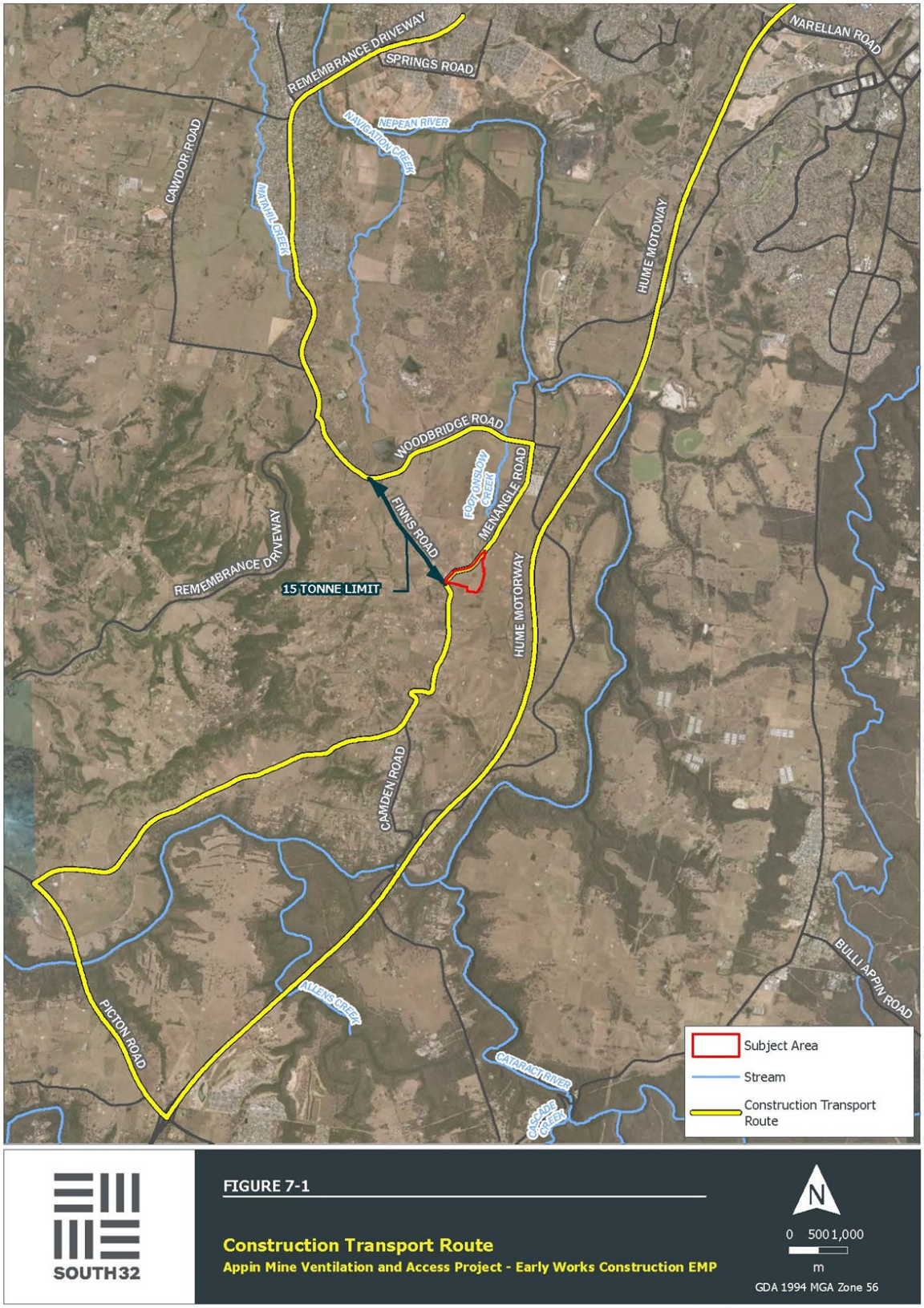


Figure 7-1 Construction Transport Routes

These restrictions do not apply to:

- Delivery vehicles that are undertaking deliveries to other customers either prior to or following a delivery to the AMVA Project.
- Oversize vehicles where the transport route is specified in the permit.
- Any employees that reside in the local area (e.g. Campbelltown, Wilton or Douglas Park). The infrequent use of other roads for consultation with neighbouring landowners, environmental monitoring and inspection

In addition the following restrictions apply:

- Heavy vehicle traffic is prohibited to travel through Broughton Pass and Douglas Park Gorge (via the existing sign-posted limits).
- All employees and contractors of IMC are subject to induction training which identifies roads that are restricted for use and obligations under the Mine Approval.

7.4.2 Drivers Code of Conduct

A DCoC has been prepared for the AMVA Project (Appendix C). The DCoC applies to all project related vehicles (i.e. Contractor vehicles, IMC Vehicles).

7.4.3 Over Dimensional and Heavy Vehicle Access

Any over dimensional vehicles movements will be undertaken in accordance with TfNSW, the National Heavy Vehicle Regulator Guidelines and local road authority requirements. This may include the preparation and approval of a NSW Load Declaration Form (see https://roadswaterways.transport.nsw.gov.au/documents/about/forms/45071986-osom-load-declaration.pdf).

Some of the key specifications of this guideline include:

- Pilot and escort vehicles will be used to provide other road users with an advance warning that the vehicle ahead is over dimensional.
- Over dimensional vehicles shall not travel roads damaged by floods, submergence or earthquakes.

7.4.4 Parking

All parking (heavy and light vehicles) will occur on Site. No offsite parking is available at the Site.

7.4.5 Managing Road User Conflicts

A small proportion of the workforce traffic will continue to utilise the regional roads (i.e. such as Wilton Rd at Broughton Pass and Douglas Park Gorge on Douglas Park Drive) to travel between Appin North, Appin West, Appin East and other facilities. This is consistent with the current use of these roads. It is noted that the avoidance of traffic impacts on Douglas Park Drive in Douglas Park (which is located on the route between the regional roads and the AMVA Project) is the subject of an existing Project Approval condition (i.e. Condition 5 of Schedule 4,). Traffic related impacts at this location will continue to be managed in accordance with the Appin Mine Noise Management Plan, Appin

Mine Traffic Management Plan (TMP) and AMVA DCOC. Under these plans, IMC seeks to minimise road traffic noise generated by employee commuter vehicles on public roads.

Heavy vehicle movements will occur through the day. The transport routes involve the use of major arterial roads (e.g. Hume Highway, Picton Road, Camden Bypass, Old Hume Highway and Remembrance Driveway) and roads in semi-rural areas (e.g. Finns Road, Woodbridge Road and Menangle Road). The use of these roads therefore minimises potential conflicts associated with the local roads and impacts on residential areas.

The construction workforce trips do not coincide with the commuter morning and afternoon peak hours on the road network adjacent the Site and therefore no construction impacts are predicted to occur.

7.4.6 Transporting construction waste materials

All waste will be classified in accordance with EPA Waste Classification Guidelines (2014) prior to transport. Clause 70 of the *Protection of the Environment Operations (Waste) Regulation 2014* (Waste Regulation 2014) requires that:

- Waste that is transported by a motor vehicle or trailer, must be transported in a manner that avoids the waste spilling, leaking or otherwise escaping.
- Waste must be covered during transportation unless the waste consists solely of waste tyres or scrap metal.
- The motor vehicle or trailer used to transport the waste must be constructed and maintained so as to avoid the waste spilling, leaking or otherwise escaping from the motor vehicle or trailer.

7.5 Road Safety Audit

An independent and suitably qualified traffic consultant will be engaged to conduct a Road Safety Audit of the intersection of the Appin Mine Ventilation and Access Site entrance with Menangle Road, pre and post construction.

8. COMMUNITY CONSULTATION AND COMPLAINTS HANDLING

All communication with the key stakeholders, local community or media will be undertaken in accordance with IMC Stakeholder Engagement Management Plan (SEMP).

Information distributed to the community and other stakeholders will detail relevant construction information (e.g. progress, traffic disruptions and controls, out of hours works etc.) and will be provided through a range of channels which may include:

- Quarterly community newsletters, letterbox drops, open days and group tours.
- Community Consultative Committee (meets every two months).
- Menangle Advisory Panel.
- Individual meetings with residents.
- Content repository on the IMC website, updated as required.

IMC has a 24-hour, free community call line (1800 102 210) and email address (illawarracommunity@south32.net) which is displayed at all IMC Project and Mine Sites, and included in newsletters, letters and other correspondence. The call line is for all complaints and general enquiries regarding environmental or community issues associated with IMC's operations.

8.1 Stakeholder Consultation

In accordance with Condition 11 of Schedule 4A of the Project Approval, consultation was undertaken with the EPA, WsC and TfNSW in regard to the development of the Early Works CEMP and relevant subplans (Traffic, Noise, Air Quality). The Early Works CEMP was provided for comment on the 22nd April 2022 through the major projects portal with feedback to be provided by 18th May 2022. Evidence of consultation with relevant agencies as been provided through the Major Projects Planning Portal.

Table 11 provides a summary of the stakeholder consultation during the preparation of the Early Works CEMP, the comment received and where this has been addressed in the Early Works CEMP.

Table 11 Stakeholder Consultation Summary

STAKEHOLDER	SUMMMARY OF CONSULTATION
EPA (CEMP generally and Noise Management Plan)	IMC provided the Early Works CEMP for review to the EPA via the Major Projects Planning Portal on 22nd April 2022. A response was received on Monday, 2 May 2022 noting the EPA had reviewed the Early Works CEMP and had no further input.
TfNSW (Traffic)	IMC provided the Early Works CEMP for review to TfNSW via the Major Projects Planning Portal on 22nd April 2022. The target date for feedback was 18th May. IMC also emailed a copy of the CEMP to TfNSW at their request and attempted to undertake consultation via email and phone between April and May 2022. As of the 19th May 2022 no response or feedback was provided in relation to the Early Works CEMP. IMC undertook consultation with TfNSW in regard to Traffic Management and road design throughout the Modification assessment process.

	In addition, ongoing consultation with TfNSW is underway with regard to the intersection upgrade and related requirements through the local traffic committee.

Wollondilly Shire Council (Traffic)	IMC provided the Early Works CEMP for review to WsC via the Major Projects Planning Portal on 22nd April 2022. A response was received on 29th April 2022. No feedback on the Traffic Management Plan was included in the response. Other feedback received related to the following aspects:
	
	• Noise. WsC requested that IMC address Schedule 4a Conditions 11 (d) in relation to Blast Management.
	  • The scope of this Early Works CEMP as defined in Section 1.3.1 does not include blasting or any works related to this requirement. As such, this requirement will be addressed in subsequent plans in accordance with the staged approach to submission of management plans.
	• Sewage/effluent treatment: WsC request that any on-site sewage treatment should be considered in subsequent management plans.
	  • No onsite management or treatment of sewage is proposed in Early Works as defined in Section 1.3.1. All human waste will be disposed offsite as outlined in Section 4.8.1.

Details of the community consultation to be undertaken during construction of the AMVA Project can be found in Section 8.1.1.

8.1.1 Communication and Consultation Strategy

IMC's community consultation and communication is guided by the SEMP. The SEMP details the strategies used by IMC with regard to social management and stakeholder engagement in the areas in which IMC operate. IMC acknowledges that commitment to a systematic approach is required to achieve sound social performance and best practice community relations. Such a system provides order and consistency so that stakeholder engagement is addressed through the allocation of appropriate resources, assignment of responsibilities and ongoing evaluation of practices, procedures and processes.

To ensure that these mechanisms are working effectively and that stakeholder engagement strategies are meeting both IMC and stakeholder requirements, evaluation methods are also employed. Such evaluation is informed primarily by community and stakeholder surveys, but also community enquiries/feedback/complaints, community committees, information forums or other similar communications and engagement mechanisms.

The SEMP is managed by, and under responsibility of, the Principal Community and Specialist Community. The SEMP provides the foundation for the strategies on communication and consultation required under the SEMP.

A number of rural residential properties (sensitive receivers) are in the general location of the AMVA Project (

Figure 5-1). As these residential properties are the nearest to the AMVA Project, consultation will be undertaken with the applicable residents utilising the mechanisms detailed in Section 8.

8.2 Complaints, Enquiries and Disputes Procedure

Complaints and enquiries may also be received in person by any employee of IMC, with details to be immediately shared with the Community Team for investigation.

All complaints received are managed in accordance with the IMC Handling Community Complaints, Enquiries and Disputes Procedure.

Upon receipt of a complaint, preliminary investigations will commence as soon as practicable to determine the likely cause of the complaint using information such as meteorological conditions, activities being undertaken on Site at the time of the complaint and available monitoring data.

Additional monitoring may be undertaken to verify and validate concerns. An initial response will be provided to the complainant within 24 hours of the complaint being made, with a follow up response provided as soon as practicable once a more detailed investigation is complete. This may include the provision of relevant monitoring data, if requested.

A summary of all complaints received during the reporting year will be provided as part of the Annual Review. A log of complaints is also maintained on the South32 website at: https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents.

8.3 Non-Compliance Management

8.3.1 Non-Compliance, Corrective Action and Preventative Action

Events, non-compliances, corrective actions and preventative actions are managed in accordance with the IMC Reporting and Investigation Standard and Environmental Compliance/Conformance Assessment and Reporting Procedure. These procedures which apply to all IMC operations, detail the processes to be utilised with respect to event and hazard reporting, investigation and corrective action identification. The key elements of the process include:

- Identification of events, non-conformances and/or non-compliances.
- Recording of the event, non-conformance and/or non-compliance in the event management system G360.
- Investigation/evaluation of the event, non-conformance and/or non-compliance to determine specific corrective and preventative actions.
- Assigning corrective and preventative actions to responsible persons in G360.
- Review of corrective actions to ensure the status and effectiveness of the actions.

Exceedance or non-compliances with relevant criteria will be reported to all relevant agencies via the Annual Review and EPL Annual Return or notified in accordance with Section 8.3.2.

8.3.2 Notification of Pollution Incidents to Government Authorities and the Public

In accordance with, Condition 7 of Schedule 6 of the Project Approval and Condition R2 of EPL 2504, IMC is to notify the Planning Secretary, EPA and other relevant agencies of any incident that has caused (or threatens to cause) material harm to the environment. The process and contact numbers for these notifications is outlined in the Pollution Incident Response Management Plan (PIRMP). For any other incidents associated with the Project, the proponent shall notify the Planning

Secretary and any other relevant agency as soon as practicable after the becoming aware of the incident (refer to Section 9.1.5).

The EPA is to be notified immediately following detection by telephoning 131 555 and DPE by emailing compliance@planning.nsw.gov.au at the earliest opportunity.

Within 7 days of these notifications, a written report is to be provided to the Planning Secretary and other relevant agencies (in accordance with Schedule 6, Condition 7A of the Project Approval) and the EPA (in accordance with Condition R2.2 of the EPL).

9. REPORTING AND REVIEW

9.1 Reporting

The monitoring results associated with the Early Works CEMP (see Sections 4) are compiled and reported to internal and external stakeholders (as required). The reports include:

- 14-day report (compliance with EPL water quality conditions which is updated on the South32 website).
- Annual Review (for mining leases and Project Approval).
- Annual Return (for EPL).
- National Pollutant Inventory.
- Internal sustainability report.
- Periodic environmental and operational updates to the Community Consultative Committee.

The results of compliance monitoring undertaken in accordance with Sections 5.4.1 and 6.3 of the CEMP will be made available in the 14 day report included on the company website.

9.1.1 Annual Review

IMC will report on the AMVA Project environmental performance in the Appin Mine Annual Review.

The Annual Review is prepared in accordance with the requirement of Condition 4 of Schedule 6 of the Project Approval and is submitted to relevant agencies in September each year. Annual Reviews are made available to the general public via the South32 website.

9.1.2 Incident Notifications

The Planning Secretary will be notified in writing via the Major Projects website within 7 days after IMC becomes aware of an incident . The notification will identify the project (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Written notification of an incident must:

a) identify the project and application number;

b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident;

c) identify how the incident was detected;

d) identify when the Proponent became aware of the incident;

e) identify any actual or potential non-compliance with conditions of approval;

f) describe what immediate steps were taken in relation to the incident;

g) identify further action(s) that will be taken in relation to the incident; and

h) identify a project contact for further communication regarding the incident

9.1.3 Incident Reporting

Within 30 days of the date on which the incident[6]. occurred or as otherwise agreed to by the Planning Secretary, IMC will provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested. The Incident Report will include:

a) a summary of the incident;

b) outcomes of an incident investigation, including identification of the cause of the incident;

c) details of the corrective and preventative actions that have been, or will be, implemented to address; the incident and prevent recurrence; and

d) details of any communication with other stakeholders regarding the incident.

9.1.4 Exceedance/Non-compliance Notifications

The Secretary will be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance. The notification will identify the project and the application number for it, set out the condition of approval that the project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance

The website is:

https://www.planningportal.nsw.gov.au/major-projects.

The EPA should also be notified of the exceedance/non-compliance (via email).

9.1.5 Exceedance/Non-compliance Notifications

If an exceedance or non-compliance of an environmental performance criteria is confirmed, a notification is to be made by IMC in accordance with Condition 7 of Schedule 6 of the Project Approval via the DPIE Major Projects Planning Portal:

https://www.planningportal.nsw.gov.au/major-projects.

This notification is to be made as soon as practicable after becoming aware of the exceedanceThe EPA should also be notified of the exceedance/non-compliance (via email).

9.1.6 Notification of Landowners

If an exceedance of criteria listed in Schedule 4 of the Mine Approval is identified, IMC will in accordance with, Condition 1 of Schedule 5 of the Project Approval:

[6]The definition of an incident in accordance with the Project Approval is “A set of circumstances that causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this approval”.

- Notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
- Send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

9.2 Early Works CEMP Review

In accordance with Condition 5 of Schedule 6 of the Mine Approval, the Early Works CEMP will be reviewed, and if necessary revised, within three (3) months of:

- The submission of an Annual Review.
- The submission of an Incident Report.
- The submission of an Independent Environmental Audit report.
- Any modification to the conditions of the Mine Approval (unless the conditions require otherwise).

Outcomes from each review will be documented in the Management Plan Review Log. The CEMP will only be revised where a material change to site operations or environmental management has occurred, or in accordance with the review period on the CEMP. Administrative or descriptive changes do not constitute a material change. Where a review triggers a revision of the CEMP, the CEMP will be revised and submitted to the Planning Secretary for approval.

9.3 Audits

9.3.1 Independent Environmental Audit

In accordance with Condition 9 of Schedule 6 of the Project Approval, an Independent Environmental Audit (IEA) of the project shall be commissioned every three years, that will include a review of the Early Works CEMP. The audit report is required to be submitted to the Planning Secretary within six (6) weeks of completion of the IEA.

The most recent IEA was conducted in 2019, with the next IEA scheduled to be conducted in 2022. Recommendations from the IEA will be incorporated into the Early Works CEMP where appropriate.

9.3.2 Governance Reviews

Internal Governance Reviews of the Early Works CEMP are nominally undertaken on an annual basis.

APPENDIX A PERMIT TO DISTURB PROCEDURE (IMC DOCUMENT ID: IMCP0207)

SOUTH32 Illawarra Metallurgical Coal

PROCEDURE	
SITE: ILLAWARRA METALLURIGICAL COAL	DEPARTMENT: HSE
PERMIT TO DISTURB	
ORIGINATOR: S. Gale, Graduate Environment	IMCP0207
AUTHORISER: C. Schultz, Lead Environment POSITION	

1. PURPOSE

The Permit to Disturb (PTD) system is a written planning tool used to document the controls for managing risks created by any direct activity with the potential to disturb natural features or cultural heritage.

The purpose of this procedure is to describe the PTD system at South32 (S32) Illawarra Metallurgical Coal (IMC) within regulatory requirements, and related documentation and processes.

2. SCOPE

The PTD system applies to all personnel at IMC sites. This procedure explains the use of the PTD and specific permits as required by the referenced IMC controlled documents.

This document should be used when completing a PTD for any new land disturbances, or changes in land disturbance. It must ensure that not only is the clearing permissible, but it is allowed for the intended purpose.

Note – the PTD form does not negate the need for a Penetration Permit or Permit to Work (PTW). See Section 7.1.

3. REFERENCES

Appin Mine Project Approval 08_0150 (as modified) (the Approval)

Dendrobium Mine Development Consent 60-03-2001 (as modified) (the Development Consent)

Appin Mine Biodiversity Management Plan – BMP VS#6 & APN E

Appin Mine Surface Activities Management Plan – Surface MP

Appin Mine Project Environmental Impact Assessment – Report No 08257

Dendrobium Mine Project Environmental Impact Assessment – TJ476-01F02 Report (R11)

Coal Wash Emplacement Area Management Plan (CWEAMP) – WCPMP0019

Illawarra Coal Permit to Work (Standard) - ICHSTD0084

Permit to Work (PTW) – ICHF0018

Permit to Disturb Form - ICHF0209

Excavate/Penetrate Permit - APNF0282

Dendrobium Mine Landscape Management Plan – DENMP0045

Dendrobium Mine Mining Operations Plan (MOP) – DENMP0093

Appin Mine Mining Operations Plan 2020 – 2024 – APNMP0107

Consolidated Coal Leases (CCL) 768, 767 and 724

Mining Act, 1992

Mining Leases (ML) 1510 and 1566

4. DEFINITIONS

Term	Definition
BC Act	Biodiversity Conservation Act 2016
BSO	Bulli Seam Operation (referred to as Appin Mine)
CCL	Consolidated Coal Lease
Clearing (NSW DPIE definition)	Includes cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.
CWEA	Coal Wash Emplacement Area
DPIE	Department of Planning, Industry and Environment
EMS	Environmental Management System
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999. Enacted by the Parliament of Australia

Term	Definition
	that provides a framework for protection of the Australian environment, including its biodiversity and its natural and culturally significant places.
EPL	Environment Protection Licence
IMC	Illawarra Metallurgical Coal
Goulburn LLS	Goulburn Local Land Services
ML	Mining Lease
MOP	Mining Operations Plan
Project Supervisor and/or Contractor Supervisor	A person who is responsible for supervising works performed under the permit.
Permit Requester	A person who is responsible for planning and requesting a PTD
PTD	Permit to Disturb
PTD	Permit to Work
Take Two	A written check process performed prior to starting a task – Stop, Think, Plan
Task Analysis	An on the job risk assessment involving identifying job steps, hazards and required controls in addition to procedural controls.
TSC Act 1995	Threatened Species Conservation Act 1995. Enacted by the NSW Parliament to protect threatened species, populations and ecological communities in NSW. Replaced by the Biodiversity Conservation Act 2016.
Work Group	The workers who undertake the work defined by the PTW and supervised by the Job Supervisor.
Wollongong City Council (WCC)	Consent authority for the City of Wollongong local government area.
Wollondilly Shire Council (WSC)	Consent authority for the Wollondilly Shire local government area.

5. RESPONSIBILITIES

Role/Title	Responsibility	Authority
Permit Requester (Person planning the work)	• Determine if a PTD is required. • Review the site work plan activities and other active PTDs to ensure the work can be undertaken safely. • Prepare working documents to be issued with the PTD. • Complete the PTD Section 1 and discuss it with the Environment Representative.	▪ Issues the PTD to Environment Representative. ▪ Notifies the Area Owner
Manager HSE	• HSE departmental functions and activities	▪ Implement systems, controls and performance measures for the overall HSE function
Lead Environment	• IMC EMS. • IMC environmental management function and performance. • Management of environmental performance and compliance obligations.	• Senior environmental management representative ▪ Approve IMC EMS documentation
Project Supervisor (Permit Holder supervising the work)	• Complete Section 3 of the PTD. • Retain a copy of the approved PTD during the job. • Supervise the Operators and ensure the work group understand and follow the PTD. • Complete, handover or suspend the PTD	▪ Holds the PTD and supervises the work
Environment Representative (site based)	• Accept the PTD from the Permit Requester. • Complete the PTD Section 2 and discuss it with the Area Owner. • Complete Section 4 to approve the PTD. • Management of site environmental performance and compliance obligations • Undertake site inspections	• Retain a copy of the PTD for IMC records. ▪ Implement and review this procedure. ▪ Report environmental incidents and non-compliances
Specialist Land Management	• Obtain permissions for vegetation clearing on IMC owned non-operational land.	▪ Comply with relevant land management regulations

Role/Title	Responsibility	Authority
General Managers (site)	• Overall control and management of site operations • Site/operations compliance with legal and other requirements	• Management/approval of site systems, and processes
Operators (people performing the work)	• Start work only after receiving permission via a PTD • Follow the PTD & SWMS to control risks • Inform the Job Supervisor of any increased risks or incidents. • Stop work if risks cannot be controlled as planned.	• Complete work as per the PTD

6. PROCEDURE

6.1 Definition of Disturbance

Disturbance is classified as any direct activity with the potential to disturb natural features or cultural heritage. These include, but are not restricted to clearing of native vegetation, tree removal for bushfire hazard reduction works, construction works, and drilling exploration boreholes.

Clearing of native vegetation is listed as a key threatening process under the Biodiversity Conservation Act (BC Act) and land clearance is listed as a key threatening process under the Environment Protection and Biodiversity Conservation Act (EPBC Act). The NSW Department of Planning, Industry and Environment (DPIE) classifies clearing as including:

'cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.'

Types of disturbance can occur both on land located within the Approval/Development Consent or mining lease boundary, as well as land located outside the lease boundary. Any form of disturbance at S32 IMC must be conducted in accordance with the requirements of the:

- conditions of the Approval, Development Consent, licenses, leases, approvals, permits and other legal instruments for the subject area, and;
- approved PTD form and any additional approvals required.

For a summary of regulatory authorities and requirements for disturbance on operational and non-operational land, see Section 8.

For a summary of IMC Management Plans related to disturbance activities and the PTD process, see Appendix A (Section 8.5).

7. PERMIT TO DISTURB PROCESS

Key responsibilities and tasks associated with PTD process are shown in Table 1. Details are outlined in the sections below.

Table 1. Permit to disturb process summary

SECTION	ROLE	SUMMARY
1 – Project Details	Permit Requester	• Project outline • Supporting permits, approvals and documentation
2 – Environmental Assessment	Environment Representative	• Review of risks and controls • Inspection/s • Vegetation assessment (if applicable)
3 – Knowledge Transfer	Project Supervisor and/or Contractor Supervisor	• Awareness of permit conditions
4 – Permit Approval	Environment Representative	• Approval and upload of PTD documentation
5 – Operator Awareness	Operators	• Awareness of permit conditions
6 – Permit Completion	Environment Representative	• Review of work • Upload of completed PTD • Notification of non-compliances (if applicable)

7.1 Section 1 – Project Details

The requirement for a PTD must be considered as part of the Project Planning process.

The PTD should be received by the Environment Representative at least one week prior to works planned to be undertaken (preferably longer).

In some instances, the Environment Representative will be required to assist completing the Project Details. For example, if the Permit Requester is not familiar with the PTD procedure or requires assistance to complete planning and mapping to the appropriate standard.

If the above applies, the Permit Requester should liaise with the Environment Representative to complete the PTD. This may involve developing appropriate meta-data and maps for the work planned.

Note - For tree removal, a qualified arborist must be utilised. It is the responsibility of Surface Infrastructure to engage the contractors, and the Specialist Environment to issue the PTD.

7.1.1 Receival of Form

The Environment Representative will receive a PTD application with Section 1 completed by the Permit Requester. This sets out:

- Types of equipment being used, method for clearing/excavation and procedures to be followed.
- A detailed plan of the proposed works, including disturbance footprint, topsoil and sub-soil volumes, including stockpile locations (where applicable).
- Proposed rehabilitation associated with the work.
- Drill site number, geophysical line number and access track/s (for exploration activities only).
- Any additional information regarding the work to be undertaken.

7.1.2 Licenses Required

The Permit Requester is required to do a Dial Before you Dig and/or complete a Penetration Permit and other assessments to determine whether there are underground services.

Refer to Excavation/ Penetration permit – APNF0282:

http://ipick-illa.south32.net/appin/viewer.php?docID=17913

An Excavate / Penetrate permit shall be issued when work involves:

- Excavating - Trenching, hole digging, spiking, pole or post driving or drilling a hole into a wall ceiling or floor.
- Penetrating – Spiking, pile or post driving or drilling a hole in a wall, ceiling or floor.

Personnel who are required to carry out Excavation/Penetration work must be authorised for the work being conducted. A risk assessment and/or Task Analysis must be performed, with appropriate controls put in place, prior to work commencing.

A PTD may need to be accompanied by a Permit to Work (PTW).

PTW are used for specialised tasks without an existing work instruction. For example, it may be used for digging out stumps, or doing specialised rehabilitation associated with the disturbance.

Refer to the PTW Standard, available on iPick, for direction on when a PTW is required:

http://ipick-illa.south32.net/appin/viewer.php?docID=13763

Completion of this permit is by the Permit Issuer. Forms are available on iPick:

http://ipick-illa.south32.net/appin/viewer.php?docID=13762

Other instances where additional approvals may be required over and above a PTD are outlined in the form. These are summarised in Table 2.

Table 2. Additional permit and approvals

PERMIT/APPROVAL	USE
Controlled Activity Approval	If proposed works are within 40 metres of a watercourse.[1]
Tree Management Order	If undertaking works outside of existing approval/development consent defined area (e.g. outside surface lease).

[1] Activities carried in accordance with a lease, licence, permit or other right in force under the Mining Act (1992) is exempt from the need to obtain a Controlled Activity Approval. Further information on controlled activity approvals can be obtained from the NRAR website: https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities

PERMIT/APPROVAL	USE
Modification of Approval or Management Plan	If the activity includes clearing of endangered ecological communities or clearing that is not in accordance with the Project Approval or Development Consent.

7.1.3 *Review and Inspection*

Once Part 1 is complete, the Environment Representative should review the application against the requirements in Section 8.

An inspection/s of the work area must be undertaken to identify any other issues that may not have been included in the Project Outline.

Issues or additional required consents must be communicated to the Permit Requester. The Environment Representative may be required to assist to facilitate further approvals if necessary. It is noted that this may take weeks or months, depending on the planned location of disturbance and ecological community.

7.2 Section 2 – Environmental Assessment

The Environment Representative must complete Section 2 of the PTD.

Section 2 reviews all aspects associated with the activity, and project specific conditions and controls. Not all aspects to be considered will be relevant for all clearing activities, however they all need to be considered as part of the application.

The review includes considering controls for erosion and sedimentation, slope/bank stability, vegetation grubbing/mulching, salvage of topsoil and stockpiling/reapplication, replanting/seeding, weed control and dust control.

To complete Section 2, the Environment Representative confirms the necessary controls to execute the work have been identified.

If there needs to be variation, the Environment Representative must communicate with the Permit Requester, and amend the Permit Requester's scope of work and Section 1 appropriately.

7.2.1 *Vegetation Assessment*

A vegetation assessment can be completed in Section 2, or during Section 4 of the PTD. This can be undertaken by the Environment Representative handling the PTD form if

suitably trained, or another member of the Environment team who is. Alternatively, a contractor can be engaged to complete the vegetation assessment at the cost of the Permit Requester.

Note – Section 2 may also involve communications with the Approvals Team to confirm Section 1 and Section 2 of the PTD and associated documents are appropriately completed, and the planned activity is consistent with the relevant approvals.

The Community Team may also need to be informed for notifications to the community to be undertaken prior to commencing work.

7.3 Section 3 – Knowledge Transfer

Section 3 must be approved by the Project Supervisor and Contractor Supervisor. It is completed on the understanding that the Contractor Supervisor has been provided a copy of the permit, all necessary documentation, and is aware of the requirement to discuss the permit conditions with all operators prior to commencing work.

The Environment Representative will then distribute the approved form back to the Permit Requester and enter the work details in the PTD Register.

PTD Registers for Appin Mine and Dendrobium are available on iPick:

Appin Mine:
https://south32.sharepoint.com/sites/illawarra_au/corporate_functions/environment/Permit%20to%20Disturb%20%20BSO/Forms/All%20Documents.aspx
Dendrobium Mine:
https://south32.sharepoint.com/:f:/r/sites/illawarra_au/corporate_functions/environment/Land%20Management%20%20Dendrobium/Permit%20to%20Disturb%20Documentation?csf=1&web=1&e=GeMp2I

The work must be assigned a permit number, project name, and include any additional details required. The spatial data and figure of the project area must also be uploaded on Sharepoint.

If the application did not come with spatial data, the Environment Representative may be required to generate this for the Permit Requester.

7.4 Section 4 – Permit Approval

The permit must be signed by the Environment Representative on the basis that all key risks are understood by the Project Supervisor and/or Contractor Supervisor.

Once approved, the Environment Representative must upload a copy of the PTD documentation into SharePoint in the locations specified in Section 7.3.

If applicable, the necessary environmental surveys must be attached to the permit.

7.5 Section 5 – Operator Awareness

The Permit must be signed by all operators prior to commencement of work. Section 5 confirms that all operators understand and agree to work in accordance with the conditions specified in Section 2 of the Permit.

7.6 Section 6 – Permit Completion

At the completion of the work, the Permit must be returned to the Environment Representative by the Project Supervisor or Contractor Supervisor.

The Environment Representative completes Section 6 of the PTD once the work is complete to confirm the work has been undertaken within the scope of the approved Permit.

Any non-compliance with criteria in the PTD form identified after completing Section 6 must be reported in G360.

Refer to the 'Environmental Compliance/Conformance Assessment and Reporting Procedure' (IMCP0186):

http://ipick-illa.south32.net/IC/viewer.php?docID=3631

The Environment Representative must upload the completed PTD documentation into Sharepoint:

Appin Mine:
https://south32.sharepoint.com/sites/illawarra_au/corporate_functions/environment/Permit%20to%20Disturb%20%20BSO/Forms/All%20Documents.aspx
Dendrobium Mine:

https://south32.sharepoint.com/:f:/r/sites/illawarra_au/corporate_functions/environment/Land%20Management%20%20Dendrobium/Permit%20to%20Disturb%20Documentation?csf=1&web=1&e=GeMp2I

8. REGULATORY REQUIREMENTS

The PTD should be implemented in accordance with the requirements outlined below.

Most disturbance at S32 IMC is undertaken on operational land and is covered by the Project Approval or Development Consent.

For vegetation clearing on IMC-owned non-operational land outside the Development Consent or Project Approval, approval from external agencies may be required. See Section 8.4.

8.1 Appin Mining Area

A PTD is required for any disturbance completed on operational land under the Project Approval.

Small on-site disturbance is managed through the PTD process, and areas of planned disturbance will be assessed for biodiversity value as a component this process.

Commitments of the Project Approval relating to vegetation clearing are contained in Table 3.

Table 3. Appendix 1 of Appin Mine Project Approval, conditions relating to clearing

PROJECT APPROVAL, APPENDIX 1
Summary of Statement of Commitments – Biodiversity • *Biodiversity will be managed as per the relevant project assessment and/or management plans.* • *Projects will be designed and constructed to minimise the amount of clearing of native vegetation and mature trees where practicable.* • *A two-stage clearing process will be undertaken for the felling of any hollow bearing trees.* • *Where native vegetation has been cleared, rehabilitation activities will include representative native see where at all practicable.*

Emplacement vegetation clearing for the Coal Wash Emplacement Area (CWEA) is an approved activity under the Project Approval. Details are contained in the Coal Wash Emplacement Area Management Plan (CWEAMP). See Section 8.2.1.

8.1.1 *Shale-Sandstone Transition Forest*

The Shale-Sandstone Transition Forest (SSTF) and general clearing are covered by the Appin Mine Environmental Assessment.

SSTF in the Sydney Basin Bioregion is an Endangered Ecological Community (EEC) listed under the NSW Biodiversity Conservation Act 2016 (BC Act) and Commonwealth Environment Protection Biodiversity Conservation Act 1999 (EPBC Act)

The Project Approval allows for clearing of vegetation that is listed under the Threatened Species Conservation Act 1995 (now BC Act). Proposed surface disturbance sites should be located to avoid impacts to threatened flora species, where practicable.

The following is stated in the Appin Mine Environmental Assessment (2011):

'Clearing of EECs would also be avoided apart from some minor clearing in the widely distributed Shale/Sandstone Transition Forest EEC and the Moist Shale Woodland in the Sydney Basin Bioregion EEC, in which clearing would be kept to a maximum of 9 ha and 3 ha respectively.'

Additional measures to minimise impacts to these two EECs are described in Section 5.8.3 of the Appin Mine Environmental Assessment.

SSTF community is located at Appin West pit top, as shown in Figure 1.

Figure 1. Coverage of the SSTF community at Appin West.

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8.2 Dendrobium Mining Area

A Landscape Management Plan has been developed and outlines measures that will be implemented for the clearing of vegetation. See Section 8.5.4.

Clearing of native vegetation is part of the Dendrobium Environmental Impact Statement (EIS). According to the EIS:

'The Project would result in direct disturbance of approximately 28.5 ha of native vegetation for surface infrastructure, comprising:

- *18.8 ha for ventilation shaft sites;*
- *0.2 ha for Dendrobium pit top carpark extension;*
- *An allowance of 5.0 ha for service boreholes and associated infrastructure (which included allowance for clearing of a maximum of 1 ha of Shale Sandstone Transition Forest TEC); and*
- *An allowance of 4.5 ha for electricity supply to the ventilation shaft sites and associated infrastructure (which includes allowance for clearing of a maximum of 0.5 ha of Shale Sandstone Transition Forest).*

The proposed locations of the ventilation shaft sites were selected to avoid threatened flora species and, as far as practical, limit clearing of Shale Sandstone Transition Forest TEC.

Direct disturbance to native vegetation as a result of service boreholes would be short-term and actively rehabilitated during decommissioning.'

Disturbance at Cordeaux Colliery is regulated under CCL 768. As per the Dendrobium Mine and Cordeaux Colliery MOP, the PTD process will be followed for any clearing required at Cordeaux Colliery.

8.3 Exploration Activities

Prior to commencing any exploration within CCL768, a Review of Environmental Factors (REF) is prepared and submitted to WaterNSW and DPIE – Division of Resources and Geoscience for approval (Table 4 for contact details). All exploration activities by S32 IMC are performed under titles granted by the NSW Government. These titles have exploration conditions which require the prior approval of prospecting operations that cause more than minimal disturbance to the local environment.

While not always required by the Department, S32 IMC seeks exploration approval for most exploration activities. This is to reduce the risk of potential problems or delays.

8.3.1 *Catchment*

For drill rigs in Catchment, Landholders Permission from WaterNSW is required. Notification of drilling operations must be sent to the WaterNSW at least 28 days prior to commencement of drilling.

This notification should provide proposed co-ordinates for boreholes, plans of the exploration, including seismic lines and details of the approvals in place. A statement as to the use of blowout prevention on drill rigs should also be included.

A contractor is engaged to conduct a REF before exploration activity. These are located:

R:\REFs\Dendrobium REFs

Preparing a REF takes weeks if not months, depending on its complexity and number of boreholes and seismic lines it covers. The REF is sent to WaterNSW by the Exploration team. Once WaterNSW approves a program, a letter is provided with a document called "Determination & Activity Approval" that outlines the rules required for compliance.

Piezometers are installed in the groundwater monitoring holes (e.g. pre-mining and post-mining boreholes), and also in some exploration boreholes. Some boreholes are drilled for the purpose of groundwater monitoring in relation to Avon Dam, others to monitor the impact of mining (e.g. subsidence and groundwater). Piezometer array is provided by a consultant, then installed at different depths when the borehole is grouted upon completion of drilling, geophysical logging and packer testing.

For disturbance related to Exploration activities a PTD is not used, as it is already well documented in the REF.

The activity should be undertaken in accordance with 'DPI Environmental Management Principles: Exploration & Resource Assessment.' (ref EDG10: Surface Disturbance Notice for Exploration Activities).

Refer to 'Exploration Approvals' (ICAP0182):

http://ipick-illa.south32.net/cordeaux/viewer.php?docID=1164&url=%252Fcordeaux%252Findex.php%253FvieID%253D10%2526history%255B%255D%253D3

8.3.2 *Private Landholder Access Agreements*

Exploration undertaken on private properties is facilitated by the IMC Community Team.

A landholder agreement must be negotiated with special regard to any landholder requirements as to the agreed exploration site.

The IMC Community Team will be provided with details of the proposed site locations as soon as practical and notified of any site changes. They will secure access to the required sites by obtaining landholder agreements and liaise with any relevant authorities.

8.4 External Authorities

For activity outside IMC boundary, necessary external approvals, consents or permits must be in place to access the land and to undertake the planned activity.

For non-operational IMC-owned land, the Specialist Land Management is responsible for additional permit arrangements with Council or Local Land Services (LSS) authorities.

Express approval from relevant agencies (Table 4) must be gained (where required) for disturbance to be undertaken.

Table 4. External Agencies to be contacted

EXTERNAL AGENCIES	
DPIE – Division of Resources and Geoscience	Phone: 1300 736 122 Email: regionalnswmedia@doc.nsw.gov.au
Goulburn Local Land Services	Phone: 0429 816 939 Email: enquiry.southeast@lls.nsw.gov.au
WaterNSW (Sydney Catchment Authority)	Phone: 1300 662 077 Email: customer.helpdesk@waternsw.com.au
Wollondilly Shire Council	Phone: (02) 4677 1100 Email: council@wollondilly.nsw.gov.au
Wollongong City Council	Phone: (02) 4227 7111 Email: council@wollongong.nsw.gov.au

8.4.1 *Local Land Services*

Rural clearing is regulated under the Local Land Services Act 2013 (NSW) (LLS Act) and the NSW Local Land Services Regulation 2014 (LLS Regulation). Refer to *Local Land Services* for information about rural clearing.

The Goulburn LSS has jurisdiction over rural areas proximate to S32 IMC's Appin operations. If applicable, contact a Goulburn Local Land Services officer to discuss if tree removal or other disturbance is an allowable activity.

8.4.2 *Wollondilly Shire Council*

Requirements for removal of trees and clearing of native vegetation or other form of vegetation within Wollondilly requires Council consent unless it meets an exemption.

Conditions and forms are available on the Wollondilly Shire Council website:

https://www.wollondilly.nsw.gov.au/lifestyle/tree-management/trees-private-property/

The Specialist Land Management must complete a Wollondilly Shire Council Tree Management Form.

The associated fee must be paid once a positive response is received.

The Tree Management Form must then be signed by two Directors, or one Director and a Statutory Declaration signed by a Justice of the Peace to gain approval.

8.4.3 *Wollongong City Council*

Requirements for disturbance within the Wollongong City Council area are available on the Wollongong City Council website:

https://council.wollongong.nsw.gov.au/services/household/trees/Pages/lodgeatmp.aspx#q ref

For tree removal, the Specialist Land Management must complete a Tree Management Form and pay the associated application fee.

Tree Management forms are available on the Wollongong City Council website:

https://wollongong.nsw.gov.au/book-and-apply/trees-and-your-property

A response will arrive within 10 working days of submitting the form.

To finalise the application, the response must be returned after being signed by a Director or Power of Attorney.

8.5 Appendix A – Associated Management Plans

The following IMC Management Plans provide further information on disturbance activities on operational land and the PTD process.

8.5.1 Coal Wash Emplacement Management Plan (CWEAMP)

Emplacement vegetation clearing for the Coal Wash Emplacement Area (CWEA) is an approved activity under the Project Approval. It is outlined in the Coal Wash Emplacement Management Plan (CWEAMP).

The CWEAMP is available on the S32 IMC website:

https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents

Progression of the emplacement is undertaken using a two-stage clearing process.

Prior to the first stage, the Environment Representative will typically identify all potential fauna habitat that should be retained (where safe and practical). They will attend the site, inspect habitat features (such as hollows and rock outcrops) and map, flag and photograph features to be retained until stage two of the clearing regime.

Prior to the second stage of clearing, the Environment Representative will identify, capture and release areas for fauna which may be captured during the vegetation clearing process.

Immediately following the second stage of clearing, the Environment Representative will systematically check all felled habitat trees for any remaining fauna.

8.5.2 Appin Mine Surface Activities Management Plan

The Appin Mine Surface Activities Management Plan outlines activities requiring a PTD. These include, but are not restricted to, tree removal for bushfire hazard reduction works, construction works, exploration boreholes and other on-site disturbance.

The Appin Mine Surface Activities Management Plan is available on the S32 IMC website:

https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents

8.5.3 Appin Mine Biodiversity Management Plan

As described in Appin Mine Environmental Assessment, the Biodiversity Management Plan outlines management measures to be implemented at sites where vegetation clearance is necessary.

Clearing of SSTF is managed under the Appin Mine Biodiversity Management Plan. This includes management actions associated with completing the PTD. However practically, it must be ensured that:

- The intent of the clearing aligns with the Management Plan.
- Clearing does not vary at all from the approved plan.
- If there is a variation, further approval is required.

The Appin Mine Biodiversity Management Plan is available on the S32 IMC website:

https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents

8.5.4 *Dendrobium Landscape Management Plan*

In accordance with the Development Consent, a Landscape Management Plan has been developed and outlines measures that will be implemented for the clearing of vegetation including:

- Disturbance of land is minimised to reduce the risk of soil erosion and sediment contamination.
- Disturbed areas will be stabilised as soon as practical with suitable vegetation species.
- Vegetation will be managed to provide vegetative screening between the site and the local community.
- Bushfire hazard reduction works, including the removal of trees and undergrowth, will be undertaken periodically to reduce the risk to site infrastructure from bushfire.
- Weed control will be undertaken to eradicate noxious weeds and progressively control other weeks present on site in accordance with accepted bush regeneration and landscape methods.
- Permit to Disturb process will be followed when clearing.

No activities associated with Dendrobium Mine are undertaken within the boundaries of World Heritage properties or International Union for the Conservation of Nature (IUCN) Protected Areas Categories I-IV, or where impacts would result in the extinction of species listed by the IUCN as being threatened with extinction.

The Dendrobium Mining Area is located under the WaterNSW Metropolitan Special Area - Schedule 1 Protected Lands and the Illawarra Escarpment State Conservation Area.

The Dendrobium Mine Land Management Plan is available on iPick:

http://ipick-illa.south32.net/dendrobium/viewer.php?docID=3740

REVIEW HISTORY

DATE	VERSION	BY	REASON
10/06/2020	1.0	P. Barlow, J. Carlon, B. Davis, S. Gale, T. McMahon, P. Pigozzo and C. Schultz	New Document
21/10/2020	1.1	S Abercrombie	Removal of reference ICHMP0241 (obsolete) and replaced with APNMP0107.

APPENDIX B PERMIT TO DISTURB FORM (IMC DOCUMENT ID: ICHF0209)

Permit to Disturb (Vegetation/Land/Heritage)

SOUTH32 Illawarra Coal

PERMIT NO: (Issued by Environment Representative)	IMC SITE / PROJECT NAME	
IT IS THE RESPONSIBILITY OF THE PROJECT SUPERVISOR TO RETAIN A COPY OF THE APPROVED PERMIT DURING THE JOB. IT IS THE RESPONSIBILITY OF THE ILLAWARRA METALLURGICAL COAL (IMC) ENVIRONMENT REPRESENTATIVE TO RETAIN A COPY OF THE APPROVED PERMIT FOR IMC RECORDS.		

SECTION 1 – PROJECT DETAILS (to be completed by person requesting permit)		
Name: (Permit will be issued to this person)		Phone:
Dept/Company Name:		
Start Date:	Finish Date:	Request Date:
TYPE OF ACTIVITY (tick all applicable):		
☐ Vegetation Clearing	☐ Work within or in proximity to natural watercourses	☐ Exploration (seismic lines, access tracks, drill sites/pads/mud pits)
☐ Land Disturbance	☐ Cultural site/structure	☐ Other (specify)

Additional approvals may be required over and above this Permit.
- Controlled Activity Approval - if proposed works are within 40 metres of a watercourse.
- Tree Management Order - if undertaking works outside of existing development consent defined area (e.g. outside surface lease areas).
- Modification of Approval - if the activity includes clearing of endangered ecological communities.

The Environment Team will be able to assist with these approvals. Note that this is likely to delay the commencement of work and sufficient time is to be allowed for in the work schedule.

DETAILED DESCRIPTION OF WORK to include:
- Types of equipment being used, method for clearing/excavation and procedures to be followed.
- A detailed plan of the proposed works, including disturbance footprint, topsoil and sub-soil volumes, including stockpile locations (where applicable).
- Proposed rehabilitation associated with the work.
- Drill site number, geophysical line number and access track/s (for exploration activities only).
- Any additional information regarding the work to be undertaken.

Note: Scope of Work/project documentation to be referenced and attached to Permit to Disturb if insufficient space.

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Permit to Disturb (Vegetation/Land/Heritage)

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SECTION 2 – ENVIRONMENTAL ASSESSMENT (to be completed by IMC Environment Representative)		
Is the detail provided in Section 1 sufficient and is all required information listed provided with the application?	☐ YES	☐ NO
ASPECTS TO BE CONSIDERED	**Y / N / NA**	**Comment**
Does the plan include operational disturbances required for access, earthworks, stockpile locations etc.?		
Does IMC have tenure through land ownership, occupancy, lease, contract or agreement to undertake the planned activity? (Survey to be undertaken to confirm boundary line if doubt exists).		
Are necessary external approvals, consents or permits in place to access the land and to undertake the planned activity?		
Is the activity consistent with the Mining Operations Plan and the relevant Development Consent/Project Approval?		
Is there adequate clearing allocation for the project?		
Are Landholder Access Agreements in place? (e.g. private landowners or other stakeholders).		
Have relevant agents, agencies, authorities, stakeholders or landowners been consulted where required? If yes, who?		
Does the disturbance relate to Exploration activities? (If so, the activity will be undertaken in accordance with DPI Environmental Management Principles: Exploration & Resource Assessment. (*ref EDG10: Surface Disturbance Notice for Exploration Activities. Note: refer to 'Exploration Title Management' (ICAP0097)*).		
Have necessary environmental (e.g. flora, fauna, aquatic) or cultural (e.g. Aboriginal heritage) impact assessments been undertaken? If applicable, these need to be attached to this permit.		
Is vehicle hygiene a concern for the project? Are vehicles required to be cleaned pre and/or post activities?		
Is the area to be cleared required to be surveyed and demarcated?		
Are clearing buffers in place to avoid potential impact to nearby sensitive receptors?		
Has a review of previous flora/fauna surveys within the proposed disturbance footprint been undertaken to determine whether threatened and/or endangered species and/or potential habitat have been previously identified? (If no previous surveys have been undertaken, a survey is to be arranged).		
ADDITIONAL CONSIDERATIONS:	**Y / N / NA**	**Comment**
Has a two-stage clearing process for areas where there is potential habitat (i.e. hollow-bearing trees) been considered?		
Have alternate sites that are already disturbed been considered when selecting the proposed location?		
Has the impact on surrounds (dust, noise, community, access) been considered and addressed adequately in project plan?		
For large-scale clearing activities, has boundary clearing been considered?		
Has an effective drainage design to control runoff been incorporated into the project plan? Sediment control plan to be attached where applicable.		

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Permit to Disturb (Vegetation/Land/Heritage)

SOUTH32 Illawarra Coal

PROJECT SPECIFIC CONDITIONS/CONTROLS

SECTION 3 – KNOWLEDGE TRANSFER (to be completed by Project Supervisor and/or Contractor Supervisor)		
REQUIREMENT	Confirmed?	Comment
Area has been walked/driven by Project Supervisor and Contractor Supervisor.		
Contractor Supervisor has been provided with a copy of this permit and all attachments (including copies of plans and previous flora/fauna surveys etc).		
Contractor Supervisor has been briefed and understands the requirements of the permit.		
Contractor Supervisor is aware of requirement to discuss permit conditions will all operators prior to commencing work.		
SIGNED (PROJECT SUPERVISOR)		
SIGNED (CONTRACTOR SUPERVISOR)		

Note: Work approved under this Permit is not permitted to commence until the requirements in Section 3 have been confirmed.

SECTION 4 – PERMIT APPROVAL (to be completed by Environment Representative)		
REQUIREMENT	Confirmed?	Comment
Area inspected and confirmed that key risks are understood by Project Supervisor and Contractor Supervisor.		
Copy of permit loaded into Documentum. (Environment/Land Management/<Site Name>/Permit to Disturb)		
SIGNED (ENVIRONMENT REPRESENTATIVE):		

Note: Work approved under this Permit is not permitted to commence until the requirements in Section 4 have been confirmed.

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Permit to Disturb (Vegetation/Land/Heritage)

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SECTION 5 – OPERATOR AWARENESS (to be completed by ALL operators prior to commencement of works)		
▪ I understand the conditions of this Permit and all associated environmental considerations. ▪ I agree to work in accordance with relevant procedures and project conditions as specified in Section 2. ▪ I will stop work immediately if any unplanned disturbance or impacts occur and report details to the Contractor Supervisor and Environment Department immediately.		
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:
Name:	Signed:	Date:

PERMIT TO BE RETURNED TO IMC ENVIRONMENT REPRESENTATIVE ON COMPLETION OF PROJECT.

SECTION 6 – PERMIT COMPLETION (to be completed by Environment Representative)	
Has the disturbance been undertaken in compliance with the conditions of the Permit i.e. all project specific conditions/controls have been undertaken/implemented? (If no, event report to be completed and actions to address non-compliance to be assigned).	☐ YES ☐ NO
Event number for non-compliance (if applicable):	
Have rehabilitation works (if required) been completed and monitoring program established? (If no, program for these works to be provided to Environment Representative and Permit not to be signed off until complete).	☐ YES ☐ NO ☐ N/A
Copy of completed Permit saved in Documentum. (Environment/Land Management/<Site Name>/Permit to Disturb)	☐ YES
SIGNED (ENVIRONMENT REPRESENTATIVE):	
DATE:	

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APPENDIX C DRIVERS CODE OF CONDUCT)

SOUTH32 Illawarra Metallurgical Coal

STANDARD	
SITE: Appin Mine Ventilation and Access Project	DEPARTMENT: Environment and Community
AMVA DRIVERS CODE OF CONDUCT	
ORIGINATOR:	
AUTHORISER: Chris Schultz POSITION Lead Environment	

1. PURPOSE

The Appin Mine Ventilation Shaft and Mine Access (AMVA) Drivers' Code of Conduct is a component of the Construction Environmental Management Plan for the construction period of the AMVA project. The aim of the Drivers' Code of Conduct is to minimise the impacts of traffic associated with the AMVA on local residents by reducing noise and limiting traffic, resulting in a safer traffic environment for the whole community. All employees, visitors and contractors engaged to work at the AMVA site are required to drive in a responsible manner and adhere to the requirements of the Drivers' Code of Conduct.

2. ALLOWABLE TRAVEL TIMES

NO VEHICLES (other than personnel passenger vehicles transporting people to/from and/or between the mine's workplaces) are to travel to or from the AMVA site location outside of the allowable travel times in the table below (except in cases of emergency). **These hours also apply during school holidays. There are no allowable travel times on Sundays and Public Holidays.**

Allowable Travel Times	
Monday to Friday	6.00 – 18.00
Saturday	7.00 – 14.00

Personnel passenger vehicles are defined as vehicles used to transport people to and from work, including trades persons required to travel with their tools of trade in work vehicles to get to and from work. Although personnel passenger vehicles may travel outside of the allowable times, personnel are strongly encouraged to plan their work so travel is not required outside of the allowable times.

Heavy vehicle movements to and from the site, with the exception of concrete deliveries for approved after hours shaft sinking activities, are restricted to within the following times:

- 7.00am to 6.00pm, Monday to Saturday
- No movements on Sunday or Public Holidays

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3. OTHER REQUIREMENTS

You **MUST NOT:**

- Bring oversize trucks or loads without necessary approvals and controls.
- Exceed the maximum sign-posted speed limits on any roads.
- Turn right leaving site.
- Overtake in awkward, inappropriate situations or where vision is limited.
- Throw rubbish out of your vehicle as you are travelling.
- Travel through Douglas Park township[1] and through Douglas Park gorge (Douglas Park Drive between Blades Bridge and Mitchell Place)[2]
- Travel along Finns Road with GVM of >15 tonnes.

You **MUST**:

- Access site through the preferred routes shown in Figure 7-1 of the Construction Environmental Management Plan – Early Works.
- Hold a current and valid driver licence for the class of vehicle that you operate.
- Adjust your driving to the road conditions (slow down in wet conditions and on narrow roads).
- Demonstrate driver courtesy.
- Limit the use of compression braking (except where it is not safe to do so).
- Comply with the road rules pertaining to your vehicle.
- Comply with site parking (i.e. not on the side of public roads), speed limits and traffic management requirements.
- Drive in a manner that minimises vehicle noise.
- Ensure that loads are covered (where required), properly secured and no loose items can dislodge from trays.

The map provided in Figure 6.1 of the Construction Environmental Management Plan – Early Works shows the location of the:

- Preferred travel routes.

4. RECORDING OF BREACHES

South32 Illawarra Metallurgical Coal (IMC) will rely on both internal (via employees and management) and external (via the public) avenues when monitoring compliance to the Code.

[1] Unless in support of local business(i.e. local service station, pharmacy, general store etc.). or where commuting to and from work where the commuter lives in the local area.
[2] Unless travelling between IMC site's for work purposes.

A free 24-hour Community Call Line (1800 102 210) and email (illawarracommunity@south32.net) is in place for local residents to lodge complaints against any driver observed contravening this Code. All complaints are investigated, and disciplinary action may be taken. Breach notices may also be issued. Complaints pertaining to a breach of the Code are included in the complaints report published to South32's website - www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents.

Event reports will be completed by relevant IMC personnel where breaches of the Code have been identified.

5. PENALTIES FOR NON-COMPLIANCE

If a person or company is found to be acting contrary to this Code, disciplinary action may be taken. This will include, but not be limited to:

- 1st occurrence – warning letter.
- 2nd occurrence – warning letter and suspension of driver from site for a defined period.
- 3rd occurrence – final warning letter and review of the person's or company's continued working association with IMC.

Breaches will be recorded in the event recording system (G360) to assign actions and conduct investigations. Note that these breach notices apply over a 12-month rolling period. Opportunities to audit against attainable location technology in relevant vehicles will also be utilised for investigatory reasons.

IMC reserves the right to review a person's or company's continued working association with the mine following any breaches of the Code.

6. REVIEW HISTORY

DATE	VERSION	BY	REASON
21/03/2022	1.0	Chris Schultz	For Issue