Newcastle Logistics Precinct – Intertrade Project

Environmental Impact Statement

July 2026

NSW GOVERNMENT



Artist impression of Newcastle Logistics Precinct. Indicative only.

Acknowledgement of Country

The Energy Corporation of New South Wales acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and we show our respect for Elders past and present through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Newcastle Logistics Precinct – Intertrade Project

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Declaration

PROJECT DETAILS	
Project name	Newcastle Logistics Precinct – Intertrade
Application number	SSI-82049456
Land on which the infrastructure is to be carried out	99 Selwyn Street, Mayfield North NSW 2304 (Lot 332 DP1176879), part of Lot 53 DP 1229869, Lot 54 DP 1229869 and Lot 38 DP 1191723, and part of Selwyn Street.
PROPONENT DETAILS	
Proponent name	Energy Corporation of NSW (referred to as EnergyCo)
Proponent address	Level 7, 255 George Street Sydney, NSW, 2000
DETAILS OF PERSON BY WHOM THIS EIS WAS PREPARED	
Name	Caitlin Bennett (Technical Executive) (WSP Australia Pty Ltd)
Address	Level 27, Ernst & Young Centre 680 George Street Sydney NSW 2000
DECLARATION BY REGISTERED ENVIRONMENTAL ASSESSMENT PRACTITIONER	
Name	Mark Maund
Registration number	52459
Organisation registered with	Planning Institute of Australia
Declaration	The undersigned declares that this EIS: • has been prepared in accordance with the Environmental Planning and Assessment Regulation 2021; • contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates; • does not contain information that is false or misleading; • addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project; • identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments; • has been prepared having regard to the Department's *State Significant Infrastructure Guidelines – Preparing an Environmental Impact Statement* (DPHI, 2026a); • contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development; • contains an accurate summary of the findings of any community engagement; • contains a consolidated description of the project in a single chapter of the EIS; and • contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.
Signature	
Date	27.07.2026

Glossary

Term	Definition
Construction footprint	Area impacted by construction of the project, comprising around 47 hectares including the project site (excluding western extent of Steel Works Road), land within the Port of Newcastle lease area and part of Selwyn Street.
Design vehicle	a heavy vehicle transporting a wind turbine blade up to 100 metres long.
Main logistics precinct	A hardstand area of around 31 hectares that would be used for unloading, loading and storage of materials and equipment including (but not limited to) wind turbine components, transformers, synchronous condensers and other equipment associated with renewable energy projects.
Mayfield 4 Berth	An existing berth within the Port of Newcastle located to the east of the project site.
Newcastle Steelworks Memorial and Monument	Memorial sites constructed in 1999 and 2015 which commemorate the workers and operations of the former BHP Steelworks. The sites are located in the south-west of the project site, outside of the construction and operational footprints.
Northern access	A new site access point from Steel Works Road to the main logistics precinct.
Operational footprint	Area impacted by the operation of the project, comprising around 44 hectares and wholly contained within the project site.
Port of Newcastle lease area	A 792 hectare port lease area managed by the Port of Newcastle.
The project	the Newcastle Logistics Precinct – Intertrade Project, a new logistics facility adjacent to the Port of Newcastle lease area that provides additional storage and transport loading areas to support the supply chain logistics for critical transmission, generation, firming and storage projects which require equipment arriving through the Port of Newcastle.
The project site	99 Selwyn Street, Mayfield North NSW 2304 (Lot 332 DP 1176879).
Related development	development that responds to the opportunities created by the project or is required because of the project.
Renewable Energy Zone	A geographic area of high renewable energy resource potential that has been identified and declared under the *Electricity Infrastructure Investment Act 2020*).
Southern access (central)	a new internal access road located between Roll Shop Road and Administration Drive that would connect the main logistics precinct to Selwyn Street.
Southern precinct	The southern precinct currently comprises an internal road network with a number of vacant buildings and structures associated with the former BHP Steelworks. The southern precinct would include an open hardstand area that would be used for unloading, loading and storage of non OSOM materials and equipment associated with renewable energy projects.

Abbreviations

Term	Definition
ABS	Australian Bureau of Statistics
Administration Precinct	Newcastle BHP Administration Precinct (as listed on the State Heritage Register)(SHR# 02115)
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AHA	Aboriginal Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AIP	NSW Aquifer Interference Policy
Air NEPM	National Environment Protection (Ambient Air Quality) Measure 2021
ALARP	as low as reasonably practical
ANZG	Australian and New Zealand Guidelines
Approved methods	*Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*
AQF	Australian Qualifications Framework
AQMS	Air Quality Monitoring Station
ARTC	Australian Rail Track Corporation
AS	Australian Standard
ASL	AusEnergy Services Limited
AVaTG	Assessing Vibration: a technical guideline
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
BESS	battery energy storage system
BH	borehole
BHP	Broken Hill Proprietary Company Limited
Biodiversity and Conservation SEPP	State Environmental Planning Policy (Biodiversity and Conservation) 2021
The 'Blue Book'	Volume 1 of Managing Urban Stormwater: Soils and Construction (Landcom, 2004)
BS	British Standard
CASANZ	Clean Air Society of Australia and New Zealand
CBD	central business district

Term	Definition
CCFMG	Correct Consultation for Mayfield Group
CEMP	Construction Environmental Management Plan
CLM Act	*Contaminated Land Management Act 1997*
CMSC Act	*Coal Mine Subsidence Compensation Act 2017*
CNVMP	construction noise and vibration management sub-plan
CO	carbon monoxide
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
CPCMG	Correct Planning and Consultation for Mayfield Group
CPHR	Conservation Programs, Heritage and Regulation
CSMP	Contaminated Site Management Plan
CSSI	critical state significant infrastructure
CWO REZ	Central West Orana Renewable Energy Zone
DAFF	Department of Agriculture, Fisheries and Forestry
dB	decibel
dBA	A-weighted decibel
DCP	development control plan
DEC	Department of Environment and Conservation (former)
DCCEEW	(NSW) Department of Climate Change, Energy, the Environment and Water
DEWHA	Department of the Environment, Water, Heritage and the Arts (former)
DISER	Department of Industry, Science and Resources
DITRDCSA	Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
DPE	Department of Planning and Environment (former)
DPIE	Department of Planning, Industry and Environment (former)
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EnergyCo	Energy Corporation of NSW
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPIs	environmental planning instruments

Term	Definition
EPLs	environment protection licences
ESCPs	erosion and sediment control plans
eSPADE	NSW Soil and Land Information System
EUA Act	*Energy and Utilities Administration Act*
FM Act	*Fisheries Management Act 1994*
FTE	full-time equivalent
GDE	Groundwater Dependent Ecosystems
GHG	greenhouse gas
Groundwater Assessment Toolbox	Groundwater Assessment Toolbox for Major Projects in NSW
HCCDC	Hunter and Central Coast Development Corporation
Heritage Act	*Heritage Act 1977*
HEVAE	High Ecological Value Aquatic Ecosystems
HIPAP 4	Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning
HIPAP 6	Hazardous Industry Planning Advisory Paper No 6 – Guidelines for Hazard Analysis
IACA	Institute of Australian Consulting Arboriculturists
IAP2	International Association for Public Participation
IAQM	Institute of Air Quality Management
IBRA	Interim Biogeographical Region of Australia
ICOMOS	International Council on Monuments and Sites
IMDG	International Maritime Dangerous Goods
Intertrade CSMP	Intertrade Contaminated Site Management Plan
IPCC	Intergovernmental Panel on Climate Change
ISP	2026 Integrated Systems Plan
km/h	kilometres per hour
kV	kilovolt
kW	kilowatt
LALC	Local Aboriginal Land Council
LEMP	Long-term Environmental Management Plan
LEPs	local environmental plans
$L_{eq(15\ min)}$	A-weighted equivalent continuous sound level measured over a 15-minute period
LGA	local government area

Term	Definition
LoS	level of service
LSPS	Local Strategic Planning Statement
LUSS	Land Use Safety Study
m	metre
m^3	cubic metre
m AHD	metres above Australian Height Datum
m BGL	metres below ground level
mm	millimetre
MIEA	Mayfield Industrial Estate Association
MNES	matters of national environmental significance
MW	monitoring well
National EPA	National Environmental Protection Agency. The National EPA are now responsible for the environmental and approval functions under the EPBC Act which were formerly undertaken by the Commonwealth DCCEEW.
NBN	National Broadband Network
NCA	noise catchment area
NCIG	Newcastle Coal Infrastructure Group
NEM	national electricity market
NIHA	Newcastle Industrial Heritage Association
NIS	NSW Network Infrastructure Strategy
NML	noise management level
NO_X	oxides of nitrogen
NO_2	nitrogen dioxide
NP&W Act	*National Parks and Wildlife Act 1974*
NPfI	*Noise Policy for Industry*
NPI	National Pollutant Inventory
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NSW Road Rules	*NSW Road Rules 2014*
NSW WQO	NSW Water Quality Objectives
NZGOP	NSW Net Zero Government Operations Policy
O_3	ozone
OECC	Office of Environment and Climate Change (former)

Term	Definition
OEH	Office of Environment and Heritage (former)
OEMP	Operational Environmental Management Plan
OOH	out of hours
OSOM vehicles	oversize and/or overmass vehicles
PAD	Potential Archaeological Deposit
PAH	polycyclic aromatic hydrocarbons
PCT	plant community type
PDNSW	Property and Development NSW
PFAS	per- and poly-fluoroalkyl substances
PHA	Preliminary Hazard Analysis
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
$PM_{2.5}$	particles less than 2.5 micrometres in diameter
PM_{10}	particles less than 10 micrometres in diameter
PMF	Probable Maximum Flood
PNTL	project noise trigger level
POEO Act	*Protection of the Environment Operations Act 1997*
PON	Port of Newcastle
pug mill	a continuous mixing machine designed to combine materials into a uniform mixture
Ramsar Convention	Convention on Wetlands of International Importance adopted in 1971
RAP	Registered Aboriginal Parties
RAQST	Roadside Air Quality Screening Tool
RAV	Restricted Access Vehicles
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
REZ	renewable energy zone
RNP	*NSW Road Noise Policy*
Roads Act	*Roads Act 1993*
SA3	statistical area level 3
SEARs	Secretary's Environmental Assessment Requirements
SEPPs	State Environmental Planning Policies
SES	State Emergency Services
SIA	social impact assessment
SIA Guideline	*Social Impact Assessment Guideline for State Significant Projects*

Term	Definition
SIA Technical Supplement	*Technical Supplement Social Impact Assessment Guideline for State Significant Projects*
SO_2	sulfur dioxide
SOC	state of charge
SSI	State significant infrastructure
SSP	Shared Socioeconomic Pathway
STARS	Significance of a Tree, Assessment Rating System
SVTM	State Vegetation Type Map
t	tonne
TPP	Tree Protection Plan
TPS	Tree Protection Specification
Transport and Infrastructure SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
TSP	total suspended particulates
UCL	Urban Centre and Localities
UFP	unexpected finds procedure
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VENM	Virgin Excavated Natural Material
VOC	volatile organic compounds
WARR Act	*Waste Avoidance and Resource Recovery Act 2001*
Waste Classification Guidelines	*Waste Classification Guidelines*
Waste Regulation	Protection of the Environment Operations (Waste) Regulation 2014
WBCSD	World Business Council for Sustainable Development
WM Act	*Water Management Act 2000*
WMP	Work Management Plan
WMS	work methods statement
WRI	World Resources Institute
°C	degrees Celsius
µg/m^3	micrograms per cubic metres
2017 LUSS	Port of Newcastle Land Use Safety Study (AECOM, 2017)
2023 LUSS	Port of Newcastle Land Use Safety Study (RiskCon Engineering, 2023)

Summary

Overview

The Energy Corporation of NSW (EnergyCo) is proposing the construction and operation of the Newcastle Logistics Precinct – Intertrade Project (the project). The project is located at 99 Selwyn Street, Mayfield North (the project site). The project site is owned by the NSW Government (Property and Development NSW) and is located within the Newcastle local government area (LGA) and Awabakal Local Aboriginal Land Council (LALC).

The project would be used for unloading, loading and storage of materials and equipment including (but not limited to) wind turbine components, transformers, synchronous condensers and other equipment associated with renewable energy projects. This includes potentially hazardous materials and equipment such as battery energy storage system (BESS) components.

The project supports the NSW Government's objectives to accelerate the energy transition by providing critical infrastructure to support the development of large-scale renewable energy projects within the renewable energy zones (REZs) and non-REZ areas. The project aims to improve availability of sufficient port side storage required to support the supply chain of equipment to be used on renewable energy and REZ transmission projects as well as maximise efficiency of logistical movements given limited hardstand available within the Port of Newcastle lease area.

The project

Key components of the project would include:

- hardstand areas in the main logistics and southern precinct that would be used for the unloading, loading and storage of materials and equipment for renewable energy developments
- operation of mobile equipment comprising forklifts, reach stackers, cranes and heavy vehicles for movement of materials and equipment for renewable energy projects
- associated stormwater drainage infrastructure to manage stormwater flows and water quality across and around the main logistics precinct
- internal roads including new access and egress points to the project site and new structures over existing drainage channels to provide vehicular access to/from the main logistics precinct
- use of the existing Roll Shop building to provide all weather storage for smaller components, dangerous goods, mobile heritage items and maintenance and servicing equipment
- staff amenity buildings, carpark and other ancillary infrastructure within the southern precinct to facilitate operation of the project.

Once the renewable energy components have been loaded onto heavy vehicles at Mayfield 4 Berth, the heavy vehicles would travel to the project via internal port roads and/or Selwyn Street. Once within the project site, cranes, reach stackers and forklifts would unload and temporarily store the components at designated storage areas for a period before being loaded onto heavy vehicles for transport offsite.

Heavy vehicles and their escort vehicles (where required) would travel to locations within NSW REZs and other renewable energy projects. These vehicles would depart and return to the project via Selwyn Street.

The project would operate 24 hours, seven days a week. However, operations would not occur continuously but rather on a campaign basis dependent on the delivery of components. For OSOM vehicles, movements between the project site to renewable energy projects would occur when permitted by the National Heavy Vehicle Regulator and at night (expected between 9:00 pm and 3:00 am for outbound OSOM loads, and 9:30 pm to sunrise for returning OSOM heavy vehicles).

The project would have an operational workforce of 45 full-time equivalent (FTE) workers.

It is expected that construction of the project would commence in mid-2027 and take around 12 months to complete with initial operations commencing in 2028.

Related development

Related development is development that responds to the opportunities created by the project or is required because of the project. Related developments to the project include:

- the Port to REZ program of works (EnergyCo)
- removal and/or relocation of electricity and wastewater infrastructure within the project site (Property and Development NSW)
- construction of a new internal port access road from Steel Works Road to Mayfield 4 Berth within the Port of Newcastle lease area.

All related developments are subject to separate assessment and planning approval processes.

Need for the project

REZs are a key part of the NSW Government's work to coordinate and encourage investment in new energy infrastructure, and realise the objectives of the *2026 Integrated Systems Plan* (ISP) (AEMO, 2026) and the NSW Electricity Infrastructure Roadmap (the Roadmap) (NSW Government, 2020). The delivery of projects would require importation of OSOM equipment, most notably wind turbine components, high-voltage transformers, synchronous condensers and other equipment that would be required for construction of the REZ Network Infrastructure, renewable energy generation and firming infrastructure projects. An essential aspect of the logistics challenge is the import of this equipment through marine ports, and associated storage prior to road transport to the REZs and non-REZ locations.

The Port of Newcastle has been identified as the critical import and logistics hub to facilitate the transition to renewable energy in NSW. To enable development of grid-scale renewables to reach respective targets identified in the 2026 ISP by both 2030 and 2050, a dedicated logistics precinct would need to be established within the Port of Newcastle to prevent bottlenecks in the supply chain due to limited hardstand available for developers at the port.

The project would facilitate the timely development of new grid-scale renewable projects within NSW by providing a strategically located port logistics precinct, adjacent to the Port of Newcastle lease area. The logistics precinct is a port facility that would enable the efficient delivery of components for renewable energy projects by providing facilities for the storage of the components unloaded from the ships berthing at the port and loading of the equipment onto vehicles for transportation to the renewable energy projects within NSW.

With the existing portside storage at Port of Newcastle lease area already well utilised by other industries, this project is critical for addressing the shortage of port storage capacity for components required for the development of REZs and their delivery program. The project would almost double the existing port storage capacity for equipment and utilisation by renewable energy projects, and reduce the reliance on the well-used hardstands in the vicinity of the Mayfield 4 Berth.

As a result, the NSW Government and renewable developers would have greater certainty over critical REZ project logistics and greater confidence in achieving the targets set out in the strategic plans and policies and unlocking investment for renewable energy projects.

The project supports the NSW Government's objectives to accelerate the energy transition by providing critical infrastructure to support the development of large-scale renewable energy projects within and outside the REZs. The objectives of the project include:

- facilitate the timely, efficient and successful delivery of equipment and components required for the construction of critical renewable energy infrastructure, including REZ transmission, generation, firming and storage projects
- increase portside storage and handling capacity for oversize and/or overmass (OSOM) and non-OSOM equipment to reduce supply chain bottlenecks affecting Central-West Orana and New England REZs
- prioritise the development of portside storage and handling infrastructure to meet peak demand periods for delivery of the REZs, critical program milestones and OSOM equipment specifications
- support other Roadmap and electricity generation initiatives contributing to the broader energy transition
- contribute to efficiency of logistical movements given limited hardstand available within the Port of Newcastle and minimise potential adverse impacts on the environment.

Strategic context

The Australian, NSW and local governments in consultation with industry have put in place several plans and policies to support the energy transition (as described in Chapter 2 (Strategic context)). The project is consistent with these plans and policies as it is critical port logistics infrastructure that would support the supply chain for renewable energy components through Port of Newcastle and timely development of new grid-scale renewable projects within NSW. It would assist in the development of new grid-scale renewable energy projects, contributing to the decarbonisation of the electricity network and lowering emissions.

Feasible alternative options for the project have been assessed, including the 'do nothing' option, alternative locations within the Port of Newcastle lease area or Port Kembla, and the project site.

The project is located on land that is appropriately zoned for a port facility and was selected as the preferred location as it:

- is strategically located adjacent to Mayfield 4 Berth and in proximity to the arterial road network that is designed and approved to accommodate RAV and OSOM vehicles
- connects with EnergyCo's Port to REZ program of works between the Port of Newcastle and the REZs
- provides the space required for the unloading, loading and storage of materials and equipment associated with renewable energy projects, and is of sufficient size to enable EnergyCo to manage the delivery of components for renewable energy generation projects
- is on NSW Government owned land
- is on land that is suitable for industrial and commercial uses following the completion of remediation works in 2018
- provides for the opportunity to expand to meet future demand (if required).

The project has been (and would continue to be) developed with consideration of both technical and environmental considerations with the objective to avoid and minimise impacts to the community and environment (as far as practicable). Project development has also aimed to maximise the site area available for storage of materials and equipment, logistical movement of OSOM components as well as provide adequate capacity in the pavement for lifting of OSOM components, utilising cranes and reach stackers.

Approval pathway

The project is declared State significant infrastructure (SSI) under section 5.12(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and is subject to approval by the NSW Minister for Planning and Public Spaces under Part 5, Division 5.2 of the EP&A Act.

The Secretary's Environmental Assessment Requirements (SEARs) for the project were issued on 29 May 2025 (refer to Appendix A (SEARs checklist)). This Environmental Impact Statement (EIS) has been prepared to address the SEARs and the requirements of the EP&A Act and the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), in particular, the requirements for the form of EIS as outlined in Part 8, Division 5 of the EP&A Regulation.

A Biodiversity Development Assessment Report (BDAR) waiver was issued by NSW Department of Planning, Housing and Infrastructure (DPHI) for the project on 2 July 2026.

The project would not have a significant impact on matters of national environmental significance (MNES) and a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to Commonwealth Department of Climate Change, Energy, the Environment and Water is not required.

Engagement

Engagement with stakeholders commenced in March 2025 prior to the lodgement of the Newcastle Logistics Precinct Intertrade Project Scoping Report (EnergyCo, 2025). Engagement with the community and key stakeholders has comprised meetings/briefings, pop-up sessions, emails, website updates, project updates and fact sheets as well as interviews to inform the social impact assessment. The engagement activities have been supported by community feedback channels, including a project-specific phone number and email address.

Engagement during the preparation of the EIS found that the redevelopment of the former BHP Steelworks site and the proposed use as a port logistics precinct was generally supported, but some expressed concern about the energy transition more broadly and its effects on the Newcastle community. Key concerns raised during engagement concerned non-Aboriginal heritage, traffic (primarily OSOM movements) and noise related impacts during construction or operation by some community stakeholders, however, most residents engaged advised that noise was not a major concern in the context of the existing noise environment. This feedback has been considered and has informed the development of mitigation and management measures, where potential impacts may arise because of the project.

EnergyCo is committed to ongoing engagement with key stakeholders and the community during all stages of the project. If approved, EnergyCo will continue to update key stakeholders and the local community as the project progresses at key project milestones such as the release of the Submissions Report with responses to submissions raised, project approval, contract award and construction commencement.

Environmental assessment

The project site has been selected and the project designed to avoid and/or minimise environmental and community impacts. For each environmental matter, the potential impacts associated with the construction, operation, and decommissioning and rehabilitation of the project have been identified and mitigation measures provided to eliminate or reduce potential impacts associated with the project.

Hazards and risk

The preliminary hazard assessment involved a preliminary risk screening of the project in accordance with the requirements of the State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP). While the results of the dangerous goods and transport screening indicated that the project does not exceed the thresholds that would trigger the need for a preliminary hazard analysis (PHA), the project was considered 'potentially hazardous' during operation due to the proposed storage of BESS components and a PHA was required by the SEARs.

During operation, there is a medium potential for harm due to localised fire risks based on industry knowledge of battery storage technology. The PHA determined that the risk arising from the two thermal runaway scenarios considered does not exceed the fatality, injury or off-site property damage risk criteria specified in the NSW Department of Planning and Environment's 2011 publication *Hazard Industry Planning Advisory Paper (HIPAP) No. 4 – Risk Criteria for Land Use Safety Planning*. Further, the project was assessed as having a negligible societal risk against the 2017 *Port of Newcastle Land Use Safety Study* (AECOM, 2017) and the updated 2023 *Port of Newcastle Land Use Safety Study* (RiskCon Engineering, 2023).

Issue-specific sub-plans for the project would be developed to minimise hazards and risk impacts associated with the project, specifically for operational emergency management (developed in consultation with Fire and Rescue NSW) and for battery storage management.

Construction work for the southern access (central) would be undertaken within the Newcastle Mine Subsidence District along Selwyn Street. Subsidence Advisory NSW confirmed in December 2025 that these works are considered minor and exempt from requiring approval or subsidence controls.

Traffic and access

A traffic and access assessment was undertaken to determine the potential impact associated with the construction and operation of the project. Based on an analysis of trip generation and distribution, it is expected that the construction and operation of the project would generate minor increases in traffic on key roads surrounding the project site, with minimal impact on the overall performance of the road network.

During operation, the project would generate relatively low traffic volumes, and the operational modelling for the ten year horizon demonstrates that all key intersections would continue to operate satisfactorily during the weekday AM and PM peak hours in 2037. OSOM vehicle movements would occur infrequently between the project site and renewable energy project locations during approved night time periods, and a small number of OSOM movements would occur between Mayfield 4 Berth and the project site during the day. These movements would be managed through an approved traffic management plan to ensure that interactions with general traffic, pedestrians, cyclists and emergency vehicles remain minimal.

Construction and operation of the project is expected to have a negligible impact on the existing at-grade rail crossings, public transport services, active transport infrastructure and property access (including emergency access).

Mitigation measures would be implemented to minimise impacts to traffic and transport networks and minimise environmental impacts associated with the movement of vehicles during construction.

Non-Aboriginal heritage

A Statement of Heritage Impact was prepared to assess the impact of the project on the non-Aboriginal heritage values within the construction footprint. The project site encompasses the State heritage listed BHP Administration Precinct as well as the State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) listed Quality Control Laboratory. Review of archival research and historical map overlays concluded that the project would not be located on reclaimed riverine land and has been inland of the Hunter River since European arrival in Australia. Therefore, maritime heritage was not considered further.

The construction of the project would respect the heritage significance of the study area by retaining all heritage-listed buildings and by avoiding direct impacts to significant fabric, with impacts related to changes in setting and access rather than to the removal of significant heritage fabric. Construction work would minimise potential impacts to archaeological resources, being largely confined to areas of contemporary pavement, non-significant landscape areas and the existing remediation capping layer. The Construction Environmental Management Plan for the project would include protocols to manage and minimise potential harm to heritage items within the project site, including but not limited to the delineation of heritage curtilage boundaries on construction drawings and the establishment of heritage exclusion zones within the construction footprint.

During operation, the project would maintain the legibility of the heritage items and support the ongoing functional life of significant buildings. The continued industrial use of the project site would reinforce the historic character of the former BHP Steelworks and would not constitute an incompatible land use. The activation of the project site may discourage vandalism of heritage buildings and also provides for future opportunities for further heritage interpretation at the project site.

Contamination and soils

The construction footprint has an extensive history of industrial activities associated with the operation of the former BHP Steelworks. The construction footprint has been subject to various remediation works and is now regulated under the *Contaminated Site Management Plan, Lot 332 DP 1176879, Former BHP Steelworks Mayfield, Newcastle Hunter Development Corporation* (Intertrade CSMP) and the *Contaminated Site Management Plan, Port Lands, Former BHP Steelworks Mayfield, Newcastle* (Port Lands CSMP) (Hunter Development Corporation, 2016). While the project design would ensure that remediation infrastructure is reinstated or improved upon, construction activities have the potential to disturb underlying contamination within the subsurface environment during excavation and earthworks. Risks associated with disturbance of the contaminated subsurface environment are required to be mitigated through the preparation of a Work Method Statement (WMS) for the project site under the Intertrade CSMP, and a Work Management Plan (WMP) for works along the operational access road for the northern access under the Port Lands CSMP.

There is a low likelihood of contamination present within the construction footprint along Selwyn Street based on previous land use. As such, there is a low potential to disturb contaminated soils during construction work within this part of the construction footprint. This exposure could pose a risk to construction personnel and the surrounding environment, particularly if soils or surface water migrate off site. These risks would be mitigated through implementation of the project's Construction Environmental Management Plan (CEMP) and a site-specific unexpected finds procedure.

There is also a general risk that construction activities could result in soil contamination due to accidental spills or releases of dangerous goods, hazardous materials, and waste. Additionally, exposure of soil to surface water runoff and wind may increase erosion and sediment transport. These risks are considered low and manageable through the implementation of standard environmental management measures as part of the CEMP. Operation of the project, including maintenance activities, would be managed through the Long-term Environmental Management Plan and the Operational Environmental Management Plan (OEMP).

Noise and vibration

Standard project construction hours would be between 7 am to 6 pm, Monday to Saturday. This is a mixture of both standard and non-standard construction hours as defined in the Interim Construction Noise Guideline (ICNG) (Department of Environment and Climate Change (NSW DECC), 2009). The non-standard construction hours reflect work carried out on Saturdays between 7 am to 8 am and 1 pm to 6 pm.

A conservative assessment of potential noise impacts during the construction phase has been undertaken against the ICNG. The assessment represents a maximum potential impact across a 15-minute period for all noise sensitive receivers, based on the nearest extents of the construction footprint.

During standard construction hours, the majority of construction stages are not expected to generate noise impacts for sensitive receivers. During non-standard hours (defined in the ICNG as out of hours (OOH)), approximately half of the construction stages may generate noise impacts, however the majority of these are considered minor exceedances (less than 5 dB above OOH noise management levels (NMLs)). Impacts during OOH periods are higher due to the lower corresponding NMLs. Across all construction stages, no receivers are predicted to be highly noise affected (where noise levels exceed 75 dBA $L_{eq15min,}$ as defined in the ICNG).

For all assessed scenarios, construction noise levels (and their subsequent impacts) would generally be less than predicted as the distance between the construction works and the nearest sensitive receivers increases. These exceedances are unlikely to occur simultaneously at all residential receivers as works progress throughout the site and impacts will generally be well below these levels throughout the project duration.

There is potential for human comfort vibration impacts during construction for 16 receivers within 100 metres of the construction footprint. Mitigation measures are expected to reduce any human comfort impacts to an acceptable level.

Noise and vibration impacts would be managed in accordance with a construction noise and vibration management sub-plan (CNVMP), which would identify measures to avoid and reduce the potential for noise and vibration impacts and include details of community consultation in relation to noise and vibration.

Operations at the site would be conducted 24 hours a day, seven days a week. The project would operate as a storage area with minimal activity except during the loading or unloading of renewable energy components onto heavy vehicles (and their arrival and departure from the project site). This peak activity would occur infrequently according to ship arrivals and demand from the renewable energy project(s).

Overall, unmitigated operational noise levels at a number of sensitive receivers (residential and non-residential) exceed their respective project noise trigger levels (PNTLs) when operations occur at the closest location to noise sensitive receivers at night-time, across a range of operational scenarios. This represents the worst-case operational noise impacts. Actual operational noise levels may be substantially lower under most operating scenarios due to the large size of the project site, and as equipment under each assessed scenario may not operate concurrently. The large footprint of the site and dynamic nature of operations would enable the distance to the nearest sensitive receiver to be maximised during operations, particularly during the critical time periods. Further, it is likely that activity along the western boundary is infrequent, where the loading/unloading of OSOM components at these locations could occur approximately once every three months.

Where exceedances are predicted during operation, feasible and reasonable operational noise and vibration mitigation measures will be implemented where practicable and appropriate. A number of operational and at-source controls have been identified and will be confirmed prior to operation. It is expected that with the implementation of these controls, no residual impacts are predicted. Monitoring will also be completed to confirm operational noise levels at representative locations following commencement of operations, and additional controls identified to avoid exceedances if necessary.

Other issues

Issue	Summary of assessment
Aboriginal heritage	There are no previously recorded Aboriginal heritage sites or objects within the construction footprint, and a visual site inspection confirmed that the construction footprint does not display potential for remnant surface sites and has minimal to no potential for subsurface deposits. Given the highly modified nature of the construction footprint, impacts to Aboriginal heritage are unlikely during construction, and the potential for unexpected heritage finds is considered low. If any unanticipated Aboriginal objects or human remains are discovered during construction, they will be managed in accordance with an Unexpected Finds Protocol. The Hunter River and surrounding area form part of Country for the Awabakal and Worimi peoples. Engagement during the preparation of the EIS identified that the construction footprint holds general cultural heritage value to the Worimi people and is associated with the important landscape feature of the Hunter River. This cultural value remains undiminished by the physical context of the construction footprint and its history of industrial disturbance. The project is unlikely to impact the cultural value of the Hunter River or the surrounding landscape. Furthermore, potential impacts to specific intangible Aboriginal cultural values were not identified during the Aboriginal community consultation process.
Surface water and flooding	The project site is largely flood-free for events up to and including the one per cent Annual Exceedance Probability (AEP) flood event. Steel Works Road, Selwyn Street and areas to the east of Roll Shop Road within the southern precinct are subject to flooding for events as frequent as the 10 per cent AEP flood event. During construction, impacts to flood behaviour during construction are not anticipated, as the majority of proposed activities avoid flood-prone land. Where works are located within flood-prone areas, any changes would be minimal for all events. During operation, the project would result in a minor redistribution of floodwaters and small increases in flood depths in areas that are already inundated (including the Probable Maximum Flood event and climate change scenarios). However, there would be no material change to overall flood behaviour or flood risk within or external to the operational footprint. There would be no change to the flood risk at existing buildings within the project site. Flood emergency response protocols would be implemented in the event of a flood event during construction and operation to manage the residual flood risk. BESS units would not be stored in flood prone areas. Existing and proposed stormwater infrastructure at the project site ultimately discharges to the Hunter River. Impacts to water quality during construction due to ground disturbance or general construction activities would be managed through standard mitigation measures. Operational water quality impacts are expected to be minor and localised, with an overall reduction in the pollutant load discharging from the site when compared to the existing case.

Issue	Summary of assessment
Groundwater	Groundwater below the site is contaminated and groundwater recharge has been limited by the remediation infrastructure at the project site. Impacts to groundwater would primarily occur during construction as result of piling and excavation. However, the selected piling methodology has avoided the need to dewater. Excavation in the southern precinct has the potential to interact with shallow groundwater, where wet lithology was observed as shallow as 0.5 metres. However, if encountered, any impacts would be short-term and localised, and managed through a WMS in accordance with the Intertrade CSMP.
Air quality	Construction of the project would generate dust emissions. During operation, air quality emissions would be associated with vehicle and plant movements during loading and unloading activities. However, with the implementation of mitigation measures, air quality impacts are not expected to be significant. This includes controls to minimise dust generation, as well as the management of emissions from plant and equipment to reduce gaseous pollutants.
Social	The key residual social impacts (negative) during construction and operation are associated with potential impacts to accessibility due to increases in traffic movements (negligible and low), amenity impacts resulting from noise emissions (negligible to medium), concerns about changes at the site that could impact heritage values and BHP Steelworks legacy (negligible to low), and the need to develop meaningful ongoing engagement with local communities during construction (low). These negative impacts would be relatively localised to the Mayfield residential areas. Social benefits of the project during construction would be limited, based on the modest local employment and procurement opportunities of the project. In this respect, the project would generate 110 FTE workers during construction and 45 FTE workers during operation. Local employment and procurement opportunities embedded in the procurement arrangements for the project would align with current NSW Government policies and plans, including participation by First Nations businesses. During operation, the local community and visitors to the heritage memorials are expected to experience benefits associated with an increased safety and security presence in the surrounding area (low positive).
Landscape and visual	The landscape character assessment considered two zones, including the Port of Newcastle and the residential areas to the west of the project site. Given the existing industrial context of the Port of Newcastle zone, impacts to the industrial landscape character zone would be negligible. Impacts to the residential landscape character zone would be low and primarily associated with vegetation removal, which would increase daytime exposure, as well as project lighting and light spill during night works. Six viewpoints were selected to represent a range of views towards the project. The project would have a negligible impact on most views during construction and operation given the existing industrial setting and due to limited visibility of the project site. Low visual impacts are predicted for views northbound along Industrial Drive and from the eastern end of Crebert Street, primarily due to the increase in the amount of industrial activity visible, particularly when mobile cranes are operating close to Industrial Drive. Landscape and visual impacts will be managed through the implementation of standard mitigation measures, a project specific CEMP and OEMP.

Issue	Summary of assessment
Land use and property	The construction footprint is largely contained within the project site, with some temporary work required during tie-in works for the new site accesses and utility adjustments. Upon completion of works, the area would be rehabilitated. Adjustment and/or protection of some utilities would be undertaken in consultation with relevant service providers and the Mayfield Industrial Estate Association (MIEA) where applicable to minimise disruption to services. During operation, the project would be consistent with land use zoning and aligns with the land use recommendations within the Port of Newcastle Land Use and Safety Study (AECOM, 2017) and updated within the Port of Newcastle Land Use and Safety Study (RiskCon Engineering, 2023). The site is considered by the Site Auditor to be in a satisfactory condition for commercial and industrial uses. The project is located in the Declared Defence Aviation Area for Williamtown Airport. However, temporary and permanent structures are below the 90-metre height limit and the project activities do not involve land uses that require further assessment of wildlife strike. As such, approvals from the Commonwealth Department of Defence or controls to manage aviation risk at the site are not required.
Biodiversity	The project would not impact native vegetation, as none occurs within the construction footprint, and only planted and exotic vegetation would be removed, resulting in a minor reduction in low-quality foraging habitat for fauna. Given the degraded nature of the site and the absence of critical habitat features, threatened fauna are unlikely to rely on the site for essential foraging, roosting or connectivity. Construction related impacts, including disturbance to microhabitats and potential modification of structures, would be localised and managed through standard mitigation measures, including an unexpected threatened species find protocol. Operational impacts are unlikely, as activities would be consistent with the existing industrial environment. Accordingly, the project is unlikely to result in significant impacts on threatened species, ecological communities or migratory species.
Climate change	Priority climate change risks and treatments (adaptation actions) were identified for the project. A climate risk register will be maintained during the life of the project, with risks to be reviewed every five years and the effectiveness of adaptation actions reviewed annually. The GHG emissions during construction and operation were estimated and are primarily associated with embodied emissions within materials that would be used by the project and fuel consumption. However, the project would have an overall benefit in reducing GHG emissions in the wider economy by facilitating the efficient delivery of OSOM components to respective renewable energy projects to achieve the transition to renewable energy.
Sustainability	A Sustainability Management Plan will be developed to detail how resource consumption, waste generation, and carbon emissions will be minimised during construction and operation. Water and energy efficiency initiatives will be investigated and implemented where reasonable and feasible. Other broader employment and business participation initiatives (including First Nations participation) will also be implemented for the project, in line with NSW Government initiatives.
Waste	Waste generated during construction and operation will be classified, segregated, stored and disposed of in accordance with relevant legislation and guidelines. Initiatives to minimise waste generation will be explored during detailed design to increase waste diversion.

Cumulative impacts

Cumulative impacts were assessed using a project-level cumulative impact assessment in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPHI, 2026f). Within the Newcastle and Hunter Region, a significant number of new developments are proposed, approved or under construction. Relevant future projects were selected for the cumulative assessment based on project size, project timeframe, planning approval, and project location. The cumulative assessment considered six projects, three of which are classified as related development. Related development refers to development that responds to the opportunities created by the project or which is required as a result of the project, including:

- Project 1: Removal of the existing wastewater treatment plant within the construction footprint, and construction of a permanent pump station and pipeline within the construction footprint
- Project 2: Removal and construction of a new substation within the construction footprint
- Project 3: Construction of a new internal port access road from Steel Works Road to Berth 4 within the Port of Newcastle lease area.

The other three projects considered are approved or proposed modifications to approved projects, including:

- Project 4: Steel River East BESS
- Project 5: Port Terminal Facilities, Mayfield:
  - Mayfield – Concept Plan (Mayfield Concept Plan) (MP09_0096)
  - Modification 4 to the Mayfield Cargo Storage Facility (DA8137)
  - Modification 10 to Mayfield multi-purpose terminal (DA293-08-00)
- Project 6: Hunter Valley Hydrogen Hub.

The potential for cumulative impacts is dependent on the scale and nature of the potential impacts of the project in combination with relevant future projects, and sensitivity of the receiving environment. Where potential cumulative impacts are expected to be negligible based on the outcomes of the impact assessment completed for the EIS or where there is no potential overlap in the potential impacts of this project and the relevant future projects' impacts, issues were not considered further in the assessment. Environmental impacts from relevant projects that were considered to contribute to the project's impacts including traffic and access, noise and vibration and social were considered in the cumulative assessment in the EIS. The overall potential cumulative impacts were considered to be negligible to low.

The assessment of cumulative impacts acknowledges that each project will be required to mitigate its own impacts to acceptable levels, minimising the overall contribution to cumulative impacts. Cumulative impacts will be further managed through site-specific mitigation measures and in accordance with the CEMP and OEMP.

Justification and conclusion

The project involves the development of a port logistics facility that would support the timely development of new grid-scale renewable projects within NSW by providing additional storage and logistics capacity for large renewable energy components adjacent to Mayfield 4 Berth at the Port of Newcastle.

It is consistent with Australian, State and local government plans and policies, and would provide benefits to NSW by supporting the energy transition to renewable energy. The project would deliver benefits in the region through job creation and investment within Newcastle.

The location of the project on a disturbed, brownfield site within an established industrial area has limited the potential impacts of the project. The potential residual construction and operational impacts of the project are considered manageable with the implementation of the proposed mitigation and management measures.

Having regard to the matters considered in the EIS, it is considered that the project is justified, as the need for, and the benefits of the project would outweigh the residual adverse impacts of the project. On balance, it is considered the strategic need and benefits of the project outweigh the mitigated project impacts.

Next steps

It is expected that further refinement of the project's design and construction methodology would continue through the environmental approvals process and construction.

During public exhibition of this EIS, EnergyCo would undertake communication and consultation activities. The community, government agencies and other interested parties may make written submissions on the project for consideration in the assessment of the project.

Following the public exhibition period, EnergyCo would review the submissions received and respond to the issues raised in a Submissions Report and, if required, an Amendment Report.

Continued design development and detailed construction planning would be undertaken at the same time as the above environmental assessment process as more detailed technical, design, constructability and environmental information become available. Any changes to the project design and/or construction methodology that arise due to this process would also be made available as part of a Submissions Report and if required, Amendment Report.

Any future project development and refinement would generally be undertaken in consideration of environmental constraints that have been applied to the project development process to date.

1 Introduction

This chapter provides an overview and background to the Newcastle Logistics Precinct – Intertrade Project (the project), including a summary of the project and the purpose and structure of this Environmental Impact Statement (EIS).

1.1 The project

1.1.1 Overview

New South Wales (NSW) is currently undergoing an energy sector transformation that would change how NSW generate and use energy. A key part of this energy transition is the project, that would provide critical logistics and storage infrastructure to support the development of large-scale renewable energy projects within the renewable energy zones (REZs) and non-REZ areas. The project would:

- mitigate the shortage of existing portside storage required to support the renewable energy transition by providing a dedicated storage area adjacent to the Port of Newcastle lease area that would support the supply chain for critical energy transmission, generation and firming projects under the *NSW Electricity Infrastructure Roadmap* (the Roadmap) (Department of Planning and Environment [DPE], 2020)
- reduce the reliance on the well-used Mayfield 4 Berth hardstand area and almost double the existing storage capacity for REZ and non-REZ projects
- give the NSW Government greater certainty over logistics and storage capacity for critical REZ and non-REZ projects and greater confidence in achieving the targets set out in the Roadmap
- support government decarbonisation targets and the transition of the National Electricity Market (NEM) from traditional energy sources to lower emission alternatives based on renewable energy through provision of critical logistics infrastructure.

The project is located at 99 Selwyn Street, Mayfield North (the project site). The project site is owned by the NSW Government (Property and Development NSW) and is located within the Newcastle local government area (LGA) and Awabakal Local Aboriginal Land Council (LALC).

The project is declared State significant infrastructure (SSI) and EnergyCo is seeking approval under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) to construct and operate the project.

It is expected that construction of the project would commence in mid-2027 and take around 12 months to complete with initial operations commencing in 2028.

An overview of the project and the regional context of the project site is shown in Figure 1-1 and Figure 1-2.

The project is further described in the following sections. A detailed description of the project is provided in Chapter 3 (Project description).

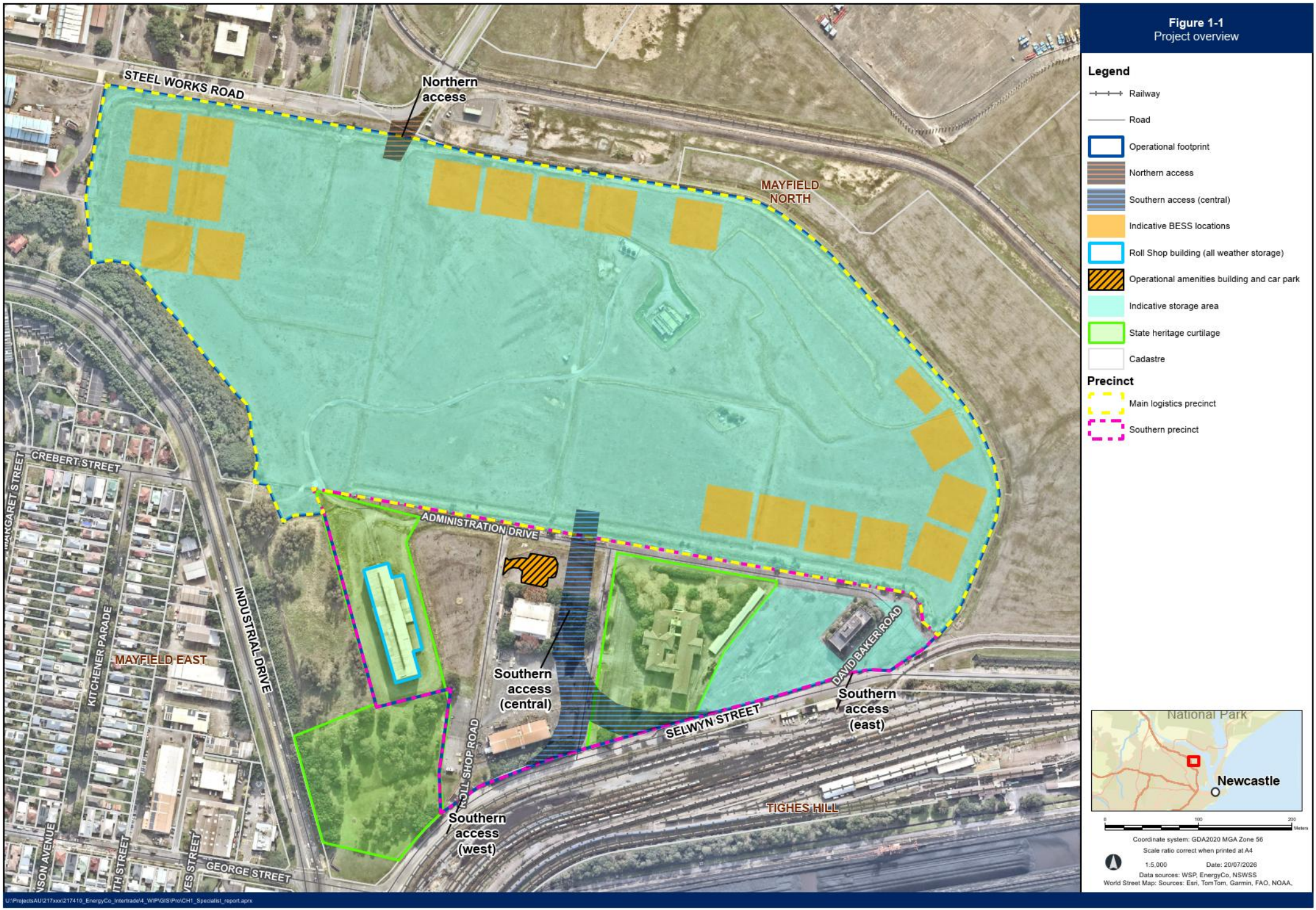
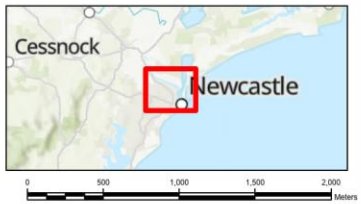

STEEL WORKS ROAD
Northern access
MAYFIELD NORTH
CREBERT STREET
ADMINISTRATION DRIVE
INDUSTRIAL DRIVE
KITCHENER PARADE
MAYFIELD EAST
Southern access (central)
DAVID BAKER ROAD
Southern access (east)
SELWYN STREET
TOOL SHOP ROAD
Southern access (west)
TIGHES HILL
GEORGE STREET
Figure 1-1
Project overview
Legend
Railway
Road
Operational footprint
Northern access
Southern access (central)
Indicative BESS locations
Roll Shop building (all weather storage)
Operational amenities building and car park
Indicative storage area
State heritage curtilage
Cadastre
Precinct
Main logistics precinct
Southern precinct
National Park
Newcastle
0
100
200
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000
Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
U:\Projects\AU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\CH1_Specialist_report.aprx



Figure 1-2
Regional context

Legend

- Railway
- Watercourse
- Project site
- National Park
- Port of Newcastle lease area



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:50,000 Date: 4/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Topographic Map: DCCEEW, Esri, TomTom, Garmin, FAO,

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1.1.2 Project objectives

The project supports the NSW Government's objectives to accelerate the energy transition by providing critical infrastructure to support the development of large-scale renewable energy projects within and outside the REZs. The objectives of the project include:

- facilitate the timely, efficient and successful delivery of equipment and components required for the construction of critical renewable energy infrastructure, including REZ transmission, generation, firming and storage projects
- increase portside storage and handling capacity for oversize and/or overmass (OSOM) and non-OSOM equipment to reduce supply chain bottlenecks affecting Central-West Orana and New England REZs
- prioritise the development of portside storage and handling infrastructure to meet peak demand periods for delivery of the REZs, critical program milestones and OSOM equipment specifications
- support other Roadmap and electricity generation initiatives contributing to the broader energy transition
- contribute to efficiency of logistical movements given limited hardstand available within the Port of Newcastle and minimise potential adverse impacts on the environment.

1.1.3 Key features of the project

The project site would be used for unloading, loading and storage of materials and equipment including (but not limited to) wind turbine components, transformers, synchronous condensers and other equipment associated with renewable energy projects. This includes potentially hazardous materials and equipment such as battery energy storage system (BESS) components.

Key components of the project would include:

- hardstand areas in the main logistics and southern precinct that would be used for the unloading, loading and storage of materials and equipment for renewable energy developments
- operation of mobile equipment comprising of forklifts, reach stackers, cranes and heavy vehicles for movement of materials and equipment for renewable energy projects
- associated stormwater drainage infrastructure to manage stormwater flows and water quality across and around the main logistics precinct
- internal roads including new access and egress points to the project site and new structures over existing drainage channels to provide vehicular access to/from the main logistics precinct
- use of the existing Roll Shop building to provide all weather storage for smaller components, dangerous goods, mobile heritage items and maintenance and servicing equipment
- staff amenity building, carpark and other ancillary infrastructure within the southern precinct to facilitate operation of the project.

Once the renewable energy components have been loaded onto heavy vehicles at Mayfield 4 Berth, the heavy vehicles would travel to the project via internal port roads and/or Selwyn Street. Once within the project site, cranes, reach stackers and forklifts would unload and temporarily store the components at designated storage areas for a period before being loaded onto heavy vehicles for transport off-site. Heavy vehicles and their escort vehicles (where required) travelling to and from renewable energy projects would do so via Selwyn Street.

The project would operate 24 hours, seven days a week. However, operations would not occur continuously but rather on a campaign basis dependent on the delivery of components. For OSOM vehicles, movements between the project site to renewable energy projects would occur when permitted by the National Heavy Vehicle Regulator and at night (expected between 9:00 pm and 3:00 am for outbound OSOM loads, and 9:30 pm to sunrise for returning OSOM heavy vehicles).

The project would have an operational workforce of 45 full-time equivalent (FTE) workers.

1.1.4 Construction

Key construction activities for the project would typically include (but not be limited to):

- site establishment
- main construction works
- utility connections and adjustments
- demobilisation.

A mixture of both standard and non-standard construction hours as defined in the *Interim Construction Noise Guideline* (DECC, 2009) are proposed. Standard project construction hours would be between 7:00 am to 6:00 pm, Monday to Saturday. Extended hours would achieve a reduction in overall construction program and meet the objectives of the project.

The construction workforce would vary depending on the stage of construction and associated activities. During the peak construction period, it is expected that the peak construction workforce would be up to 110 FTE workers.

1.2 Related development

Related development is development that responds to the opportunities created by the project or is required because of the project. Related developments to the project are identified in Table 1-1. All related developments are subject to separate assessment and planning approval processes.

Table 1-1 Related development projects

Related development	Description
The Port to REZ program	Stage 1 of the Port to REZ program of works comprises road and intersection upgrades, as well as construction of designated pull over bays, to allow for the movement of OSOM loads from the Port of Newcastle (Mayfield 4 Berth) to the CWO REZ. Stage 2 of the Port to REZ program extends to the New England REZ. Both stages involve a range of works such as pavement widening and pull over bays, relocation of traffic lights, signs, barriers and utilities, and tree and vegetation removal and trimming. These works would be delivered separately and are subject to separate planning approvals. In the Newcastle LGA, the program includes the following intersection upgrades: • Selwyn Street and Quayside Close • Selwyn Street, George Street, and Industrial Drive • Pacific Highway and Industrial Drive. Construction of the intersection upgrades within the Newcastle LGA are currently under construction and are due for completion in mid-2026. More detail relating to this program of works can be found on the EnergyCo website at https://www.energyco.nsw.gov.au/our-projects/enabling-projects/port-to-rez.

Related development	Description
Electricity and wastewater infrastructure	An existing substation and wastewater treatment plant are located within the construction footprint. These would be relocated and/or removed by Property and Development NSW prior to acquisition of the site by EnergyCo. The relocated substation would be located on east of new southern access (central) on Administration Drive. An interim wastewater pump station and pipeline connecting the station to sewer was constructed by Property and Development NSW. This infrastructure is located within the main logistics precinct east of the. A permanent pump station and pipeline would be constructed within the construction footprint, with the new pump station located east of the proposed northern access. This would be constructed prior to construction of the project in accordance with the *Contaminated Site Management Plan, Lot 332 of DP 1176878 Former BHP Steelworks Mayfield Newcastle* ((Hunter and Central Coast Development Corporation (HCCDC), 2018) (Intertrade CSMP).
Internal port road	Construction of a new internal port access road within the Port of Newcastle lease area that would connect the Port of Newcastle's operational access road to Mayfield 4 Berth. This proposed internal port road is in its preliminary stages of development. It would ultimately provide access for vehicle movements to/from the project via the proposed northern access. Until this is provided, all project movements to/from Mayfield 4 Berth would be via Selwyn Street and Quayside Close.

1.3 The proponent

Under the *Electricity Infrastructure Investment Act 2020*, the Minister for Energy has appointed the Energy Corporation of NSW (EnergyCo) (ABN 13 495 767 706) as the Infrastructure Planner for NSW REZs.

In its capacity as Infrastructure Planner, EnergyCo is responsible for coordinating transmission, generation, firming and storage projects for the NSW REZs to deliver efficient and timely investment. EnergyCo's functions in respect of the project include:

- working with developers of proposed wind, solar and firming projects to understand their logistic needs and plan for efficient solutions that encourage investment in grid-scale renewable projects and minimise cumulative impacts on the community
- maintaining the land within the project site
- leading the environmental planning approval process
- contributing to strategic planning to support the development of NSW REZs.

EnergyCo's postal address is GPO Box 5469, Sydney NSW 2001.

1.4 Summary of planning and statutory requirements

The project is declared SSI under section 5.12(2) of the EP&A Act and is subject to approval by the NSW Minister for Planning and Public Spaces under Part 5, Division 5.2 of the EP&A Act.

The Secretary's Environmental Assessment Requirements (SEARs) for the project were issued on 29 May 2025 (refer to Appendix A (SEARs)). This EIS has been prepared to address the SEARs and the requirements of the EP&A Act and the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation), in particular, the requirements for the form of EIS as outlined in Part 8, Division 5 of the EP&A Regulation.

A Biodiversity Development Assessment Report (BDAR) waiver was issued by NSW Department of Planning, Housing and Infrastructure (DPHI) for the project on 2 July 2026.

The project would not have a significant impact on matters of national environmental significance (MNES) and a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to National Environment Protection Authority is not required.

Chapter 4 (Statutory context), Appendix A (SEARs) and Appendix C (Statutory compliance) provide further detail on how this EIS is compliant with the SEARs and other statutory requirements.

1.5 Structure of this EIS

The structure and content of this EIS is outlined in Table 1-2.

Table 1-2 Structure and content of the EIS

Chapter	Description
Chapter 1	Introduction
Chapter 2	Strategic context
Chapter 3	Project description
Chapter 4	Statutory context
Chapter 5	Engagement
Chapter 6 to 22	Assessment of impacts
Chapter 23	Justification and conclusion
Chapter 24	References
Appendices	
Appendix A	SEARs
Appendix B	Detailed maps and plans
Appendix C	Statutory compliance
Appendix D	Engagement summary
Appendix E	Mitigation measures

Chapter	Description
Technical papers	
Technical paper 1	Preliminary Hazard Analysis
Technical paper 2	Traffic and access
Technical paper 3	Statement of Heritage Impact
Technical paper 4	Maritime heritage
Technical paper 5	Aboriginal cultural heritage
Technical paper 6	Contamination and soils
Technical paper 7	Noise and vibration
Technical paper 8	Surface water and flooding
Technical paper 9	Groundwater
Technical paper 10	Air quality
Technical paper 11	Social impact assessment
Technical paper 12	Landscape character and visual impact

2 Strategic context

This chapter describes the need for the project, including the relevant Australian, NSW and local government policies that support the project. It describes alternative options considered to address the project objectives as described in Chapter 1 (Introduction), and options considered during development of the project.

2.1 Project need

2.1.1 Overview

The Australian Government is committed to coordinated global action to reduce greenhouse gas emissions in line with the Paris Agreement and has legislated targets to reduce emissions by 43 per cent below 2005 levels by 2030 and to net zero by 2050. Independently, the NSW Government has set a goal to achieve net-zero emissions by 2050 (NSW Government, 2020). Achieving these goals requires transformative low emissions technologies to be deployed at scale across all sectors of the economy.

The closure of large coal-fired power stations has potential to put pressure on the future supply of energy, particularly when considering that electricity consumption in NSW is forecast to increase in the future (Australian Energy Market Operator [AEMO], 2024). This highlights the urgent need to develop and connect new renewable energy to the NEM, noting that more renewables are required to replace conventional generators because of their lower capacity factors due to the intermittency of the electricity that they produce (Australian Energy Council, 2017).

New, cost-efficient generation is required to replace ageing coal plants, with two-thirds of Australia's coal-fired generation expected to retire by 2035 and all to retire by 2049 (AEMO, 2026). The *2026 Integrated Systems Plan* (ISP) (AEMO, 2026) forecasts that renewable energy could supply approximately 82 per cent of electricity in NEM supplied by renewable sources in Australia by 2030. The 2026 ISP also identifies the need for a total capacity of nearly 120 gigawatts of grid-scale wind and solar renewables by 2050 to replace coal-fired generation and meet rising demand, firmed by grid-scale storage and backed upby flexible gas-powered generation (AEMO, 2026).

The NSW Government's Electricity Strategy and the Roadmap establishes NSW's plan to deliver the major infrastructure needed to modernise the electricity system and power the economy. It sets out NSW's commitments to coordinate and unlock investment in replacement generation as NSW's existing coal-fired power stations close.

REZs being established by EnergyCo in its role as Infrastructure Planner for NSW, are a key part of the NSW Government's work to coordinate and encourage investment in new generation and network infrastructure. REZs support delivery of the objectives of the ISP, the Electricity Strategy and the Roadmap and its enabling legislation. This extends to creating certainty to developers from providing transmission connectivity as well as supporting logistics that would facilitate development of renewable energy projects.

2.1.2 Need for logistics precinct to support energy transition

REZs are a key part of the NSW Government's work to coordinate and encourage investment in new energy infrastructure, and realise the objectives of the ISP and the Roadmap. The delivery of projects would require importation of OSOM equipment, most notably wind turbine components, high-voltage transformers, synchronous condensers and other equipment that would be required for construction of the REZ Network Infrastructure, renewable energy generation and firming infrastructure projects. An essential aspect of the logistics challenge is the import of this equipment through marine port, and associated storage prior to road transport to the REZs and non-REZ locations.

The Port of Newcastle has been identified as the critical import and logistics hub to facilitate the transition to renewable energy in NSW. A dedicated logistics precinct established adjacent to the Port of Newcastle lease area would prevent bottlenecks in the supply chain due to current limited hardstand available for developers at the port and assist with development of grid-scale renewables to reach respective targets identified in the ISP by both 2030 and 2050,.

The project would facilitate the timely development of new grid-scale renewable projects within NSW by providing a strategically located port logistics precinct, adjacent to the Port of Newcastle lease area. The logistics precinct is a port facility that would enable the efficient delivery of components for renewable energy projects by providing facilities for the storage of the components unloaded from the ships berthing at the port and loading of the equipment onto vehicles for transportation to the renewable energy projects within NSW.

With the existing portside storage at Port of Newcastle already well utilised by other industries, this project is critical for addressing the shortage of port storage capacity for components required for the development of REZs and their delivery program. The project would almost double the existing port storage capacity for equipment and utilisation by renewable energy projects, and reduce the reliance on the well-used hardstands in the vicinity of the Mayfield 4 Berth. As a result, the NSW Government and renewable developers would have greater certainty over critical REZ project logistics and greater confidence in achieving the targets set out in the strategic plans and policies and unlocking investment for renewable energy projects.

2.2 Government plans and policies

The Australian, NSW and local governments in consultation with industry has put in place a number of plans and policies to support the energy transition. An overview of how the project would be consistent with the aims and objectives of these strategic planning and policy documents is included in Table 2-1 and Table 2-2.

Table 2-1 Relevant Australian Government policy

Australian Government policy	Project alignment with policy
Australia's Net Zero Plan **(Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2025)** This plan sets out the five decarbonisation priorities that the Australian Government will focus effort on to meet the 2035 target and net zero by 2050, being: • clean electricity across the economy by decarbonising and expanding the electricity network • lowering emissions by electrification and efficiency • expanding clean fuel use • accelerating new technologies • scaling up carbon removals to balance residual emissions.	The project would provide critical infrastructure to support the supply chain for renewable energy components through Port of Newcastle and unlock the development of REZs such as CWO REZ and New England REZ. By providing renewable developers with greater certainty and reducing reliance on existing hardstand within the Port of Newcastle lease area, the project would help enable the efficient delivery of components for the development of new grid-scale renewable energy projects, contributing to the decarbonisation of the electricity network and lowering emissions. Therefore, the project is consistent with the priorities of the Net Zero Plan.
2025 Infrastructure Investment Objectives Report (AusEnergy Services Limited [ASL], 2025) The Infrastructure Investment Objectives Report is prepared every two years by ASL. Each report sets out a development pathway for the next 20 years, identifying the timing and scale for renewable energy generation and storage investment – while providing flexibility to ensure we continue to prioritise the financial interest of NSW electricity customers.	The project is consistent with the development pathway identified in the Infrastructure Investment Objectives Report as it would enable the efficient delivery of components for the construction of renewable energy generation developments through provision of critical logistics infrastructure.
2026 Integrated Systems Plan **(AEMO, 2026)** The 2026 ISP is an actionable roadmap for eastern Australia's power system to optimise consumer benefits through a transition of the energy market. The 2026 ISP reaffirms that renewable energy, connected by transmission and distribution, firmed with storage and backed up with gas, presents the least-cost way to supply secure and reliable electricity to consumers through to 2050, as coal plants retire and while meeting government policies. The 2026 ISP forecasts a total capacity of nearly 120 gigawatts of grid-scale wind and solar, nearly 50 gigawatts of grid-scale storage and hydro and 17 gigawatts of flexible gas-powered generation by 2050.	The project would support the efficient delivery of components for the development of grid-scale renewable energy generation developments within NSW REZ's, such as CWO REZ and New England REZ, by providing critical port logistics infrastructure. As such the project is consistent with the 2026 ISP.

Table 2-2 Relevant NSW Government, local government and industry policy context

NSW Government policy	Project alignment with policy
NSW Electricity Infrastructure Roadmap (NSW Government, 2020) The Roadmap provides a coordinated framework for the delivery of new transmission, generation, long duration storage and firming infrastructure to support low carbon renewable energy and the replacement of coal-fired power station capacity scheduled to close in the next two decades. Key to the transition of the energy sector are five identified REZs, including CWO REZ and New England REZ.	The Roadmap is underpinned by the development of REZs. The project is consistent with the Roadmap as it would provide critical hardstand areas within the logistics precinct adjacent to the Port of Newcastle lease area to support the supply chain for critical OSOM transmission and generation components for renewable energy projects.
NSW Network Infrastructure Strategy (NIS) (EnergyCo, 2023) The NIS is a 20 year strategy for the practical coordination of NSW network infrastructure to connect new generation and storage in NSW's REZs. The NIS proposes Network Infrastructure Options to be delivered as soon as practicable over the next decade (by 2033), and further options to be considered beyond that to meet the objectives of the *Electricity Infrastructure Investment Act 2020.*	The project is consistent with the NIS as it would provide critical hardstand areas within the logistics precinct adjacent to the Port of Newcastle lease area to support the supply chain for critical OSOM transmission and generation components for the development of renewable energy projects which are delivered through the Port of Newcastle.
State Infrastructure Strategy 2022-2042 (Infrastructure NSW, 2022) The State Infrastructure Strategy establishes the strategic directions, projects and initiatives to meet the infrastructure needs of a growing population and economy over the next 20 years.	The project would provide a critical logistics precinct to support the development of renewable energy projects. The strategy recommends a suite of measures to achieve an orderly and efficient transition to net zero and supporting land uses that include: • promote steady and reliable investment in new renewable and firming capacity and/or long duration storage to match demand and replace retiring plants • support capability and capacity building with private sector partners tasked with delivering network infrastructure. The project is consistent with the State Infrastructure Strategy as it would provide greater certainty and confidence for developers to unlock investment for renewable energy projects to enable NSW's energy transition while facilitating a strategic use of the project site.

NSW Government policy	Project alignment with policy
Hunter Regional Plan 2041 (DPE, 2022a) This regional plan provides a 20 year land use plan prepared under the *Environmental Planning and Assessment Act 1979* (NSW) EP&A Act and includes the Newcastle LGA. The regional plan identifies the need to take advantage of transport links to support the development of REZs and associated infrastructure, including strategic assets such as the Port of Newcastle.	The project is consistent with the regional plan as it would provide critical logistics infrastructure adjacent to the Port of Newcastle lease area.
Greater Newcastle Metropolitan Plan 2036 (DPE, 2018) This plan identifies the desired role for the Port of Newcastle. For the project site, this is identified as the Mayfield Freight and Logistics Precinct and identifies outcomes for the site, including finalisation of remediation and the alignment of planning controls to allow for the development of freight and logistics, intermodal and warehousing to complement the port's export role.	The project is consistent with the plan as it would provide critical logistics infrastructure. Remediation of the project site has occurred.
Planning Newcastle 2040: Global City, Local Character – Local Strategic Planning Statement 2021 (City of Newcastle, 2021) The Local Strategic Planning Statement (LSPS) provides a guide to land use planning within the Newcastle LGA over the next 20 years. The LSPS outlines planning priorities to achieve land use planning goals and inform decisions on any changes to the planning rules in Newcastle Local Environmental Plan 2012 and the Development Control Plan (DCP) 2012 (Newcastle City Council, 2023).	The project is consistent with the LSPS as it would support the changing economic base of Newcastle and industry transition to renewable energy through the provision of a logistics hub to promote an efficient supply chain through Port of Newcastle.
Newcastle Employment Lands Strategy (SGS, 2019) This strategy considers the land use planning for employment generating zones in the Newcastle LGA to provide an evidence base to inform the LSPS.	The project is consistent with the findings of the strategy. The strategy identifies the project site as a highly strategic location for freight and logistics development which is consistent with the objectives of the project.
Port of Newcastle Port Master Plan 2040 (Port of Newcastle, 2019) Identifies the role of Port of Newcastle in providing access and infrastructure to support the delivery of key infrastructure including for renewable projects. The masterplan also identifies the project site as a freight and logistics precinct in line with the Greater Newcastle Metropolitan Plan 2036 and envisions uses that could be provided at this site such as warehousing, distribution, and container storage.	The project would provide critical port logistics infrastructure to support the delivery of infrastructure associated with renewable energy projects and associated transmission projects. The project would not preclude the broader uses of the project site in the long-term.

2.3 Local and regional context

This section provides an overview of the local and regional context of the project including the historical uses of the project site, natural environment, built environment and the communities in the region. The project site and its local and regional context is shown in Figure 2-1.

The project site is located within the Newcastle LGA and Awabakal LALC of the Hunter region. The Hunter River and surrounding area form part of Country for the Awabakal and Worimi peoples. It is located approximately two kilometres from the Newcastle central business district (CBD).

The project site (Lot 332 DP 1176879) is currently owned by Property and Development NSW. The project site includes Steel Works Road, which is a right of carriageway burdening Lot 332 DP1176879 which provides access for the Mayfield Industrial Estate Association (MIEA) and the Port of Newcastle lease area. A small area within the Port of Newcastle lease area to the east of Steel Works Road (part of Lot 53 DP1229869, Lot 54 DP 1229869 and Lot 38 DP 1191723) and part of Selwyn Street would be temporarily occupied during construction.

2.3.1 Industrial history of the project site

The project is located on the former BHP Steelworks site. The project site and surrounds were historically operated as a copper smelter and steelworks. As a major employer and economic driver for over 80 years, the former BHP Steelworks played a central role in the broader economic, social and industrial history of Newcastle. Although steel production has since ceased, the site retains a strong associative and interpretive legacy, reflected in its industrial fabric, landscape evolution and the enduring memories of those who worked there.

A number of heritage-listed buildings associated with the former BHP Steelworks remain in the southern precinct of the project site. This includes the two buildings listed on the State Environmental Planning Policy (Transport and Infrastructure 2021 (NSW) (Transport and Infrastructure SEPP) (the Quality Control Laboratory and the BHP Administration Building), and the State heritage listed BHP Administration Precinct. The curtilage for the BHP Administration Precinct is non-contiguous and encompasses the BHP Administration Building and surrounds as well as areas west of Roll Shop Road, which encompasses the Roll Shop building and park containing the Newcastle Steelworks Memorial and Muster Point Memorial.

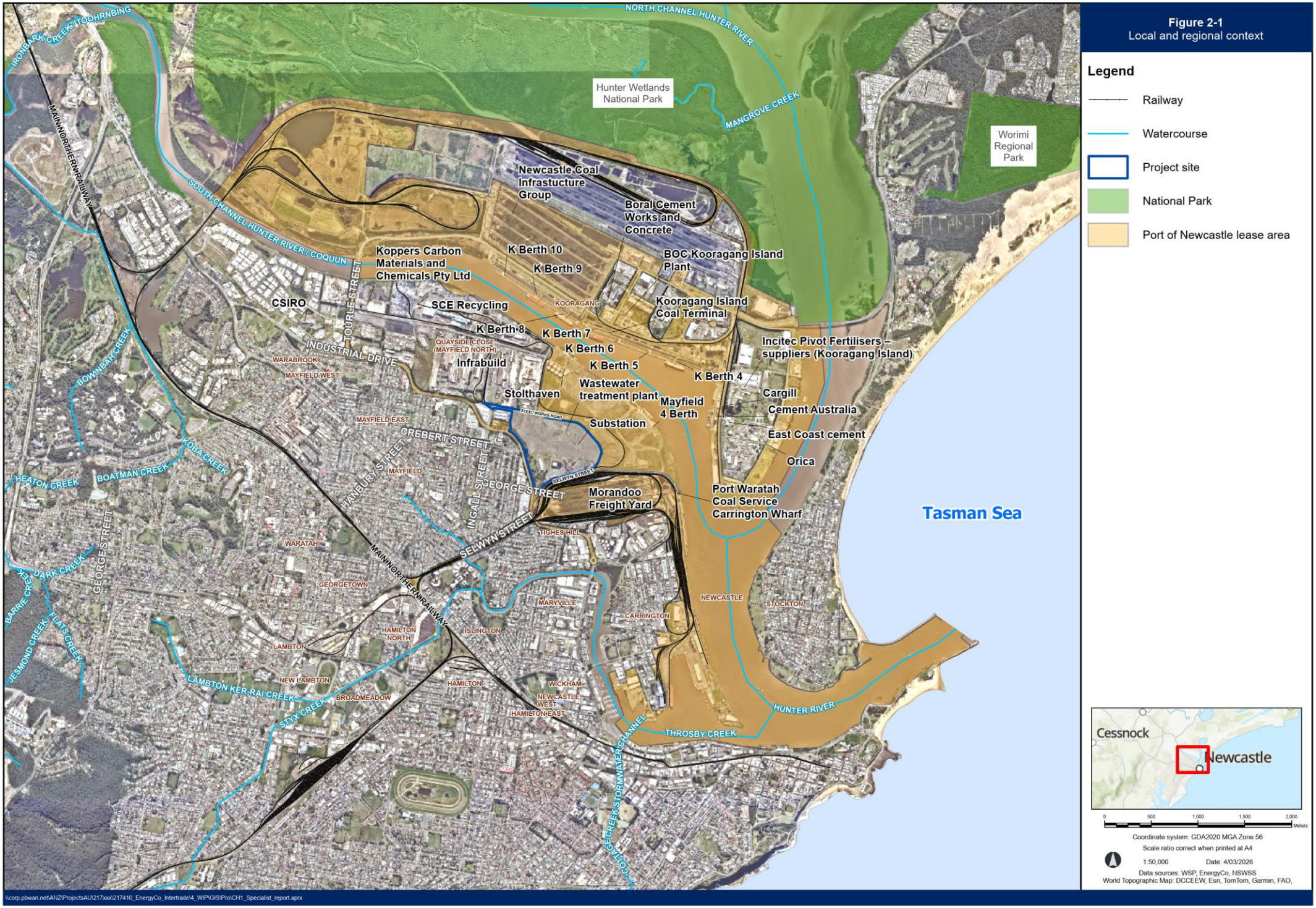


Figure 2-1
Local and regional context

Legend

- Railway
- Watercourse
- Project site
- National Park
- Port of Newcastle lease area

Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:50,000 Date: 4/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Topographic Map: DCCEEW, Esri, TomTom, Garmin, FAO,

The terrain is essentially flat, having been heavily regraded and infilled over decades of steelmaking operations. Following the closure of the steelworks in 1999, the NSW Environment Protection Authority (EPA) determined the site presented a significant risk of harm to human health and the environment. The HCCDC previously remediated the former BHP Steelworks site in accordance with a Voluntary Management Plan regulated by the NSW EPA under the *Contaminated Land Management Act 1997* (CLM Act). Site remediation was carried out in two stages between 2008 and 2018.

Following completion of remediation in 2018, the project site has been disused.

Existing consent – Stage 1 (DA 293-08-00)

An existing consent (DA 293-08-00) covers the Stage 1 development of the former BHP Steelworks site (refer to Figure 2-2). The consent applies to Lot 221 DP1013964, which has since been subdivided into multiple land parcels (including the project site).

The consent was granted by the then Minister for Urban Affairs and Planning on 6 April 2001. Several modifications have since been made to the consent. This includes a modification in 2008 to change the access to the multi-purpose terminal from Crebert Street via the project site (as shown in Figure 2-2) to Selwyn Street.

The Stage 1 consent approved the remediation of the Closure Area (which included the project site) and the development of a multi-purpose terminal. The approved multi-purpose terminal is not located in the project site.

Remediation of the project site, as discussed earlier, has occurred in accordance with the development consent and in accordance with a Voluntary Management Plan. The Intertrade CSMP and the ongoing maintenance order specifies the owner obligations with respect to the site and what remediation infrastructure must be maintained, including what the future redevelopment of the site must maintain or address to ensure integrity of the remediation infrastructure. Refer to Chapter 10 (Contamination and soils) for further information on the Intertrade CSMP.

The project site is considered to be in a satisfactory condition for commercial and industrial uses, subject to compliance with the conditions of an ongoing maintenance order (No. 201928080) issued under section 28 of the CLM Act. This requires the implementation of the Intertrade CSMP prepared by the HCCDC for the project site.

The development consent did not provide for the redevelopment of the project site for any industrial or commercial uses. The development consent including its conditions do not apply to the proposed redevelopment of the project site.

The site for the multi-purpose terminal has since been subject to a separate concept approval in 2012.

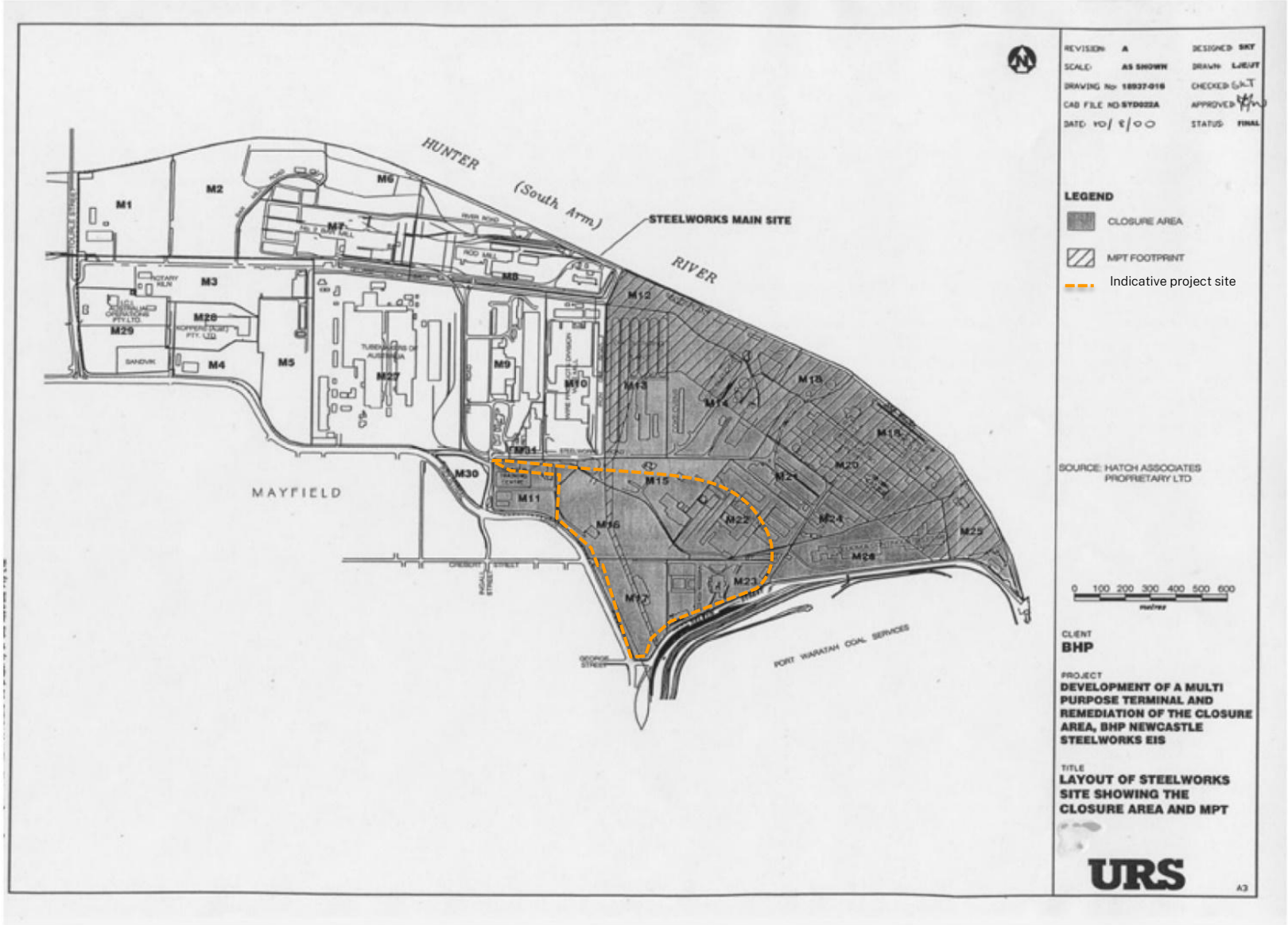


Figure 2-2 The BHP Steelworks remediation and multi-purpose terminal development (DA 293-08-00), as approved in 2001 (Department of Urban Affairs and Planning, undated)

2.3.2 Natural environment

The project site is heavily disturbed. There is some existing vegetation on the western border of the site along Industrial Drive and there are landscaped gardens around the buildings within the southern precinct.

Key features of the natural environment within three kilometres of the project include:

- Hunter Estuary wetland (Ramsar wetland) – located around three kilometres north of the project
- Hunter Wetlands National Park – located around three kilometres north of the project
- Hunter River South Channel and associated key fish habitat – located around 600 metres east of the project.

2.3.3 Community and built environment

The Hunter region of NSW is one of Australia's leading regional economies. The Hunter is home to more than 860,000 people and offers a wide range of employment opportunities and exceptional natural environment. Newcastle is the regional centre of the Hunter and offers residents of the city and broader region a metropolitan centre with diverse communities and globally connecting infrastructure (DPE, 2022a).

Within Newcastle, the project site is located in the suburb of Mayfield North and is adjacent to the residential suburbs of Mayfield and Mayfield East, separated by Industrial Drive. Mayfield North is predominantly comprised of port infrastructure and associated industrial land uses. In contrast, Mayfield is predominately comprised of medium and low density residential areas that are supported by a small commercial core along the Pacific Highway. Mayfield East is comprised of predominately low density residential areas, with some commercial and industrial developments located along Industrial Drive. Approximately two kilometres to the southeast and east of the project site is the suburb of Stockton comprising low density residential areas.

A number of buildings associated with the former BHP Steelworks remain within the southern precinct, some of which are heritage listed (refer to Section 2.3.1). The State heritage listed BHP Administration Precinct curtilage includes the Newcastle Steelworks Memorial and Monument, which is located within the park located in the southwest portion of the project site. Public access, including car parking, is currently provided daily from 9:00 am to 5:00 pm. The Newcastle Steelworks Memorial and Monument is within a secured fenced area that is accessible from a gate at the dedicated car parking area accessed from Roll Shop Road. Several other heritage-listed items associated with the former BHP Steelworks are located adjacent to or in the vicinity of the project site, such as Delprat's Quarters (as called Delprat's Cottage) which is used by the Newcastle Industrial Heritage Association (NIHA).

Infrastructure within the project site that serves or served surrounding port and industrial development include a wastewater treatment plant (being decommissioned), an interim wastewater pump station and pipeline (commissioned to the west of the wastewater treatment plant) and substation. The decommissioning and removal of the wastewater treatment plant, relocation of the substation, and removal of the interim pump station and construction of a permanent pump station and pipeline would be subject to separate approvals.

The majority of the construction footprint is outside the Port of Newcastle lease area (with the exception of a small area to facilitate construction of the northern access).

Current activities within the Port of Newcastle include:

- wharf and berth services
- complementary businesses and uses, such as hardstands
- operation and maintenance of port assets
- cruise shipping.

Adjacent to the project site, the built environment comprises Mayfield 4 Berth and associated hardstand and laydown areas to the east; Stolthaven fuel terminal storage tank farm and the South Coast Equipment recycling plant to the north; and coal stockpiles and Morandoo Freight Yard to the south. West and southeast of the project, the built environment is comprised of Industrial Drive followed by a small commercial strip and residential areas.

On the opposite side of the Hunter River South Channel, approximately one kilometre north of the project, the built environment is also primarily land zoned SP1 – Special Activities allowing port infrastructure and uses. The built environment predominately comprises the Newcastle Coal Infrastructure Group (NCIG) terminal that receives inbound coal, that is stacked in the stockyard prior to exportation, and other port infrastructure.

Other port infrastructure and industrial developments within three kilometres of the project include:

- Mayfield Cargo Handling Facility (separate to Mayfield 4 Berth laydown areas)
- Mayfield Bulk Liquids Berth 7 and associated storage facilities
- rail infrastructure (including Morandoo Freight Yard on the southern boundary of the construction footprint)
- Port Waratah Coal Service Carrington Wharf (and associated coal stockpile)
- Infrabuild steel centre and other industrial properties
- Koppers Carbon Materials and Chemicals
- Kooragang Island Coal Terminal
- coal export berths from Kooragang Berth 4 through to Kooragang Berth 10
- navigation channel and turning circle
- Orica site including ammonia plant, nitric acid plants, two ammonium nitrate plants and a product dispatch facility (Kooragang Island)
- Boral Cement Works and Concrete (Kooragang Island)
- BOC Kooragang Island Plant
- Cargill Australia Crush Plant, Oil Refinery and Terminal (Kooragang Island)
- Cement Australia – distribution (Kooragang Island)
- East Coast cement – bulk cement supplier (Kooragang Island)
- Incitec Pivot Fertilisers – suppliers (Kooragang Island).

To accommodate OSOM movements from the Port of Newcastle to the CWO REZ, EnergyCo and Transport for NSW are upgrading sections of the road network (the Port to REZ program of works). In the immediate vicinity of the project site, the following intersections have been upgraded or are currently under construction (at the time of writing):

- Selwyn Street/Quayside Close, Mayfield North
- Industrial Drive/George Street/Selwyn Street, Mayfield North
- Industrial Drive/Pacific Highway, Mayfield West.

Refer to Figure 2-3 and Figure 2-4 for aerial photos of the project site and its surrounds.



Figure 2-3 Aerial view from above Mayfield East, looking northeast across Industrial Drive, the project site and the Port of Newcastle lease area, taken in 2025 (supplied by EnergyCo)



Figure 2-4 Aerial view looking north across the Morandoo Freight Yard, Selwyn Street, the project site and Port of Newcastle lease area with Kooragang Island in the background, taken in 2025 (supplied by EnergyCo)

2.4 Project alternatives

Feasible alternative options for the project have been assessed, including:

1. Do nothing option
2. Alternate port option
3. Alternate site option
4. Proposed project site option.

Key attributes of the project site are considered against each of the alternatives to understand constraints and opportunities.

2.4.1 Option 1: Base case ('do nothing')

Under the 'do nothing' approach, the project would not be developed. A large area for storage and transport loading close to the Port of Newcastle lease area is essential in managing the logistics associated with development of renewable energy projects in NSW and enables a coordinated approach to management of transport logistics. Without the project, there would be insufficient portside storage at or near the Port of Newcastle to temporarily store and process the volume of imported renewable energy componentry to meet the CWO and New England REZ delivery timeframes. This would create a bottleneck at the port, which would put the timely development of NSW REZs at critical risk and jeopardise electricity reliability and affordability as coal power stations retire. The 'do nothing' option does not meet NSW renewable energy targets as set out in the Roadmap and would pose considerable risk to the NSW electricity system, as well as to NSW electricity consumers. The 'do nothing' option does not align with the policy objectives of the NSW Government and is not considered a viable option.

2.4.2 Option 2: Alternate port option – Port Kembla

Port Kembla is located directly south of the Wollongong CBD and is primarily utilised for motor vehicle importation and grain export for southern and southwestern NSW. Landside operations are managed by NSW Ports.

To date, Port Kembla has been utilised as an import point for several windfarms. EnergyCo has undertaken an analysis of the potential of utilising Port Kembla as an import location for OSOM renewable energy components.

This analysis identified multiple constraints with the use of this location, that include:

- significant upgrades would be required to the intersection which connects the port to the public road network (Tom Thumb Road and Springhill Road) to facilitate transportation of blades greater than 70 metres in length. Engagement with wind generation projects in both the CWO REZ and New England REZ have indicated that projects are likely to use larger turbine blades
- three bridges near Port Kembla on the Princes Motorway (including Princes Highway Bridge and University Avenue Bridge) are restricted to a 4.9 metre height clearance. These bridges would require raising to allow for the transportation of some OSOM components
- significant geometrical road constraints between Port Kembla and the CWO REZ and New England REZ. OSOM loads would require transportation along Great Western Highway, over the Blue Mountains
- travel distances for heavy vehicle routes to renewable energy projects in the CWO REZ and New England REZ from Port Kembla would be greater than Port of Newcastle.

2.4.3 Option 3: Mayfield 4 Berth site

The alternate site option would involve development of the existing area located northwest, west and southwest of Mayfield 4 Berth within the Port of Newcastle lease area into the dedicated logistics precinct for OSOM components for renewable energy projects. The Mayfield 4 Berth hardstand offers potential as a logistics precinct due to its direct access (adjacent) to the berth and is around 18 hectares in size. The Port of Newcastle has approval to operate this area for cargo storage purposes (Mayfield Cargo Storage project) and forms part of its 2040 masterplan for the port. There are currently two modifications to existing planning approvals to extend existing cargo storage activities within the Port of Newcastle lease area (refer to Chapter 22 (Cumulative impacts)). However, these hardstand areas within the Port of Newcastle lease area would not be dedicated to storage of renewable energy components and relatively heavily utilised at present, with demand for the area anticipated to grow as the number of renewable energy projects in the state increases. Even with the two additional modifications, there would not be sufficient storage area for the REZ or other Roadmap projects and would prevent other port users from using the hardstand area for import/export purposes.

Due to the limited availability of suitable land within the Port of Newcastle lease area for any further expansion of hardstand areas to facilitate the unloading and storage of OSOM components, no further alternatives were identified within or adjacent to the Port of Newcastle.

2.4.4 Option 4: Intertrade industrial precinct site (the preferred option)

The proposed project site is located adjacent to the Port of Newcastle lease area and in the vicinity of Mayfield 4 Berth. This project site addresses the project objectives and was identified as most suitable due to:

- the Port of Newcastle is strategically located with connections to the state road network and REZs, including CWO REZ and New England REZ
- the large area of available land is suitable for development as a logistics precinct
- the land is NSW Government owned
- previously installed remediation infrastructure has made the land suitable for industrial and commercial use
- proximity to port and shipping operations being adjacent to Mayfield 4 Berth
- proximity to arterial road network to facilitate transport of OSOM components
- suitable land zoning for the project
- practical management measures for the ongoing compliance requirements of remediation infrastructure at the project site
- opportunity to expand to meet future demand (if required)
- the project would connect with EnergyCo's Port to REZ road and intersection upgrade program between the Port of Newcastle and the REZs (currently underway)
- the project site is of sufficient size that it would enable EnergyCo to manage delays in the delivery of renewable energy generation projects that would otherwise lead to requirements for additional storage area at the Port of Newcastle.

2.4.5 Summary of project alternatives against the project objectives

A summary of the project alternatives against the project objectives is provided in Table 2-3.

Table 2-3 Summary of strategic project options against the project objectives

Project objective	Option 1	Option 2	Option 3	Option 4
Facilitate the timely, efficient and successful delivery of equipment and components required for the construction of critical renewable energy infrastructure, including REZ transmission, generation, firming and storage projects	×	×	✓	✓
Increase portside storage and handling capacity for OSOM and non-OSOM equipment to reduce supply chain bottlenecks affecting Central West Orana and New England REZs	×	×	×	✓
Prioritise the development of portside storage and handling infrastructure to meet peak demand periods for delivery of the REZs, critical program milestones and OSOM equipment specifications. Support other Roadmap and electricity generation initiatives contributing to the broader energy transition.	×	×	×	✓
Contribute to efficiency of logistical movements given limited hardstand available within the Port of Newcastle	×	✓	✓	✓
Minimise potential adverse impacts on the environment	✓	×	✓	✓

2.5 Project development

2.5.1 Approach to project development

The project has been (and would continue to be) developed with consideration of both technical and environmental considerations with the objective to avoid and minimise impacts to the community and environment (as far as practicable). Project development has also aimed to maximise the site area available for storage of materials and equipment, logistical movement of OSOM components as well as provide adequate capacity in the pavement for lifting of OSOM components, utilising cranes and reach stackers.

The concept design has been developed based on existing site information with a strong focus on compliance with an ongoing maintenance order issued by the NSW EPA under Section 28 of the CLM Act including compliance with the Intertrade CSMP. The Intertrade CSMP requires the integrity of previously installed remediation infrastructure across the project site to be maintained and/or reinstated following any disturbance and is therefore a key constraint for the project site.

Key considerations for avoidance and minimisation that have been generally applied throughout the project development process have included:

- minimising excavations and the extent of interference with remediation infrastructure and the underlying BHP subgrade material where practicable
- designing new drainage infrastructure in accordance with the Intertrade CSMP requirements to minimise interaction with underlying contaminated groundwater

- minimising changes to surface levels and drainage infrastructure to minimise changes in flood risk as far as practicable within and adjacent to the project site
- selection of piling methodology to minimise interaction with contaminated soils and groundwater
- minimise the clearing extent of existing vegetation on the project site to facilitate construction and operation of the project
- avoiding and/or mitigating impacts to non-Aboriginal heritage items located within the southern precinct.

Further discussion on the options considered for site access and adaptative re-use of buildings is provided in sections 2.5.2 and 2.5.3.

2.5.2 Site access

Several options were considered for operational access to and from the project site. Any access must accommodate the swept paths of heavy vehicles with OSOM loads. EnergyCo also require access to and from the north (Steel Works Road) and south (Selwyn Street) to provide operational flexibility and security of access to and from the public road network.

The project site is presently served by three internal roads that connect to Selwyn Street as well as an access driveway from Steel Works Road (located in the northwestern corner) (refer to Figure 1-1). The configuration of the three internal roads (being Roll Shop Road, Administration Drive and David Baker Road) reflect the requirements and site layout of the former BHP Steelworks. The four existing accesses, in their present condition, do not cater for the heavy vehicle swept paths required for the project. Internal access between the main logistics precinct and southern precinct is also constrained by a drainage swale that runs parallel to Administration Drive that divides the main logistics and southern precincts. The southern precinct as well as parts of Selwyn Street and Steel Works Road are flood affected during 10 per cent and one per cent Annual Exceedance Probability (AEP) flood event.

The key design and environmental criteria for the site access options were:

- ability to cater for swept paths for the largest OSOM load entering and departing the site, being a heavy vehicle transporting a wind turbine blade up to 100 metres long (referred to as the design vehicle)
- maximising operational flexibility for access to and from the main logistics precinct, including providing unhindered access to and from the public road network for heavy and light vehicles
- providing a vertical alignment that minimises changes to the adjoining road network while minimising interface with underlying BHP subgrade material within the project site, changes to drainage infrastructure (in particular the stormwater drainage channel) and changes to flood behaviour during the one per cent AEP flood event
- maximising the space and operational efficiency of storage areas across the project site and maintaining access to the southern precinct
- avoiding direct property impacts to industrial developments and substation infrastructure located on Steel Works Road
- avoiding conflict with existing rail infrastructure, in particular, the level crossings on Selwyn Street and Steel Works Road
- minimising impacts to buildings on-site, where practicable. In particular, avoidance of direct impact to the heritage items listed in the Transport and Infrastructure SEPP and State heritage listed BHP Administration Precinct.

Stakeholder feedback from Heritage NSW and Port of Newcastle was also considered when determining the preferred access arrangements.

Northern access

Two options were considered for the northern access – modification to the existing northern access or a new northern access. A northern access is required by EnergyCo to provide flexibility in managing movements to and from the project site. It would however require travel within the Port lease area, which is subject to agreement with the Port of Newcastle.

Modifications to the existing northern access was not preferred as it would impact the available storage area and the operational efficiency of the main logistics precinct.

A new northern access is constrained by existing industrial developments, the level crossing and substation off Steel Works Road. To avoid impacts on property and infrastructure, the preferred option would only provide access to and from Mayfield 4 Berth. This would necessitate a southern access to provide access to and from the public road network.

Southern site access

The following options were considered for southern access:

- modifications to Roll Shop Road (southern option 1)
- modifications to Administration Drive (south) (southern option 2)
- a new eastern access, located to the west of David Baker Road (southern option 3)
- modifications to David Baker Road (southern option 4)
- a new centralised access between Roll Shop Road and Administration Drive (southern option 5).

The internal access road that would connect the main logistics precinct to Selwyn Street has been designed to minimise changes to drainage infrastructure and flood behaviour, while minimising interaction with the remediation infrastructure (and the underlying BHP subgrade material) and Selwyn Street. As a result, the internal access road to the main logistics precinct would be on an embankment as it advances north with a new culvert structure at the stormwater drainage channel.

The following options were not selected as the preferred option as:

- Southern option 1 directly impacted an unoccupied office building (referred to as the 'IT building') and impacted the length of Roll Shop Road, including the driveway access to the Quality Control Laboratory and the intersection of Roll Shop Road and Administration Drive, which provides access to the Roll Shop building via Roll Shop Road. The Roll Shop building and immediate surrounds is included within the curtilage for the BHP Administration Precinct and is proposed to be used by the project during operation as an all-weather storage facility. This option would require additional modifications to the internal road layout to maintain access to the Roll Shop building (to enable its adaptative re-use) as well as adjustments to maintain access to the Quality Control Laboratory building (a SEPP listed heritage item).
- Southern option 2, when compared to southern option 5, would be closer to the BHP Administration Building and would have increased potential for direct and indirect impacts on the BHP Administration Building (including visual and vibration) and the curtilage for the BHP Administration Precinct. This option had also been considered in combination with southern option 3, which would have isolated access to the front of the BHP Administration Building.
- Southern option 3 had similar limitations to southern option 2 but would also have resulted in direct impacts to the heritage-listed gardens associated with the building. This option was not selected due to direct and indirect impacts on the BHP Administration Building.
- Southern option 4 had increased impacts on Selwyn Street, the rail line and level crossing due to the space required for the design vehicle swept path.

Southern option 5 was selected as the preferred option (refer to Figure 1-1) as it:

- achieves the required access for the design vehicle to and from the public road network and from Mayfield 4 Berth
- avoids as far as reasonably practicable the State heritage BHP Administration Precinct non-contiguous curtilage. It also maximises offset distance to the BHP Administration Building (minimising potential visual and vibration impacts) and maintains access to the front of this building from the east when compared to southern option 2
- maintains access to other parts of the southern precinct via Roll Shop Road and David Baker Road to enable these residual spaces to be used for storage or ancillary operational activities. This includes the opportunity for a continued use of the Roll Shop building
- avoids direct impact to the Quality Control Laboratory building (a SEPP listed heritage item) and the IT building.

However, this option would directly impact the BHP Administration Precinct curtilage (and vegetation contained within) at the corner of Selwyn Street and Administration Drive to accommodate the swept path for the largest design vehicle (being a prime mover transporting a 100 metre long wind turbine blade).

In minimising the extent of impact to the curtilage and maximising the distance to the BHP Administration Building, the separation distance to the Quality Control Laboratory has decreased (a SEPP listed heritage item). This would result in direct impacts to the building's circular driveway at its front entrance and gardens surrounding the building, as well as potential indirect impacts to the building (due to construction vibration).

Design refinements for site access would continue during project development to further minimise impacts to the State heritage curtilage, as well as providing for access from the new southern access (central) to Administration Drive (south).

2.5.3 Adaptative re-use of buildings

Five unoccupied buildings and one ancillary structure (a bicycle shed) are located within the southern precinct in varying condition and heritage significance. Given the nature of the project, the need for ancillary operational buildings is limited to maintenance activities and staff amenities for 45 FTE operational employees (including car parking).

The Roll Shop building is a large steel framed building with a small brick office attached to the eastern façade. It is included in the State heritage listed BHP Administration Precinct. The building was identified as being suitable with minimal physical intervention for re-use for the project as an all-weather storage for smaller equipment and maintenance equipment.

The BHP Administration Building exceeds the operational requirements for the project. The project has been designed to avoid direct impacts to the main building (as discussed in Section 2.5.2) and to not preclude future uses of the building.

The Quality Control Laboratory (a SEPP listed heritage item) and two office buildings exceed the operational requirements for the project and/or are not suited for re-use. In addition, the current condition of the Quality Control Laboratory and scale of work required to ensure it is safe and fit for purpose (including removal of hazardous building materials) also makes it unsuitable for re-use.

2.5.4 Future project development

It is expected that further refinement of the project's design and construction methodology would continue through the environmental approvals process and construction.

During public exhibition of this EIS, EnergyCo would undertake communication and consultation activities. The community, government agencies and other interested parties may make written submissions on the project for consideration in the assessment of the project.

Following the public exhibition period, EnergyCo would consider the feedback received in these submissions and may potentially (subject to the project development process) consider adjustments to the project and/or construction methodology. Any changes to the project in response to submissions received on the EIS would be documented where relevant, in a Submissions Report and if required, an Amendment Report.

Continued design development and detailed construction planning would be undertaken at the same time as the above environmental assessment process as more detailed technical, design, constructability and environmental information becomes available. Any changes to the project design and/or construction methodology that arise due to this process would also be made available as part of a Submissions Report and if required, Amendment Report.

Any future project development and refinement would generally be undertaken in consideration of environmental constraints that have been applied to the project development process to date.

3 Project description

The project as described in this chapter is based on the current level of design development that has occurred to date. Detailed design would include further engineering and construction planning.

3.1 Operation

3.1.1 Operation overview

Table 20-1 provides a summary of the key operational features of the project.

Table 3-1 Project summary (operation)

Project element	Summary	Figure reference
Description	A new logistics facility within the Port of Newcastle that provides additional storage and transport loading areas to support the supply chain logistics for critical transmission, generation, firming and storage projects which require equipment arriving through the Port of Newcastle.	Figure 3-1
Project site description	99 Selwyn Street, Mayfield North NSW 2304 (Lot 332 DP1176879)	Figure 3-1
Project site area	52 hectares	Figure 3-1
Operational footprint	Around 44 hectares	Figure 3-1
Key components	• laydown areas within the operational footprint to be used for open storage of materials and equipment for renewable energy projects which arrive through the Port of Newcastle and the loading of equipment onto vehicles • vehicle circulation paths (including two new culvert crossings over existing stormwater drainage infrastructure) suitable for a designed wind turbine blade of 100 metres • staff amenities buildings and parking areas for light vehicles in the southern precinct • Roll Shop building in the southern precinct for all weather storage of smaller components, dangerous goods, mobile heritage items and maintenance and servicing equipment • stormwater drainage infrastructure.	Figure 3-4

Project element	Summary	Figure reference
Site access	Access to/from the main logistics precinct would be via: • Selwyn Street (new access) (southern access (central)) • Steel Works Road (new access) (northern access). Site access via Roll Shop Road would be maintained and would serve as primary access to/from the staff amenities building, staff parking area and the Roll Shop building (southern access (west)). Site access from Selwyn Street via David Baker Road would be maintained and would serve as primary access to storage area in the eastern portion of the southern precinct (southern access (east)).	Figure 3-2
Traffic movements	During peak activities, the typical movements comprise: • 50 heavy vehicle movements per day from the project site to renewable energy projects, including 32 OSOM heavy vehicle movements. An additional 256 daily light vehicle movements are anticipated for renewable energy projects, made up of pilot and escort vehicles that accompany OSOM transport movements and other operational light vehicles. • 62 heavy vehicle movements per day and 186 light vehicle movements per day from Mayfield 4 Berth to the project site, including 42 heavy vehicle movements with OSOM loads. • 120 light vehicle movements per day to/from the project site associated with staff or visitors.	N/A
Workforce	45 FTE workers during operation	N/A
Hours of operation	7 days a week, 24 hours a day	N/A
Commencement of operations	2028	N/A

3.1.2 Storage precincts

The project site comprises two key storage precincts:

- main logistics precinct, where renewable energy project materials and equipment including the storage of hazardous materials and equipment such as BESS components, would be stored and loaded on/off heavy vehicles using forklifts, cranes and reach stackers
- southern precinct, where renewable energy project materials and would be stored and loaded on/off heavy vehicles using forklifts.

Figure 3-1 shows the precincts for the project.


STEEL WORKS ROAD
Northern access
MAYFIELD NORTH
CREBERT STREET
KITCHENER PARADE
MAYFIELD EAST
INDUSTRIAL DRIVE
ADMINISTRATION DRIVE
ROLL SHOP ROAD
DAVID BAKER ROAD
SELWYN STREET
Southern access (east)
Southern access (central)
Southern access (west)
TIGHES HILL
GEORGE STREET
Figure 3-1
Storage precincts
Legend
Road
Railway
Operational footprint
Northern access
Southern access (central)
Indicative BESS locations
Roll Shop building (all weather storage)
The operational amenities building and car park
State heritage curtilage
Quality Control Laboratory (SEPP heritage item)
Precinct
Main logistics precinct
Southern precinct
National Park
Newcastle
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000
Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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Main logistics precinct

The main logistics precinct comprises a hardstand area of around 31 hectares that would be used for unloading, loading and storage of materials and equipment including (but not limited to) wind turbine components, transformers, synchronous condensers, BESS components, and other equipment associated with renewable energy projects. Entry and exit to the main logistics precinct from Mayfield 4 Berth would be via Selwyn Street through the southern precinct (southern access (central)) or via Steel Works Road (northern access).

The hardstand has been designed to maximise the site area available for materials and equipment storage while providing for the weight of an 80 tonne reach stacker and 250 tonne cranes. Cranes, reach stackers and vehicles would be free to move across the main logistics precinct.

The hardstand area requires placement of additional pavement above existing remediation infrastructure to provide sufficient depth to achieve pavement strengths to transport, handle, and store OSOM components with heavy plant and equipment. The pavement is anticipated to be between 0.5 and up to one metre in depth and designed to provide a suitable wearing course to mitigate possible dust generation during operations.

The hardstand will likely be graded between one to 1.5 per cent to direct surface water to the perimeter drainage infrastructure of the project site while enabling safe operations of heavy plant and equipment. Further detail on drainage is provided in Section 3.1.4.

Southern precinct

The southern precinct currently comprises an internal road network with a number of vacant buildings and structures associated with the former BHP Steelworks. The existing internal road network would be modified to facilitate the new southern access (central) to Selwyn Street, as described further in Section 3.1.3.

The southern precinct would include an open hardstand area that would be used for unloading, loading and storage of non-OSOM materials and equipment associated with renewable energy projects (refer to Figure 3-1). The hardstand would have one designated open storage area accessed through David Baker Road (southern access (east)) as detailed in Section 3.1.3.

In addition, the existing Roll Shop building would be repurposed to provide all weather storage of smaller components, dangerous goods, mobile heritage items, and maintenance and servicing equipment.

3.1.3 Site access and vehicle circulation

Existing access to the project site includes three gated entries on Selwyn Street comprising David Baker Road, Administration Drive and Roll Shop Road, as well as a gated entry on Steel Works Road (as shown in Figure 3-2).

Access would be retained to the southern precinct and Roll Shop building via Roll Shop Road off Selwyn Street (southern access (west)), as well as into the eastern portion of the southern precinct via David Baker Road (southern access (east)). These access points are not being modified from existing, as such, they would not accommodate OSOM movements but would cater for standard heavy vehicles and light vehicles accessing the Roll Shop building, the staff amenities and car park area, and southern precinct storage area.

To accommodate the swept path of the design vehicle for the Roll Shop building, minor widening to Roll Shop Road that matches the existing pavement profile would be required. Minor adjustments may be required on David Baker Road to accommodate for heavy vehicle access to/from the storage area.

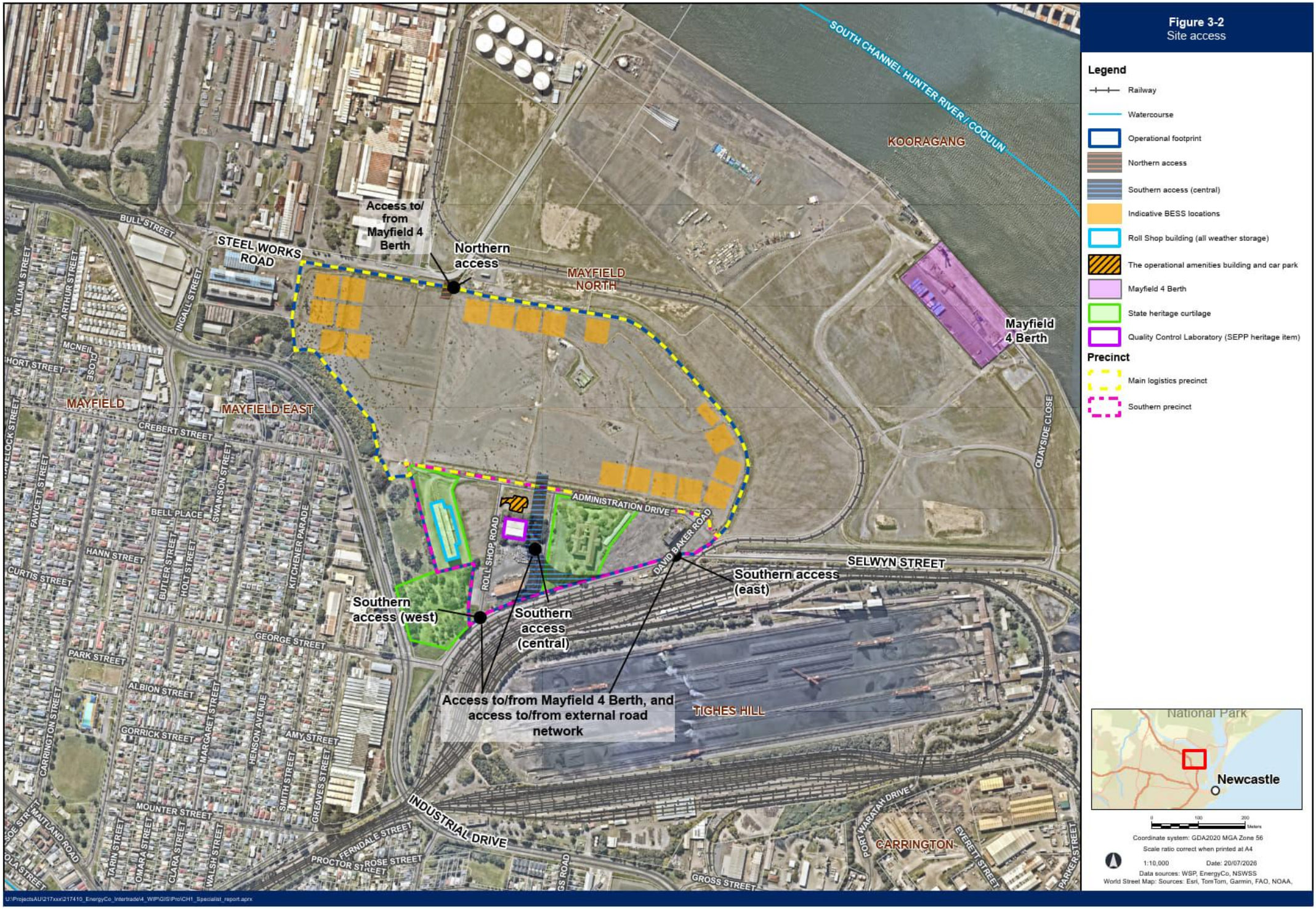
New site access and egress would be provided via two new non-signalised intersections, one off Selwyn Street (southern access (central)) and one off Steel Works Road (northern access) (refer to Figure 3-2). These would cater for OSOM movements to/from the main logistics precinct as well as light vehicle access. The new access/egresses would require new crossings over the existing stormwater drainage infrastructure to connect to the main logistics precinct (refer to Figure 3-2). Access and egress via Steel Works Road during operation would only be via the new northern access.

Within the main logistics precinct, internal circulation paths would be configured to reflect the number of developers (third parties) operating within the site and to accommodate the type and configuration of the components being stored on the project site at any given time.

Light vehicle access between the main logistics precinct and the southern precinct during operation would be provided off the southern access (central). Connections would be provided south of the Quality Laboratory Building and would connect to Administration Drive (south) and Roll Shop Road.

The project site is currently fully fenced at the boundary with locked access gates. Existing security fencing would be maintained with adjustments for new access roads to site. Security gates would be provided at each external access point.

An existing pedestrian footpath runs along the northern verge of Selwyn Street from between Roll Shop Road up to David Baker Road. A footpath would be reinstated across the new non-signalised intersection (southern access (central)) following its construction.


SOUTH CHANNEL HUNTER RIVER / COQUUN
KOORAGANG
Access to/ from Mayfield 4 Berth
Northern access
MAYFIELD NORTH
Mayfield 4 Berth
STEEL WORKS ROAD
BULL STREET
WILLIAM STREET
ARTHUR STREET
INGALL STREET
MCNEIL CLOSE
HORT STREET
MAYFIELD
MAYFIELD EAST
CREBERT STREET
FAWCETT STREET
SWANSON STREET
BELL PLACE
HANN STREET
CURTIS STREET
BUTLER STREET
HOLT STREET
KITCHENER PARADE
ADMINISTRATION DRIVE
ROLL SHOP ROAD
DAVID BAKER ROAD
QUAYSIDE CLOSE
SELWYN STREET
Southern access (east)
Southern access (west)
Southern access (central)
GEORGE STREET
PARK STREET
ALBION STREET
CARRINGTON STREET
GORRICK STREET
MARGARET STREET
HENSON AVENUE
AMY STREET
SMITH STREET
GREAVES STREET
Access to/from Mayfield 4 Berth, and access to/from external road network
TIGHES HILL
MOUNTER STREET
INDUSTRIAL DRIVE
FERNDALE STREET
PROCTOR STREET
ROSE STREET
MAITLAND ROAD
TARIN STREET
OMARA STREET
CLARA STREET
WALSH STREET
GS ROAD
GROSS STREET
PORT WARATAH DRIVE
CARRINGTON
EVERETT STREET
PARKER STREET
Figure 3-2
Site access
Legend
Railway
Watercourse
Operational footprint
Northern access
Southern access (central)
Indicative BESS locations
Roll Shop building (all weather storage)
The operational amenities building and car park
Mayfield 4 Berth
State heritage curtilage
Quality Control Laboratory (SEPP heritage item)
Precinct
Main logistics precinct
Southern precinct
National Park
Newcastle
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:10,000
Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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3.1.4 Ancillary infrastructure

Ancillary infrastructure for the project is outlined in Table 3-2.

Table 3-2 Summary of ancillary infrastructure

Ancillary infrastructure	Summary
Stormwater and water quality	Existing stormwater drainage within the main logistics precinct consists of sheet flow or local swales directing flows into the perimeter channels that discharge into tidal drainage channels beyond the perimeter of the project site. The southern precinct is serviced by an existing local 750 millimetre trunk drainage system with existing miscellaneous drainage pits. Stormwater drainage for the project would include: • main logistics precinct: a hardstand area that primarily directs sheet flow to a water quality swale via overland flow paths. The water quality swale then discharges into perimeter channels via new concrete drainage chutes. The western-most perimeter channel would be realigned to accommodate the hardstand area • southern precinct: the access roads incorporate minor localised road drainage pits, spoon drains and gully pits, all connected to the existing 750 millimetre trunk drainage system. The project would modify existing drainage pits on Selwyn Street that are required for the new driveway crossover. The project has been designed to one per cent AEP flood extent.
Water and wastewater	Water and sewer connections to water and wastewater utilities would be established for the staff amenities buildings.
Power	Electrical power supply for the staff amenities buildings would be established from a future high voltage substation (by others) within the southern precinct (subject to separate approval). Power supply to the main logistics precinct would be determined during detailed design.
Communications	The project site is supplied by Telstra and the NBN network. Asset owner consultation would be undertaken during detailed design for relocation (where required) and to determine future assets.
Lighting	A street lighting design would be provided during the detailed design phase in accordance with relative standards, including Australian Standard *AS1158 Lighting for Roads and Public Spaces*. This would include the relocation of street lighting and overhead power as part of the Ausgrid network on the northern verge of Selwyn Street, between Roll Shop Road and the rail line and the provision of perimeter lighting for security fencing, access lighting and lighting for facilities building and staff car park.
Fencing and other security features	The project site is currently fully fenced at the boundary with locked access gates. Existing security fencing would be maintained with adjustments for new access roads to site. Security gates would be provided at each access point.

Ancillary infrastructure	Summary
Signage	Regulatory signage would be developed during detailed design in accordance with Australian Standard *AS1742.2 Manual of uniform traffic control devices, Part 2: Traffic control devices for general use* and Transport for NSW's signposting guidelines. Signage would include appropriate control and warning signage at the external road connections to the project site. Information/wayfinding signage within the project site would also be considered during detailed sign and would be generally flat directional signage that is not illuminated.
Staff amenities buildings	Staff amenities buildings with staff car parking would be installed south of Administration Drive within the southern precinct. The staff amenities building would comprise demountable (not fixed) buildings.

3.1.5 Hours of operation

The project would operate up to seven days per week, 24 hours a day. Hours of operation are defined into three categories in accordance with the Noise Policy for Industry and include:

- daytime operation – the period from 7:00 am to 6:00 pm, Monday to Saturday; or 8:00 am to 6:00 pm, Sunday and public holidays
- evening operation – the period from 6:00 pm to 10:00 pm
- night-time operation – the remaining periods.

3.1.6 Operation activities

An overview of project operation is shown in Figure 3-3. The project would provide hardstand to facilitate the unloading, loading and storage of materials and equipment (including potentially hazardous materials and equipment such as BESS components) associated with renewable energy projects. Cranes, reach stackers and forklifts would be used to handle materials and equipment.

There could be multiple developers (third parties) using the project site at any one time to store renewable energy components for future projects. A Site Manager (Operations and Maintenance Contractor) would be engaged to oversee third parties using the project site and responsible for overarching management of the project site, including all operation activities, environmental management and compliance.

Annual throughput is expected to include up to 1,151 wind turbine blades, up to 3,069 wind turbine tower segments, six transformers, and up to 766 wind turbine nacelles and hubs. The project site can hold up to 4,500 standalone BESS components (or 950 containers storing BESS components). The project would not include charging infrastructure for BESS components.

The project site may be designated with relevant biosecurity classification to permit the unhindered unloading from vessels at Mayfield 4 Berth to the project site, subject to confirming the required approval under the Commonwealth *Biosecurity Act 2015* and required infrastructure requirements (e.g. mobile washdown and areas for inspection and quarantine).


STEEL WORKS ROAD
Northern access
MAYFIELD NORTH
MAYFIELD EAST
Southern access (central)
Southern access (east)
Southern access (west)
TIGHES HILL
Figure 3-3
Overview of operational activities
Legend
Road
Railway
Operational footprint
Northern access
Southern access (central)
Indicative BESS locations
Roll Shop building (all weather storage)
The operational amenities building and car park
Indicative storage area
State heritage curtilage
Quality Control Laboratory (SEPP heritage item)
Precinct
Main logistics precinct
Southern precinct
National Park
Newcastle
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:4,858
Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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Once the renewable energy components have been unloaded onto heavy vehicles at the Mayfield 4 Berth, the heavy vehicles would travel to the project site via internal port roads and/or Selwyn Street. Once within the project site, cranes, reach stackers and forklifts would unload and temporarily store the components at designated storage areas for a period before being loaded onto heavy vehicles for transport off-site. Heavy vehicles and escort vehicles (where required for heavy vehicles) would depart via Selwyn Street to their final location, which would include locations within REZs and other renewable energy projects. Vehicles may also enter or exit the main logistics precinct at the northern access from Steel Works Road that would provide bi-directional traffic flow for the transfer of equipment (including OSOM components) between Mayfield 4 Berth and the project site.

The existing Roll Shop building would be repurposed and used for all weather storage of smaller components, plant and equipment for maintenance activities as well as storage of dangerous goods (not including BESS equipment). Forklifts would be used to handle materials and equipment stored within the Roll Shop building.

Plant would move between precincts and conduct lifts onto transport vehicles, as well as general movement within the project. During the day, up to four mobile crane(s) and six reach stackers would operate across the main logistics precinct. The cranes would be capable of handling up to 250 tonnes and would be up to around 50 metres tall. Reach stackers would be capable of handling up to 80 tonnes for a single operation lift. Other support vehicles and plant, including heavy vehicles, light vehicles, watercart and forklifts would also operate across the project site.

At night, operations would likely involve up to four cranes and six reach stackers. Lighting within the project site would be provided using portable lighting towers. Loading of heavy vehicles would be prioritised during the day and evening prior to departure from the project site.

Traffic movements

Movements to/from the project site and the public road network during peak operations over a 24 hour period would typically comprise:

- 50 heavy vehicle movements to renewable energy projects, including 32 OSOM heavy vehicle movements
- 256 light vehicle movements to renewable energy projects. These vehicles consist of pilot and escort vehicles for the OSOM loads
- 62 heavy vehicle movements from Mayfield 4 Berth to the project site, including 42 heavy vehicle movements with OSOM loads
- 186 light vehicle movements from Mayfield 4 Berth to the project site associated with OSOM pilot and escort vehicles and general operational activities (maintenance)
- 120 light vehicle movements associated with staff and visitors.

For OSOM heavy vehicle loads, movements between the project site to renewable energy projects would occur when permitted by the National Heavy Vehicle Regulator and at night (expected between 9:00 pm and 3:00 am for outbound OSOM loads, and 9:30 pm to sunrise for returning OSOM heavy vehicles).

3.1.7 Maintenance activities

Maintenance activities during operation would include:

- regular inspection and repair of access roads, vehicle circulation paths, hardstand areas and other areas as appropriate
- fire detection system inspection and maintenance (if required)
- regular inspection and maintenance of stormwater management systems

- servicing and minor maintenance of loading and unloading equipment
- inspection and maintenance of site security
- other works required for compliance with the ongoing maintenance order for the project site
- general building and landscaping maintenance within the project site.

3.1.8 Employment

The project would have an operational workforce of 45 FTE workers.

3.2 Construction

3.2.1 Construction overview

Table 3-3 provides a summary of the key construction elements of the project.

Key activities for the project would occur in the following phases:

- site establishment including:
  - utility adjustments and connections
  - installation of site erosion and sediment controls
  - installation of traffic controls and security provisions where required
  - construction compound establishment and operation
  - site preparation
  - vegetation removal
- main construction works including:
  - main logistics precinct
    - earthworks in accordance with requirements set out in the Intertrade CSMP
    - screening, blending and stockpiling of materials
    - new site access
    - hardstand
    - lines and signs
    - perimeter lighting
    - modification to stormwater infrastructure
    - utility adjustments and connections
  - southern precinct:
    - new site access and upgrades or adjustments to existing internal roads
    - lines and signs
    - construction of permanent staff amenities
    - lighting
    - upgrade and repair of Roll Shop building

    - utility adjustments and connections
    - security and fencing
- demobilisation.

These key phases would not necessarily take place in the order stated above and some phases may take place concurrently as depicted in Table 3-4.

Table 3-3 Project summary – construction

Project element	Summary	Figure reference
Construction footprint	Around 47 hectares.	Figure 3-4
Land description	Lot 332 DP1176879 (the project site), part of Lot 53 DP1229869, Lot 54 DP 1229869 and Lot 38 DP 1191723, and part of Selwyn Street.	Figure 3-4
Construction program	Anticipated to commence in mid-2027 and take around 12 months with completion in 2028.	Table 3-4
Construction workforce	Variable with a peak construction workforce of up to 110 FTE workers.	N/A
Construction compound	A construction compound used for the laydown of plant and equipment, storage of construction materials, parking for light and heavy vehicles, workforce amenities (such as meal rooms, ablutions, first aid) and a site office would be located to the east of the Roll Shop building (off Roll Shop Road/Administration Drive).	Figure 3-4
Construction vehicles	• 220 light vehicles movements per day associated with construction workers commuting to/from site, and 5–10 light vehicle movements per day associated with visitors, inspections etc • around 400 heavy vehicle movements per day (varies by construction phase) associated with the delivery of material • 2–6 heavy vehicles movements per day (varies by construction phase) associated with equipment deliveries • up to 6–10 heavy vehicle movements per day associated with waste material with peak movement expected during main construction phases.	N/A
Dewatering	No dewatering is expected during the works due to strict requirements within the Intertrade CSMP to limit standing water within the project site.	N/A

Project element	Summary	Figure reference
Construction routes	Construction routes to and from the project site would use the public road network, including: • Roll Shop Road and David Baker Road, both from Selwyn Street via the Industrial Drive, George Street and Selwyn Street intersection • existing access off Steel Works Road via Industrial Drive. Parking for construction workers would be provided at the construction compound, and heavy vehicles would use the existing hardstand areas for parking within the project site.	Figure 3-5
Utility adjustments	Adjustments to existing utilities would be required where new infrastructure would interface with existing utilities. This could include protection or relocation of utilities such as electrical, potable water, wastewater and communications. These would be subject to further consultation and approval from the relevant asset owners and authorities.	Figure 3-4
Excavation	Earthworks would involve around: • 25,800 m^3 cut • 42,700 m^3 fill.	Figure 3-4
Pavement	Imported material quantities to construct pavement is expected to comprise: • 16,900 m^3 formation material • 101,200 m^3 of selected material zone • 84,700 m^3 of unbound granular subbase • 82,610 m^3 of unbound granular base • 3,560 m^3 of lightly bound granular base.	Table 3-5
Stockpiles	The stockpile would be located within the main logistics precinct on the Bar Mill Slab, with an indicative volume of 26,000 m^3.	N/A



Figure 3-4
Overview of project construction

Legend

- Road
- Railway
- Construction footprint
- Main logistics precinct
- Southern precinct
- Excavation Area
- Roll Shop building (all weather storage)
- Construction compound



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000 Date: 4/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/

3.2.2 Indicative construction program

Construction of the project is estimated to take around twelve months, commencing in mid 2027 subject to the environmental assessment and determination process. An indicative construction program is provided in Table 3-4.

Construction of the project is planned to occur in phases and across multiple work fronts. This would mean that at any one time, construction activities are likely to be occurring at several locations within the construction footprint at the same time. The sequencing of construction activities and phases would be confirmed as part of detailed construction planning.

Table 3-4 Indicative construction program

Phase	Duration	2027				2028			
		Q2		Q3		Q4		Q1	
Site establishment	3 months								
Main construction works	9 months								
Utilities connections and adjustments	1.5 months								
Demobilisation	1 month								

3.2.3 Construction phases and methodology

Construction would be carried out to minimise impacts to the existing operations at the Port of Newcastle, to heritage items within and surrounding the project site and to communities surrounding the project site. The construction methodology has been informed by consultation with the Port of Newcastle, with site access, vehicle movements and interface with rail infrastructure designed in response to existing port operations.

Site establishment

Site establishment includes activities that occur early in the overall construction program and prior to the approval of the Construction Environmental Management Plan to:

- facilitate the commencement of substantial construction works
- to manage specific feature or issues
- collect additional information required to finalise aspects of the design and construction methodology.

To be considered site establishment, these works must be considered of minor or low impact and typically must not involve impact on features of high environmental or heritage conservation significance, or significant amenity impacts to nearby receivers.

Site establishment for the project would include:

- establishing temporary environmental controls (where required), including delineation of exclusion areas for the heritage listed BHP Administration Building
- site preparation
- material stockpiling

- confirming and safeguarding remediation infrastructure not proposed to be disturbed by the project (where relevant)
- establishing and operating a construction compound, including utility supply to the compound
- clearing urban and exotic vegetation
- traffic control, redirection and or management (where relevant)
- establishing site security, such as lighting, fencing and other access controls, including adjustments to boundary fencing where applicable (this includes fencing and perimeter lighting that would be retained for operational security for the project)
- utility adjustments and connections.

Vegetation removal within the construction footprint would be confirmed during finalisation of the project design and construction methodology. It is not expected that vegetation removal would have a significant impact on biodiversity as the construction footprint is comprised of predominately urban and exotic vegetation noted in the Biodiversity Development Assessment Report Waiver for the project (refer to Chapter 18 (Biodiversity)).

Main construction works

Construction of the main logistics precinct would involve:

- earthworks in accordance with the Intertrade CSMP
- screening, blending and stockpiling of crusher dust, including use of a possible pug mill
- construction of hardstand pavement to facilitate storage of unloading, loading and storage of materials and equipment (including potentially hazardous materials and equipment such as BESS components) associated with renewable energy projects
- construction and/or modification of existing stormwater infrastructure
- perimeter and access road lighting
- protection or relocation of utilities that are not redundant
- construction of new access from Steel Works Road to the main logistics precinct including two new culvert crossings over existing stormwater drainage infrastructure.

Construction of the southern precinct would involve:

- construction and/or modification of existing stormwater infrastructure associated with internal road adjustments
- protection or relocation of utilities that are not redundant
- construction of adjusted security fencing and related provisions
- perimeter and access road lighting
- lines and signs
- amenities building and ancillary infrastructure
- construction of the new internal access road from Selwyn Street to the main logistics precinct including a culvert over existing stormwater drainage infrastructure
- upgrade and repair of Roll Shop building.

Where required, alternative construction methods will be implemented (where feasible) for vibration-intensive activities that occur within the minimum working distances of existing buildings (including heritage items) within the construction footprint, and additional measures and monitoring implemented where required. Refer to Chapter 11 (Noise and vibration) for further detail.

Earthworks

Excavation for the establishment of hardstand area within the main logistics precinct would be required to provide a level platform for equipment setup and other construction activities. This would require the use of earth moving equipment such as graders, excavators, dozers, compactors, truck and dog trailers and rollers.

Earthworks would generally consist of the following key activities:

- establishment of suitable access
- site preparation including removal of vegetation including organic matter across the main logistics precinct and 40 millimetre protection layer over capping infrastructure (crusher dust)
- screening, blending and stockpiling of crusher dust at the Bar Mill Slab
- bulk earthworks in accordance with requirements set out in the Intertrade CSMP to form the hardstand area, including excavation and leveling, placement and compaction of fill, and preparation of the area for hardstand.

Excavation of the hardstand area within the main logistics precinct would typically be to an excavation depth of up to 0.5 metres into the existing capping at the main logistics precinct and be conducted in accordance with the Intertrade CSMP. In limited instances, excavation below the capping is required to achieve the required levels and minimum capping depths, resulting in limited interaction with the underlying BHP subgrade material.

Volumes of excess material consisting of BHP subgrade material and crusher dust (estimated at around 25,800 cubic metres) would be generated by earthworks across the construction footprint. BHP subgrade material would be preferentially placed within the footprint of the (removed) substation and/or water treatment plant within the main logistics precinct if the required minimum cap depth can be achieved. If this cannot be achieved, the BHP subgrade material would be placed to form a berm within the main logistics precinct in accordance with the Intertrade CSMP. The position of the berm is subject to detailed design, and may be positioned adjacent to the Bar Mill Slab or the southeastern area (up to two metres high), or in the southwestern area (at a height no greater than the existing landscape mound).

The stockpiling and screening of crusher dust during construction would be located on the Bar Mill Slab within the main logistics precinct.

Removal of the capping over the Bar Mill Slab and investigation into slab condition and foundations (voids) to develop an acceptable pavement foundation to overlay the slab (if not done as part of intrusive investigations during detailed design) would occur during this phase of construction. A temporary binder would be applied for any period that may occur between completion of earthworks and commencement of pavement works.

Hardstand area

Construction of the hardstand area would involve a pavement depth of between 0.5 to one metre, comprising of two coat bitumen seal and engineered fill. Construction activities for the pavement would be similar to standard road work construction and involve:

- re-use of screened crusher dust, material importation and stockpiling of pavement and general fill material, as required to achieve the designed levels of the project
- pavement installation, reinforcement (where required) and material compaction in line with the project design and tested to ensure appropriate ground bearing pressures are achieved for safe operation across the project
- grading of pavement, as well as construction and or repair of existing stormwater drainage infrastructure would be undertaken in line with the final design levels to support effective site drainage and minimise ponding in accordance with Intertrade CSMP requirements
- sealing and placement of wearing course surface layer to the wearing course layer, so as to minimise dust emissions beyond site boundaries and support the surface drainage across the site.

Construction of stormwater infrastructure for the main logistics precinct would involve connection to and upgrade of the existing on-site stormwater drainage system to capture and discharge stormwater collected from within the main logistics precinct.

The hardstand area would direct stormwater flow to water quality swales which would provide water quality treatment and direct flow to the perimeter stormwater channel through new concrete drainage chutes. To accommodate the new hardstand area, the western perimeter channel would be realigned. The grading of the perimeter stormwater channel would be less than one per cent and would be cut into imported materials above the existing capping layer.

Wayfinding signage (generally flat directional signage that is not illuminated) and lighting for the main logistics precinct would be installed where required, including use of portable lighting towers.

Site access

The northern site access to the main logistics precinct would be provided from Steel Works Road. These works would involve:

- removal of existing pavement (where applicable) and earthworks in accordance with the Intertrade CSMP and *Contaminated Site Management Plan, Port Lands, Former BHP Steelworks Mayfield, Newcastle* (Hunter Development Corporation, 2016)(Port Lands CSMP)
- construction of culvert structures with driven pile foundations over the existing stormwater channels, including embankments
- modification of existing stormwater infrastructure and/or construction of new stormwater infrastructure
- tie in works along Steel Works Road and the operational access road, and adjustments to street lighting, road drainage, footpaths, line marking and roadside furniture (as required).

Tie-in works on Steel Works Road and the operational access road would be staged and managed in accordance with the measures outlined in Chapter 7 (Traffic and access) to ensure internal port access is maintained and that any disruptions are minimised.

Southern precinct

Site access and upgrades to existing internal roads

Site access and upgrades to existing internal roads would involve:

- removal of existing pavements and earthworks along the internal access roads in accordance with the Intertrade CSMP
- construction of culvert structures with driven pile foundations over the existing stormwater drainage infrastructure
- modification of existing stormwater infrastructure and/or construction of new stormwater infrastructure to serve the new or modified internal access roads
- tie in works along Selwyn Street including adjustments to levels (depth of excavation would be up to 1,000 millimetres) and pavement widening, cut and construction of retaining structures (as required) and adjustments to street lighting, road drainage, footpaths, line marking and roadside furniture (as required)
- placement of road pavement and wearing course layer including features such as barriers, security gates, and batter stabilisation worksuse of areas for the storage of non-OSOM components, subject to confirmation of bearing capacity of the existing pavement.

Tie in works that require work on Selwyn Street would occur in consultation with Newcastle City Council.

Tie-in works on Selwyn Street may result in short-term, temporary disruption to traffic movements. Vehicle access would be maintained at all times through appropriate staging and the implementation of a traffic management plan. Refer to Chapter 7 (Traffic and access) for further detail.

Staff amenities building, parking areas and other ancillary support infrastructure

Construction of staff amenities buildings would include earthworks, pavement and drainage for amenities buildings and car parking.

The staff amenities building would comprise demountable (not fixed) buildings, that would be installed and connected to utilities.

Wayfinding signage (generally flat directional signage that is not illuminated) and lighting for the southern logistics precinct would be installed where required.

Roll Shop building works

Construction activities would remove any hazardous materials from the internal structure, repair any damage caused by past vandalism and increase the size of the roller door(s) to accommodate plant and equipment. To note, heritage significant fixtures adjoining the building frame such as gantry cranes are not proposed to be removed by the upgrade, however minor 'make-safe' arrangements may be required for issues such as suspended loads and future uses.

Utility connections and adjustments

Utility connections (including electrical, potable water, wastewater and communications) would be required as part of construction of the project in both the main logistics precinct and southern precinct. The Roll Shop building upgrade, as well as staff amenities would involve connections to electricity, water and trade waste. Some utility connection and adjustments across the project site would form part of the worksite establishment for the project. Site restoration would be undertaken to make good any disturbance caused during project activities.

Demobilisation

Demobilisation and site rehabilitation would occur following the completion of construction works and would generally involve the following:

- removal of all construction plant and equipment and materials not required during the operation of the project
- removal of temporary environmental controls and temporary structures
- rehabilitation of any areas in accordance with the Intertrade and Port Lands CSMP requirements.

3.2.4 Construction hours and workforce

Construction hours

A mixture of both standard and non-standard construction hours as defined in the *Interim Construction Noise Guideline* (DECC, 2009) are proposed.

Standard project construction hours would be between 7 am to 6 pm, Monday to Saturday. Works outside standard project hours may be required for the following activities:

- incidents and emergencies (or as directed by police or other emergency services)
- tie in of access roads to the existing road network
- utility relocation and adjustment works
- to optimise construction sequencing and minimise overall disruption to sensitive receivers
- any other works that cannot be safely undertaken during standard construction hours.

Extended hours would achieve a reduction in overall construction program and meet the objectives of the project. The project site is located within the Port of Newcastle (adjacent to the leased area), a 24 hour operational area, and impacts to nearby potentially impacted receivers would be appropriately managed during non-standard construction hours. Any activities required to be undertaken outside of standard construction hours and where works would potentially exceed noise management levels, would be carried out with additional mitigation measures and through an out of hours work protocol (refer to Chapter 11 (Noise and vibration)).

Construction workforce

The construction workforce would vary depending on the stage of construction and associated activities. During the peak construction period, it is expected that the peak construction workforce would be up to 110 FTE workers.

3.2.5 Construction facilities

A construction compound is required to support project works. The construction compound would be established and operated during site establishment and would be demobilised at the completion of construction. An indicative location for the construction compound is shown in Figure 3-4.

The construction compound would include the following:

- parking for light and heavy vehicles
- workforce amenities (such as meal rooms, ablutions, first aid)
- a site office
- potable water tanks (if connection to potable water not available)
- connection to sewerage for the disposal of wastewater
- generator(s) and sewage storage tanks would be provided in the event the construction compound cannot be connected to existing utilities.

Upon completion of works, the construction compound would be cleared of any temporary infrastructure and equipment, and rehabilitated as identified in Section 3.2.3.

An additional area to the north of Steel Works Road would be used to support construction (refer to Figure 3-4). This area would be used for the unloading, storage and placement of plant, equipment and material required for construction works associated with the new northern access. The area would be located outside of the road easement to minimise impacts to road users. Upon completion of works, the area would be rehabilitated as identified in Section 3.2.3.

Further areas for laydown and stockpile of materials and plant/equipment would be considered during detailed construction planning, however, would be located on cleared ground within the construction footprint. Stockpile height and batter slopes would be managed in accordance with Volume 1 of *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) (the 'Blue Book'). The project site contains several suitable areas for potential ancillary sites that would avoid the need for double handling of materials. However, during detailed construction planning, these potential ancillary sites would consider the existing stormwater drainage regime.

3.2.6 Plant and equipment

An indicative list of construction plant and equipment likely to be required is provided below. Not all the equipment identified below would be required for all phases of construction.

- air compressor
- backhoe
- bob cat
- bulldozer
- bitumen sealing plant (or paving machines)
- compactors
- concrete agitator
- concrete pump
- day makers (portable lighting)
- drill rigs
- dump trucks
- excavators
- flatbed trucks
- fuel trucks
- cranes (various sizes)
- generators
- graders
- lifting plant
- mobile crane
- piling rigs
- pneumatic jackhammers
- rigid tippers
- rollers
- screening and blending equipment (pug mill and trommel screener)
- semi trailers
- tilt tray trucks
- transport trucks
- trenchers
- watercarts.

3.2.7 Resources, materials and waste

Excavation volumes

Excavation would be required for activities such as preparation of the main logistics precinct hardstand area to provide level surfaces, trenching for drainage and utility connections and adjustments and upgrades to existing internal roads. Excavation works would be carried out using earth moving equipment such as excavators and dozers.

Some areas of the existing capping would be excavated to achieve full pavement construction. Temporary stockpiles of excavated capping material would be considered for reuse. Any on-site reuse would be within the construction footprint and would not substantially alter the landform or drainage within the project site. Earthworks would involve 25,800 cubic metres cut and 42,700 cubic metres fill.

As identified in Section 3.2.3, 25,800 cubic metres of excess excavated material would be incorporated into the project site in accordance with Intertrade CSMP requirements (refer to Section 3.2.3).

Any excess excavated material not suitable for reuse would be disposed of to an appropriately licenced facility or site in accordance with its waste classification.

Material would be stockpiled on the Bar Mill Slab to an indicative volume of 26,000 cubic metres.

Materials

A range of other materials and resources would be required during construction of the project. The project design has included careful consideration of the construction methodology and selection of materials and resources to ensure fit for purpose and to minimise resource consumption, in accordance with the *Waste Avoidance and Resource Recovery Act 2001* (NSW). Indicative quantities and the potential sources of construction materials are provided in Table 3-5. All quantities have been estimated based on the current project design and would be subject to further design development.

Construction materials would be sourced locally, where practicable, to benefit the local economy. Materials that are not available locally would be sourced from other locations within NSW, or within Australia.

Consistent with the principles of the circular economy, opportunities for reuse and use of recycled and sustainable materials would be identified during the subsequent phases of the project design and construction. Material selection would consider optimising durability (thus reducing the frequency or need for replacement) and minimising embodied energy and carbon footprint.

Table 3-5 Indicative quantities and sources of resources for construction

Material	Quantity/volume	Anticipated source/origin
Pavement		
Formation material	16,900 m^3	There are several options for sourcing materials for pavement construction, including: Metromix (Teralba), Daracon (Buttai), Woodbury (Black Hill), Hunter (Karuah East) or Boral (Seaham).
Selected material zone	101,195 m^3	
Unbound granular subbase	84,699 m^3	
Unbound granular base	82,607 m^3	
Lightly bound granular base	3,588 m^3	
Culverts		
Timber piles	100 piles (300 mm diameter, 10 m long)	Clarence Valley Timbers
Reinforced concrete pipe culverts	104 m (600 mm diameter)	Humes, Civilmart or Civilcast (Newcastle)
Safety barrier (concrete or steel rail)	240 m	Ingal Civil, Coates
Drainage		
Swale rock lining	318 m^3	Daracon (Buttai), Woodbury (Black Hill), Hunter (Karuah East) or Boral (Seaham)
Concrete batter chutes	25 m^3	Hymix, Boral or Holcim
Concrete drainage culverts.	260 m (375 mm to 600 mm diameter)	Humes, Civilmart or Civilcast (Newcastle)

*m^3 = cubic metre, t = tonne, m = metre, mm = millimetre

Water supply

Water would be required during construction for:

- dust suppression on construction work areas through the use of a water spray attached to a tanker vehicle
- earthworks and pavement compaction (such as wetting backfill material if it is too dry for effective compaction)
- staff amenities at the construction compounds.

It is estimated that around 52 megalitres of water would be required for construction, comprising:

- around 50 megalitres of potable water for dust suppression, earthworks and pavement compaction
- around two megalitres of potable water for staff amenities at the construction compound.

The actual water usage during construction is expected to vary depending on season variability, weather conditions, and the nature and extent of construction activities taking place. Opportunities to minimise water demand would be confirmed during detailed construction planning and implemented where practicable.

EnergyCo has commenced discussions with local water suppliers to identify the sources and availability of the volume of water required for the project from existing utilities. Further investigation of options for the provision and storage (if any) of construction water would be undertaken during continued development of the project design and detailed construction planning, in consultation with local councils and water utility companies where relevant. The preferred sources of construction water and the method of construction water storage (if any) would be confirmed prior to the start of construction.

3.2.8 Construction traffic, access and parking

Construction routes, access and traffic volumes

Construction routes that would be used on a daily basis to facilitate construction would be on Industrial Drive via both Selwyn Street and Steel Works Road, as shown in Figure 3-5. Deliveries from the region would use the wider public road network to link with Industrial Drive. These construction routes would be reviewed during detailed construction planning.

Vehicle movements would comprise both heavy and light vehicles and the volume of movements would vary across the road network depending on the construction activity being undertaken across the construction period. The majority of movements would comprise heavy vehicles carrying materials to the project site. A smaller number of other vehicles would be used, such as light vehicles for transporting construction workers to the project site.

Access to the project site from the established road network would be via the existing Roll Shop Road and David Baker Drive access points on Selwyn Street and the existing gated access off Steel Works Road (heavy vehicles only).

Construction workers would typically arrive and depart around the same time during the morning peak and evening peak.

The breakdown of estimated daily traffic volumes during peak construction is provided in Table 3-6.

Table 3-6 Estimated daily traffic volumes

Traffic movements	Traffic volume and timing
Construction workers commuting to/from site	• 220 light vehicles movements per day • potential for carpools or public transport to reduce these numbers.
Delivery of materials	• around 400 heavy vehicle movements per day (varies by construction phase) • peak delivery times would be in the morning and early afternoon.
Delivery of equipment	• 2–6 heavy vehicles movements per day (varies by construction phase) • excavators, cranes, and loaders may move internally within the project site.
Waste removal	• up to 6–10 heavy vehicle movements per day with peak movement expected during main construction phases.
Visitors, inspections and emergency access	• 5–10 light vehicle movements per day • would include project managers, clients, inspectors, and if required, emergency vehicles.

Parking

Parking for construction workers would be provided at the construction compound. Heavy vehicle parking would be provided at the construction compound as well as existing hardstand areas within the project site.



Figure 3-5
Construction routes

Legend

- Road
- Railway
- Construction routes
- Watercourse
- Construction footprint
- State heritage curtilage
- Quality Control Laboratory (SEPP heritage item)

Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:14,000 Date: 3/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, NOAA,

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4 Statutory context

This chapter provides a summary of the key statutory requirements for the project. A comprehensive assessment of the project's compliance with all relevant legislation, environmental planning instruments and guidelines is provided in Appendix C (Statutory compliance).

The project is declared SSI and is subject to approval by the NSW Minister for Planning and Public Spaces under Part 5, Division 5.2 of the EP&A Act.

This EIS has been prepared for the project in accordance with the SEARs, Part 8, Division 5 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the *State Significant Infrastructure Guidelines – Preparing an Environmental Impact Statement* (NSW DPHI, 2026a) (the SSI guidelines). The SEARs, together with a reference to where they are addressed in the EIS, are provided in Appendix A (SEARs).

Table 4-1 identifies the statutory requirements for the project. Further detail regarding the statutory context and compliance of the project is provided in Appendix C (Statutory compliance).

Table 4-1 Summary of statutory requirements for the project

Category	Action required
The proponent	Under the *Electricity Infrastructure Investment Act 2020*, the Minister for Energy has appointed the Energy Corporation of NSW (EnergyCo) (ABN 13 495 767 706) as the Infrastructure Planner for NSW REZs. In its capacity as Infrastructure Planner, EnergyCo is responsible for coordinating transmission, generation, firming and storage projects for the NSW REZs to deliver efficient and timely investment.
Power to grant approval	The project is declared SSI under Section 2.13(1) of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) as it is development that is permissible without consent and is development specified in Schedule 3 of the Planning Systems SEPP. Specifically, it is development for the purposes of a port facility at or in the vicinity of a designated port that is being undertaken by or on behalf of a public authority and would have an estimated development cost of more than $30 million. As such, the project is subject to Part 5, Division 5.2 of the EP&A Act and the Minister for Planning and Public Spaces is the approval authority.
Permissibility	The project, identified as the 'Intertrade Industrial Park' under Chapter 5 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP). The project is within the SP1 – Special Activities zone under the Transport and Infrastructure SEPP. Section 2.78 includes SP1 – Special Activities as a prescribed zone. The project is permissible without consent by virtue of section 2.80(1)(b) of the Transport and Infrastructure SEPP as it is for a port facility in a prescribed zone and would be undertaken by or on behalf of a public authority. Public authorities are defined in Section 1.4 of the EP&A Act. This includes a statutory body representing the Crown. The *Energy and Utilities Administration Act 1987* establishes EnergyCo as a statutory body representing the Crown.

Category	Action required
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The project would not have a significant impact on MNES, is not an action by the Commonwealth and would not significantly impact the environment on Commonwealth land. The project has not been referred to National Environment Protection Authority (National EPA). Refer to Appendix C (Statutory compliance) for further discussion on the EPBC Act.
Other approvals – approvals that are not required for approved SSI	Under Section 5.23(1) of the EP&A Act, some approvals do not apply to SSI projects. Approvals of relevance to the project which are not required under Section 5.23(1) of the EP&A Act are: • an approval under Part 4, or an excavation permit under Section 139 of the *Heritage Act 1977*: potential impacts on non-Aboriginal heritage has been considered in Chapter 8 (Non-Aboriginal heritage) and Technical paper 3 – Statement of Heritage Impact • a flood work approval under Section 90 of the *Water Management Act 2000* (WM Act). Impacts on flood behaviour is considered in Chapter 12 (Surface water and flooding) and Technical paper 8 – Surface water and flooding. Section 5.23(2) of the EP&A Act notes that Part 6, Division 8 of the *Heritage Act 1977* (Heritage Act) does not apply to prevent or interfere with the carrying out of approved SSI. Appendix C (Statutory compliance) provides a more detailed overview of how the above statutory requirements have been considered for the project.
Other approvals – approvals that are to be substantially consistent with approved SSI	Under Section 5.24(1) of the EP&A Act, the following approvals or authorisations cannot be refused if they are necessary and substantially consistent with the approval: • an approval under Section 22 of the *Coal Mine Subsidence Compensation Act 2017* for alterations to Selwyn Street and associated utility adjustments along Selwyn Street. However, Subsidence Advisory NSW confirmed in December 2025 that these works are considered minor and exempt from requiring approval, subsidence controls or mitigation measures. This is considered further in Chapter 6 (Hazards and risks) • a consent under Section 138 of the *Roads Act 1993* for works associated with access onto Selwyn Street. Newcastle City Council is the relevant roads authority for this local road. However, Schedule 2, Clause (5)(1) of the *Roads Act 1993* does not require a public authority, or a network operator under the *Gas Supply Act 1996* or the *Electricity Supply Act 1995*, to obtain a road authority's consent under Section 138 the exercise the public authority's or network operator's functions in, on or over an unclassified road. As such, consent under Section 138 would not be required for works associated with the integration of the new southern access (central). Appendix C (Statutory compliance) provides a more detailed overview of how the above statutory requirements have been considered for the project.

Category	Action required
Other approvals – Other Commonwealth or NSW legislation	The project may require other approvals or to meet requirements under other NSW and Commonwealth legislation regardless of being declared SSI: • *Biosecurity Act 2015* (Cth) • *Biosecurity Act 2015* (NSW) • *Contaminated Land Management Act 1997*. Appendix C (Statutory compliance) provides a more detailed overview of how the above statutory requirements have been considered for the project.
Pre-condition to exercising the power to grant approval	This EIS has been prepared to address the SEARs and the form and content requirements set out in Part 8 Division 5 of the EP&A Regulation. This EIS would be submitted to NSW DPHI for review before it is publicly exhibited for at least 28 days. During the exhibition period, the public and agencies are invited to make submissions. After the exhibition period closes, NSW DPHI would ask the proponent to respond to issues raised in the submissions and prepare a Submissions Report.
Mandatory matters for consideration	Section 5.22 of the EP&A Act provides that environmental planning instruments (EPIs) do not apply to SSI projects other than the relevant provisions of the Transport and Infrastructure SEPP and the Planning Systems SEPP that declare certain development as SSI and identify development that does not require consent. Notwithstanding, the following key EPIs have been considered in this EIS: • Transport and Infrastructure SEPP (for matters beyond permissibility) • *State Environmental Planning Policy (Resilience and Hazards) 2021* • *State Environmental Planning Policy (Biodiversity and Conservation) 2021* • *Newcastle Local Environmental Plan 2012.* Appendix C (Statutory compliance) provides detail on how the above EPIs have been considered. Under section 5.19 of the EP&A Act, the mandatory matters that the NSW Minister for Planning and Public Spaces is required to consider in deciding whether to grant approval of the project are: a. the Planning Secretary's report on the infrastructure and the reports, advice and recommendations contained in the report b. any advice provided by the Minister having portfolio responsibility for the proponent c. any findings or recommendations of the Independent Planning Commission following a review in respect of the State significant infrastructure. Section 5.18(2)(a) of the EP&A Act requires that the Planning Secretary's report is to include a copy of the proponent's EIS. The detailed environmental assessment of the potential impacts of the project is included in Chapters 6 to 22 and Chapter 23 (Justification and conclusion) has considered relevant objectives, criteria and assessment requirements.

5 Engagement

This chapter outlines engagement activities for the project with community members and key stakeholders. It summarises key engagement activities and feedback received for the project during the preparation of the EIS. Engagement activities planned for the EIS exhibition and construction phases, if the project is approved, are also included.

Engagement activities are consistent with the DPHI guidelines, SEARs and the project's Communications and Engagement Plan (EnergyCo, 2025a).

5.1 Engagement approach

The communication and engagement approach for the project's EIS was developed to meet the legislative and policy requirements for the project that is being assessed as SSI.

The communication and engagement approach has been informed by, and is consistent with, the following documents and guidelines:

- SEARs issued on 29 May 2025
- Undertaking Engagement Guidelines for State Significant Projects (NSW DPHI, 2026b)
- EP&A Act
- *NSW Electricity Infrastructure Investment Act 2020*
- Quality Assurance Standard for Community and Stakeholder Engagement (International Association for Public Participation (IAP2), 2015)
- First Nations Guidelines (Office of Energy and Climate Change (OECC), 2022a)
- Community Participation Plan (NSW Department of Planning, Industry and Environment [DPIE], 2019).

5.1.1 Engagement objectives

EnergyCo understands the value of meaningful engagement with communities and stakeholders. Its communication and engagement objectives for the project are to:

- provide regular and targeted information to the community and stakeholders about the project, outlining opportunities and ways to provide feedback
- wherever practicable, ensure community and stakeholder feedback informs the project development process
- effectively manage community and stakeholder expectations regarding project impacts and benefits, including the operation phase
- promote the role and opportunity of the Hunter Region in the logistics and supply chain associated with the renewable energy transition.

5.2 Stakeholder engagement

EnergyCo has commenced and continues active consultation with the stakeholders outlined in Table 5-1. Engagement with stakeholders commenced in March 2025 prior to the lodgement of the Newcastle Logistics Precinct Intertrade Project Scoping Report (EnergyCo, 2025b).

Early engagement focused on introducing the project, outlining the environmental approval pathway, including the lodgement of the scoping report and preparation of the EIS, and encouraging feedback on potential impacts and benefits.

This section provides a summary of the community engagement activities completed for the project.

5.2.1 Key stakeholders

Key stakeholders consulted during project development and in support of the EIS are listed in Table 5-1. EnergyCo expects this list to grow and change as the project develops and engagement broadens.

Table 5-1 Key stakeholder groups for the project

Stakeholder group	Stakeholders
Australian and NSW Government elected representatives	• NSW Member for Upper Hunter • NSW Member for Newcastle • NSW Minister for Climate Change and Energy • NSW Minister for the Hunter • NSW Minister for Roads and Regional Transport • Federal Member for Hunter • Federal Member for Newcastle
Australian Government departments and agencies	• Australian Rail Track Corporation (ARTC) • Commonwealth DCCEEW (now the National EPA) • Department of Home Affairs (Australian Border Force) • Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA) • Department of Agriculture, Fisheries and Forestry (DAFF) • Department of Defence
NSW Government departments	• Conservation Programs, Heritage and Regulation Group (CPHR) • Department of Planning, Housing and Infrastructure (DPHI) • NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) • Heritage NSW • NSW EPA • Transport for NSW • Infrastructure NSW • Property and Development NSW (PDNSW) • Fire and Rescue NSW • NSW Police

Stakeholder group	Stakeholders
	• Department of Education • HCCDC • Hunter Water Corporation (Hunter Water) • Whole of Government Roadmap Steering Committee
Local government	• City of Newcastle Council • Hunter Joint Organisation
Regional reference groups	• Hunter Central Coast Regional Reference Group • Hunter Central Coast First Nations Working Group
First Nations stakeholders	• Awabakal LALC • Government agencies representing First Nations people • First Nations people in the area • Registered Aboriginal Parties (RAPs) participating in the Aboriginal Heritage studies undertaken for this EIS
Wider community	• Mayfield East residents and businesses • Newcastle road users • Landowners near the project site • Residents and businesses in the Hunter Region • Wider community with an interest in renewable energy projects
Community and interest groups	• Port of Newcastle Community Liaison Group • NIHA • Rotary Newcastle • Correct Planning and Consultation for Mayfield Group (CPCMG) • Newcastle Chamber of Commerce • Mayfield Chamber of Commerce • Fort Scratchley Historical Society • Newcastle Family History Society • Newcastle and Hunter District Historical Society • Newcastle Maritime Heritage Working Party
Industry	• Port of Newcastle • Ausgrid • Infrabuild • MIEA • Business Hunter • HunterNet • Logistics operators • Freight and heavy vehicle operators
Transmission and generation project developers	• Central West Orana Access Right Holders • Other generation project developers • ACEREZ • Ausgrid • Transgrid

5.3 Engagement to date

Communication and engagement activities at lodgement of the scoping report to the lead up of EIS exhibition have comprised meetings/briefings, door-knocking, pop-up sessions, emails, website updates, project updates and fact sheets (refer to Table 5-2).

The engagement activities have been supported by community feedback channels, including a project-specific phone number, email address and regular representation at community events across the Hunter Region.

Information about the project has predominately been shared during face to face engagement activities with community groups, local industry and government stakeholders as well as regular attendance at Newcastle Farmers Markets. Engagement activities undertaken through letterbox drops and shopping centre pop-ups with living within an approximate one kilometre radius of the project site, did not identify any substantive concerns or negative feedback regarding the project. A small number of community members raised general queries relating to potential noise and increased traffic, which were discussed during engagement activities.

Table 5-2 Summary of engagement activities

Activity	Stakeholder group	Description	Reach or outcome
Scoping report lodgement - March 2025			
Activated a dedicated project phone number and email address	All stakeholders	Enables community members to contact the project team to raise issues, provide feedback and request further information.	Eight emails and two phone calls received since it launched. These inquiries were either requests to join the project mailing list or procurement inquiries. One inquiry related to potential noise impacts and one related to traffic impacts.
EnergyCo project website	All stakeholders	Central source of information about the project including project status, the project update and fact sheet, background information, maps and contact details.	There were 123 unique visits to the website since it launched (excludes EnergyCo IPN web browsers)
Interactive map	All stakeholders	Situates the project site in relation to the wider geographical setting.	Stats unavailable
Email	120 subscribers to project updates including councils, industry, elected representatives and community groups This is a shared subscriber list with Port to REZ subscribers.	Used to inform stakeholders about latest project news and circulate collateral.	23 separate emails to project subscribers sent between March 2025 and July 2026.

Activity	Stakeholder group	Description	Reach or outcome
E-newsletter	Subscribers to the Powering NSW EnergyCo newsletter	Featured information about the project, including links to project documents and the interactive map.	Content about the project was featured in two e-newsletters to 4406 subscribers. The e-newsletters were sent in March 2025 and June 2025.
Briefings/ meetings	Whole of Government SteerCo, government agencies, industry stakeholders, community groups	Provided an overview of the project and updates on key issues of interest to each briefing.	Steerco briefings, eight government agency briefings, three community group briefings and 2 industry group briefings from March 2025 to July 2026.
Letterbox drop	Residents within 500 metres of the project area	Project update printed and distributed to provide the latest project news.	1100 project updates delivered to residents in March 2025.
Pop-up stalls	Community stakeholders within the Hunter Central Coast REZ	Provided project information and opportunities for interested community members to engage with the project team.	One pop-up stall at local shopping centre, 10 public events across Mayfield, Newcastle, Singleton and Muswellbrook from March 2025 to June 2026 where collectively around 500 conversations were had with community members about the project.
Regional Reference Group	Councils with Hunter Region, including Newcastle Council, businesses, environment, community, Aboriginal stakeholders	Provided a forum to discuss the project within the scope of the groups' terms of reference.	NLP briefing provided in March 2025
Social media	LinkedIn	LinkedIn posts featuring project updates and links to key documents	Two LinkedIn posts on EnergyCo's Linked in page in June 2025 and April 2026.
Social Impact Assessment (SIA) – September 2025 – January 2026			
Local resident doorknock	25 properties in Mayfield East, close to project site.	EnergyCo engagement team doorknocked residents on 1 September 2025 inviting them to participate in a SIA interview and provided with project updates.	Connected with 10 residents with seven agreeing to an interview for the SIA. From those, only two completed a full SIA interview.
Interviews	Council, local residents and community/industry organisations.	12 social impact interviews conducted by WSP to inform the EIS.	12 interviews were conducted between September 2025 and January 2026 for the SIA and to gather feedback about the project.

Activity	Stakeholder group	Description	Reach or outcome
Aboriginal engagement	Awabakal LALC and EnergyCo Aboriginal Engagement Officer	Social impact interviews conducted by WSP to inform the EIS.	Two interviews with representatives from the LALC and EnergyCo for the SIA to invite feedback about the project
During EIS preparation – July 2025 to EIS lodgement			
Community organisation presentations/ briefings	Port of Newcastle Community Liaison Group council, Rotary and Probus groups briefings, community organisations including NIHA and Hunter Living Histories, and First Nations stakeholders		Eight community group briefings
Media release	All	#1 Issued 12 June 2025 to announce funding commitment, raise project awareness and the environmental approval process. #2 Issued 23 March 2026 to announce start of procurement.	Two media releases to Newcastle and Hunter media outlets
Pop-up stalls	Community stakeholders within the Hunter Central Coast REZ	Provided project information and opportunities for interested community members to engage with the project team	Mayfield Day, Newcastle Farmers Markets and Tocal
Get to know you survey	2714 properties located within NCAs, including 40 properties on Kitchener Parade and Crebert Street	Engagement activity seeking feedback on NLP construction noise and vibration impacts and mitigation	2714 noise fact sheets delivered on 12 Feb including information and a survey about noise and vibration. The survey was open 12–22 Feb 2026. 40 door knocks to follow up survey. 18 surveys completed.

5.3.1 Overview

Engagement with community groups and residents in and around Newcastle commenced in the lead up to the lodgement of the Scoping Report in March 2025 and has been ongoing.

Feedback received during regular community engagement activities such as door knocks, pop-up stalls and briefings to community groups has provided in-depth insights into the community's views on the project and the future proposed use of the project site.

The key feedback received during this engagement was as follows:

- there is general support for the project
- given the site's previous long-term industrial use, there is a level of acceptance for it to be re-purposed as a logistics precinct and support for Newcastle to be involved in this way in the State's transition to renewable energy
- there is concern about increased heavy vehicle traffic on Newcastle roads once the site is operational
- honouring and remembering the role of the Steelworks in Newcastle and Australia's industrial heritage is important and needs to be considered in the project's development
- the project should consider how training and regional employment opportunities can be integrated, particularly for Aboriginal community members
- there was one email received from a community member querying tree removal required to construct the project
- existing traffic and port operation noise is acknowledged with some minor concerns about a possible increase to noise once the project is operating.

With consultation activities so far indicating general support for the Project, there have been no changes made to the design, construction methodology or proposed operations in response to community feedback.

Community engagement activities will continue during the EIS exhibition and feedback received will reviewed and responded to as required.

The feedback received from the community and stakeholders is discussed in more detail in the following sections. Detail on where the feedback from the community has been addressed is provided in Appendix D (Engagement summary).

5.3.2 Agency and local government consultation

Consultation has taken place with Commonwealth Government agencies, NSW Government agencies and local government as part of the detailed assessment requirements outlined in the NLP SEARs, which are required to be addressed in the EIS.

The following agencies were consulted:

- ARTC
- DAFF
- Australian Border Force (Customs)
- City of Newcastle Council
- Department of Defence
- Hunter Water

- Infrastructure NSW
- Newcastle City Council
- NSW Fire and Rescue
- Transport for NSW
- Subsidence Advisory NSW
- DPHI and its divisions:
  - Planning and Assessment Division
  - PDNSW
  - HCCDC
- NSW DCCEEW and its divisions:
  - NSW EPA
  - CPHR comprising
    - Heritage NSW
    - Biodiversity Conservation/Conservation Program Unit
    - Water Group of NSW DCCEEW
- Premier's Department.

Any issues raised or specific feedback received during consultation with these respective agencies as part of pre-EIS consultation is as follows. If some agencies are not noted below, this means nothing specific was raised during those consultation activities.

- ARTC were consulted in relation to rail level crossings. ARTC confirmed they are not responsible for level crossings traversed by project traffic and subsequent engagement was not required
- Australia Border Force were consulted with regarding the EIS. No issues were raised although they had questions about future operations and biosecurity considerations for the project
- the City of Newcastle Council queried/requested:
  - localised flooding issues (and any required mitigation)
  - further detail on the related developments at the project site (the decommissioning of wastewater treatment plants and relocation of the substation)
  - expected interface with council assets on Selwyn Street due to tie on works of the southern access (central) and need for possible upgrade of these assets including pavement, drainage and lighting
  - a site visit for council staff to the project site and entry to the BHP Administration Building in April 2026
- DAFF were provided with a reduced briefing session regarding the EIS. DAFF sought to understand the future operational requirements of NLP
- under NSW DCCEEW and its divisions:
  - CPHR and DCCEW were engaged with extensively in relation to Heritage NSW's State heritage listing of the Administration Precinct. Project refinements to minimise impacts were presented and discussed
  - advised on the appropriateness of carrying out geotechnical works as exempt development and guidance on due diligence with respect to unidentified heritage finds
  - specialists from CPHR reviewed the appropriateness of the project's Surface water & flooding assessment against the requirements of the SEARs
  - EPA compliance division participated in a site visit

- Department of Defence were consulted and provided clarification on their SEARs advice and assessment approach on wildlife corridors
- Fire and Rescue NSW were consulted and confirmed:
  - that guidelines referenced within the SEARs were the most appropriate for developing the required emergency management plan following project approval prior to BESS storage
  - appropriate location of hydrants
  - they declined additional engagement prior to EIS submission
- HCCDC were consulted to further develop and understanding about the extent of contamination across the project site and examine the effectiveness of proposed site controls
- Hunter Water was consulted about the relocation of the pumping station and sewer and water connections for the site
- the Premier's Department were briefed on the project, and a site visit took was organised and place for their staff on 11 June 2026
- PDNSW was engaged with extensively as the owner of the project site during the development of the EIS. Interaction with this agency centred around acquisition of the site, licensing and site access, and capital works PDNSW were carrying out.
- Subsidence Advisory NSW were consulted and then confirmed that work on Selwyn Street related to the project, was exempt from having to assess/mitigate impacts with respect to mine subsidence (including licencing)
- Transport for NSW has been engaged ongoingly about the following:
  - Scoping Report briefing
  - Port to REZ project
  - OSOM vehicle numbers able to leave the project site once operational
  - Newcastle Logistics Precinct's operational strategy
  - clarifying SEARs requirements which require input from Transport for NSW to confirm their assessment approach. Following this engagement, both parties are now aligned SEARs requirements.

5.3.3 Aboriginal consultation

To inform the preparation of Technical paper 5 – Aboriginal heritage assessment (Technical paper 5) consultation with Aboriginal people was completed in accordance with the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010b) and the requirements of the SEARs.

This included the review of the assessment methodology and draft technical paper by RAPs, invitation to RAPs to advise on cultural values, and an Aboriginal Focus Group meeting (held on 31 October 2025).

Representative of the Awabakal LALC also attended a visual inspection of the Aboriginal heritage study area on 31 July 2025. Feedback received during this engagement informed the final Technical paper 5 and is discussed further in Chapter 9 (Aboriginal heritage) and documented in Appendix C of Technical paper 5.

Engagement with the Awabakal LALC was also conducted for Technical paper 11 – Social impact assessment (Technical paper 11). Key feedback received during these interactions was:

- the Awabakal LALC community's key priorities relate to employment, training, and tangible economic outcomes from development occurring on Country. The interviewee highlighted strong interest in job creation, skills development, and long-term opportunities rather than one-off sponsorships. This should be a key focus of projects in the region
- many community members are keen to upskill and enter the workforce but lacked clear, accessible pathways
- lack of early engagement can limit opportunities to shape outcomes or address barriers to Aboriginal participation, and that there is some frustration that consultation does not often result in actionable commitments for the community.

Internal engagement with the EnergyCo's Aboriginal engagement team was flagged consultation fatigue within the Hunter's broader Aboriginal community due to the number of projects in the region, and that interests within the community varied. Interests included economic benefits, landscape protection and artifact management.

5.3.4 Community group consultation

EnergyCo has reached out to community groups with a known interest in the Port of Newcastle precinct, its operations and/or its history.

Community consultation activities have included:

- one on one meetings with NIHA on 25 June 2025 and 13 April 2026
- one on one meeting and briefing to Correct Consultation for Mayfield Group (CCFMG) on 23 July 2025
- briefing to the Port of Newcastle's community reference group on 27 August 2025
- briefing to Rotary Newcastle on 14 October 2025
- briefing to Probus Men's Group on 27 January 2026
- briefing to Hunter Living Histories on 13 April 2026.

Information supplied at these meetings included a project overview, and outlining the environmental approval process and opportunities to provide feedback.

Issues raised during these engagements include:

- general support for the redevelopment of the former BHP Steelworks site. In its current unused state, the site is often vandalised and is known to attract anti-social behaviour. Re-purposing it as a logistics precinct, particularly to support renewable energy, was generally supported
- there were concerns raised that fall outside the scope of the project, mainly around perceived traffic impacts from the increase in OSOM movements leaving the precinct and heading to renewable energy projects
- NIHA has generally been supportive of the project and is keen to see the project site reused for industrial purposes. They noted that noise, even within Delprat's Quarters (also known as Delprat's Cottage), where they regularly meet, is not of concern. In their opinion, the local community is familiar with the industrial sounds coming from the port area

They also provided the following additional feedback:

  - with a focus on heritage integration, particularly the BHP Administration Building and Roll Shop building, they want to ensure the design and construction of the project minimise the impacts to heritage fabric and values
  - NIHA want to preserve Delprat's Quarters and the Quality Control Laboratory building which are of particular importance to them, noting Delprat's Quarters is outside the construction and operational footprint, and is located outside the project site.
  - NIHA suggested they would like to be able to use IT building and the Quality Control Laboratory, if possible. The NIHA understood the poor condition of the Quality Control Laboratory, but seemed hopeful there could be some future use of the IT Building if retained. NIHA would like to use the Roll Shop building as a storage area for heritage relics
  - the future use and reactivation of the BHP Administration Building is a key priority. While the heritage listing applies to the building itself and not its access, NIHA emphasised that without access, the building cannot be meaningfully used. They raised concerns that the current project design does not include roadway access to the building
  - they are keen to collaborate with EnergyCo to develop heritage interpretation elements to the design and planning

- the CCFMG raised issues outside of scope questioning the movement of renewable energy components via road on heavy vehicles rather than using rail or water transportation methods
- NIHA and CCFMG both raised the need to reinstate access to the public memorials located within the project site. This has since occurred with PDNSW reinstating access in May 2025
  - NIHA regularly accesses the Memorial Park which contains the steelworkers monuments. They confirmed support of changing opening hours of the park from 6 am to 6 pm, to 9 am to 5 pm once the site is operational and noted no issued with this
  - NIHA saw no need to have the park opened after dark and confirmed all visits currently take place during the day which they felt was adequate
- the Port of Newcastle CRG raised concerns about traffic impacts when OSOM leave the project site to Industrial Drive via Selwyn and George streets. The movement of OSOM beyond the George St/Industrial Drive intersection is beyond the scope of this project
- CCFMG and Probus Newcastle raised concerns about OSOM vehicles leaving the Newcastle Logistics Precinct once operational impacting local traffic
- following a presentation to the Hunter Living Histories group, a group member approached the project team requesting an interview with an EnergyCo representative about the project as part of a 'Stories of our town' documentary series in development. The interview took place on 1 June 2026.

5.3.5 Noise and vibration consultation

In accordance with the SEARs, community consultation has been completed to inform the development of noise and vibration mitigation measures including how out-of-hours works during construction has been socialised with the affected community.

The need for out-of-hours works as described in Chapter 3 (Project description), were first identified in the project's Scoping Report and was subsequently described in a project noise and vibration fact sheet, which included a short survey seeking community feedback. See Appendix D (Engagement summary) for a copy of the survey questions.

The ‘Get to know you’ survey was designed to be completed within three minutes and was included as a QR code in a noise and vibration fact sheet that recipients could scan and complete online. The fact sheet was distributed via letterbox drop to 2,714 properties within the Noise Catchment Areas (NCA) boundaries in Mayfield, Mayfield East, Mayfield West and Tighes Hill and was open from 12 to 22 February 2026.

The survey was designed to capture feedback about noise and construction from the local community. The need for out-of-hours work was also discussed in briefings with local community groups, including Rotary, Probus and the Newcastle Industrial Heritage Association.

To encourage participation in the survey, the letterbox drop was followed up with a door knock to 40 properties in Mayfield East due to their proximity to the project site. There was a total of 18 completed surveys by the local community. All respondents were local residents, and 66 per cent lived within 200 metres of the project site.

The key findings from the survey results were that while there is some noise disturbance from the Port of Newcastle, Industrial Drive and neighbouring industries at the present time, it is not of significant concern to the survey respondents. Specifically, 59 per cent of respondents regularly noticed noise from the Port of Newcastle, 18 per cent did not notice any noise and 24 per cent noticed noise sometimes.

There was also interaction with 21 residents to secure locations for noise monitoring. Information about the project and the EIS preparations and planned exhibition period was also shared at this time.

The feedback received from the community in response to the survey has been considered when developing the recommended mitigation measures (refer to Technical paper 8 – Surface water and flooding (Technical paper 8)).

5.3.6 Social impact assessment consultation

As documented in Chapter 5 of Technical paper 11, 14 individual or group interviews were completed to inform the social impact assessment. This comprised local residents, community and business groups, and the Awabakal LALC to ascertain views about the project and any potential impacts it might have on the existing social environment.

The key engagement findings from this engagement are as follows:

- mixed feedback about the energy transition more broadly and its effect on the Newcastle community. Some saw it as a positive shift away from the coal industry while others were concerned about the impact of renewable energy developments on land and housing
- traffic increases were raised as a concern, particularly in relation to OSOM vehicles traversing through Newcastle once they left the project site on their way to renewable energy developments
- the need to honour and remember Newcastle’s industrial heritage and the role of the former BHP Steelworks in Newcastle’s past, and maintain access to the memorials within the project site
- there are expectations that the energy transition will create economic opportunities for the region, including local employment, long-term social procurement practices and apprenticeships opportunities
- most residents do not consider noise to be a major concern, however, one resident in Crebert Street raised specific concerns about night-time traffic noise and expressed distress about how project related noise could affect their comfort in their home
- there was a call to improve how community groups and community reference groups can input into infrastructure projects with suggestions to improve governance and participation.

5.3.7 Industry consultation

Extensive and ongoing liaison with industry associated with the Port of Newcastle and the Hunter region has provided valuable insights for the project.

From fortnightly interface meetings with the Port of Newcastle, to quarterly meetings with other groups to align with project milestones, industry groups and associations have provided important information used in the understanding of the project's operational requirements.

Feedback is summarised as follows:

- **Port of Newcastle:** regular liaison centres around berthing operations, site access, design queries and operational planning for OSOM logistics
- **MIEA**: engagement usually aligns with key project updates or milestones and covers participation of the NLP as a future member of the MIEA, as well as shared services, easements and site conditions
- **Infrabuild:** as the owners of the rail level crossings adjacent to the site, they were engaged to establish an interface agreement and provide feedback on proposed pumping station upgrades.
- **Generators:** engagement with companies who are coordinating the delivery of OSOM components is generally held quarterly and includes topics like component delivery programs, storage requirements, and haulage sequencing
- **Transport logistics providers**: this engagement is important in framing how the project needs to function once it is in operation. Meetings are held quarterly and cover OSOM haulage, standard turn-around times for unloading, swept path analysis and interface between the Mayfield 4 Berth and the project
- **Ausgrid**: Ausgrid were briefed on the project on 6 May 2026. Ausgrid provided information about underground cables and an Ausgrid easement within the Intertrade site for awareness only. This information was discussed with EnergyCo's property team in the event of possible easement acquisition issues, however, it was confirmed that no further action was required.

5.3.8 Community feedback channels

In March 2025 a project hotline and project inbox was to provide community members a way of contacting the project team with inquiries related to the project.

The project phone number and project email address are included on all project collateral and the project website.

Since the channels went live approximately 30 emails have been received. The majority of emails received were from companies promoting their businesses or seeking procurement and contracting opportunities. A small number were from community members asking to join the mailing list or ask a question.

5.4 Current and future engagement

5.4.1 Engagement approach

EnergyCo is committed to ongoing engagement with key stakeholders and the community during all stages of the project. If approved, EnergyCo will continue to update key stakeholders and the local community as the project progresses at key project milestones such as the release of the submissions report with responses to submissions raised, project approval, contract award and construction commencement.

The general project information and feedback mechanisms summarised in Table 5-2 and Table 5-3 will continue to be available at all project phases.

Engagement activities have been ongoing since the lodgement of the scoping report and will continue on specific issues and opportunities relevant to the project following lodgement of the EIS for exhibition, in accordance with *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, March 2026).

5.4.2 Exhibition of the EIS

The EIS will be placed on public exhibition for a minimum of 28 days in accordance with the EP&A Act. Advertisements will be placed in Hunter and Sydney media about the project and EIS exhibition.

During the exhibition period, government agencies, stakeholders and the community will be able to review the EIS and make a written submission to the DPHI for consideration in its assessment of the project.

Engagement activities during the EIS exhibition are detailed in Section 5.4.3.

The EIS will be published online on DPHI's Major Project portal.

DPHI requires all submissions to be made electronically via its Major Projects Planning Portal:

1. Visit the NSW Planning Portal at planningportal.nsw.gov.au/major projects.
2. Create a user account by clicking the 'My Account' icon in the top right of the homepage or under the 'Services' tab and then click 'Create an Account'.
3. When you are logged in, find the Newcastle Logistics Precinct project, and click the 'Make a Submission' icon. Application number: SSI-82049456

Following the exhibition period, DPHI will collate all submissions and provide them to EnergyCo for review and consideration with individuals' identities removed (if requested).

After reviewing the submissions, EnergyCo will prepare a Submissions Report responding to the issues raised. This report will be made publicly available on the Major Projects Planning Portal.

If the project is approved, it will be built and operated in accordance with the plans and mitigation measures described in the EIS and other conditions of approval that may be applicable.

If changes are required to this proposal because of the issues raised in submissions or to minimise environmental impact, a Preferred Infrastructure Report or an Amendment Report may also be required. If this is required, EnergyCo would prepare the report to address the changes to the design and submit this for approval to DPHI. This report may be made available for public exhibition at the discretion of DPHI (on behalf of the Planning Secretary).

5.4.3 Future engagement methods

A list of activities for engagement during and following the EIS exhibition is provided in Table 5-3. A list of key stakeholders appears in Table 5-1.

Table 5-3 Methods to be used during ongoing engagement

Engagement method	Purpose	Audience	Timing
EIS Exhibition			
Meetings/ briefings	To facilitate discussion about project activities and timing; impact on the stakeholder; and to seek feedback and comments for consideration	Councils, community groups	Ongoing
Advertisements	Paid advertisements	Newcastle metro and Hunter regional newspapers	Following commencement of exhibition
Project update	To update the community on the progress of project activities and to provide reference sources for further information.	Distributed to residents and businesses within 500 metres of the project site uploaded on website and at events	Day EIS exhibition starts
EIS summary document	A document containing a brief overview of the EIS chapters and an explanation of the planning approval pathway including instructions on how to make a submission	On project website and provided at community events	Day EIS exhibition starts
Emails	To facilitate ongoing liaison with key project stakeholders and to enable direct enquiries about project activities from the general community	Key stakeholders	Ongoing and to announce EIS exhibition starts
Website updates	To provide an overview of project activities; answers to frequently asked questions; and access to key documents	General public	Updated day EIS exhibition starts
E-newsletters	To announce the EIS exhibition, update the community on the project and advise of feedback channels	Stakeholders on project email database	Issued day EIS exhibition starts
EIS fact sheets	Themed fact sheets aligned with key components of the EIS. Distributed online and at events	On project website and provided at community events	Available online and as handouts day EIS exhibition starts
Media release	To announce the EIS exhibition, update the community on the project	Media outlets	Issued day EIS exhibition starts

Engagement method	Purpose	Audience	Timing
Community events/ drop-in sessions	To provide an overview of project activities; answers to frequently asked questions; and access to key documents	General public	Held during EIS exhibition period
Enquiry lines (phone and email)	To provide community stakeholders with lines of enquiry to the project team	General public	Ongoing
Submissions report to project approval			
Website update	To provide an overview of project status	General public	Updated day submissions report is released
E-newsletters	To announce the release of the submissions report and update the community on the project	Stakeholders on project email database	Issued day submissions report is released
Briefings	An offer to key stakeholder groups about the outcome of the EIS exhibition and the response to submissions	Key stakeholders	In days following submissions report release
Project approval			
Project update	To provide project update and advise of project approval and overview of next steps	Distributed to residents and businesses within 500 metres of the project site uploaded on website and at events	Delivered same day media release is issued
Media release	To announce project approval, update the community on the project	Media outlets	Issued soon after project approval is known
Website update	To provide project update and advise of project approval and overview of next steps	General public	Updated same day media release is issued
E-newsletters	To announce project approval, update the community on the project	Stakeholders on project email database	Issued soon after project approval is known
Construction – to be managed by principal contractor			
Construction notifications	Developed and distributed by contractor to nearby residents – approved by EnergyCo	Properties within 500 m of project site	As needed during construction
Website update	To provide project updates and advise of project approval and overview of next steps	General public	Ongoing during construction

Engagement method	Purpose	Audience	Timing
E-newsletters	To announce project approval, update the community on the project	Stakeholders on project email database	Ongoing during construction
Enquiry lines (phone and email)	Managed by contractor - to field construction inquiries	General public	Active during construction
Operations – to be managed by future operator			
Website update	To provide general information and contact information for Precinct operator	General public	Ongoing during operations
Enquiry lines (phone and email)	To field inquiries and/or complaints related to operations in and leaving the Precinct	General public, customers	Ongoing during operations
Notifications	To provide information to local residents about upcoming OSOM vehicle movements as required	Local residents	As required

6 Hazards and risk

This chapter provides an assessment of the potential hazards and risk impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 1 – Preliminary Hazard Analysis (Technical paper 1), with respect to the hazard analysis. The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

6.1 Legislative and policy context

The hazards and risk assessment was prepared with reference to the following legislation, policies, standards and guidelines:

- specifically for the Preliminary Hazards Analysis (PHA):
  - State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)
  - Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning (HIPAP 4) (NSW Department of Planning, 2011a)
  - Hazardous Industry Planning Advisory Paper No 6 – Guidelines for Hazard Analysis (HIPAP 6) (NSW Department of Planning, 2011b)
  - Australian Dangerous Goods Code (Commonwealth of Australia, 2024)
  - Applying SEPP 33: Hazardous and Offensive Development Application Guidelines (Department of Planning, 2011c) (Applying SEPP 33)
  - Open yard storage of battery energy storage systems (NSW Fire and Rescue, 2024a)
  - Position statement: Emergency plan requirements at sites having lithium batteries (NSW Fire and Rescue, 2024b)
  - Fire Safety Guideline: Access for fire brigade vehicles and firefighters (NSW Fire and Rescue, 2024c)
  - Storing and Handling Liquids: Environment Protection-Participants Manual (NSW Department of Environment and Climate Change, 2007)
  - Port of Newcastle Land Use Safety Study (2017 LUSS) (AECOM, 2017)
  - Port of Newcastle Land Use Safety Study (2023 LUSS) (RiskCon Engineering, 2023)
- specifically for mine subsidence:
  - *Coal Mine Subsidence Compensation Act 2017*.

6.2 Assessment approach

6.2.1 Study area

The hazards and risk study area is the project site as defined in Chapter 3 (Project description).

6.2.2 Methodology

PHA

The PHA involved a desktop assessment that included two steps. These were:

- Risk screening:
  - The risk screening process involved the identification of classes and quantities of dangerous goods to be used, stored, or produced on the project site with an indication of storage locations. The quantities of dangerous goods were then assessed against the threshold quantities in the Applying SEPP 33 guideline, which continues to provide the process for assessing if developments are potentially hazardous or offensive development under the Resilience and Hazards SEPP. If any of the threshold quantities are exceeded, then a PHA is deemed to be required. In this instance, a PHA was required by the SEARs and is included in Technical paper 1.
- Hazard identification and analysis:
  - Hazard identification: hazard identification involved a qualitative assessment documenting possible events that could lead to a possible off-site incident. The assessment then listed potential causes of the incident, as well as identification of operational and organisational safeguards to prevent the incidents from occurring or to mitigate their impact. The hazard identification was conducted for the whole life cycle of the project.
  - Hazard analysis: for hazards identified as having potential off-site impacts, a detailed analysis was completed to determine the risk to people, property, and the environment at the proposed location and in the presence of controls. Criteria of acceptability were used in the analysed hazards to determine if the project would be classified as a 'hazardous industry'. The hazard analysis aimed to demonstrate that the project would not impose an unacceptable level of risk to surrounding land uses.

The SEARs for the project also require confirmation that the project would not cause the societal risk to exceed the as low as reasonably practical (ALARP) band developed in the 2017 LUSS. Societal risk is assessed using an FN curve. FN curves, where F stands for frequency and N stands for number (of fatalities), shows the relationship between how often a fatality occurs and how many people may be affected, for example, how often an accident that kills 10 people might happen compared to one that kills 100. The 2017 LUSS was updated by the 2023 Port of Newcastle LUSS and was released after the issue of SEARs for the project. The 2023 LUSS now excludes the project site from the Mayfield precinct to which the LUSS applies, however it has been considered in this assessment for completeness.

No field surveys were required for the PHA. Further details of the methodology used to prepare the PHA are provided in Technical paper 1.

Mine subsidence

The mine subsidence assessment involved a desktop analysis of potential impacts from the Mine Subsidence District (Newcastle) during construction and operation of the project.

General hazards and risk

The hazards and risk assessment does not provide a detailed account of potential health and safety risks to on-site workers for the project. Potential risks to on-site workers during construction and operation would be regulated by work health and safety legislation (including the *Work Health and Safety Act 2011* (NSW)) and are not relevant to this EIS. Any work health and safety hazards would be addressed by the relevant construction contractor, in accordance with relevant guidelines and legislative requirements.

6.3 Existing environment

6.3.1 Surrounding land uses

The project site comprises relatively flat area of around 52 hectares within the former BHP Steelworks site. It is mostly cleared and heavily disturbed from its previous use, except for some existing vegetation on the western border of the project site along Industrial Drive and landscape gardens within the southern precinct. Parts of the southern precinct are located in flood prone areas (refer to Chapter 12 (Surface water and flooding)).

The project site is located in the suburb of Mayfield North and is adjacent to the residential suburbs of Mayfield East and Mayfield. Mayfield North is predominantly comprised of port infrastructure and associated industrial land uses, including wharf and berth services, complementary businesses, operation and maintenance of port assets and cruise shipping. In contrast, Mayfield East and Mayfield is predominately comprised of medium and low-density residential areas that are supported by a small commercial core along the Pacific Highway (Maitland Road).

Other public areas of interest are:

- Hunter River South Channel and associated key fish habitat, around 600 metres east of the project site
- Newcastle Central Business District, around two kilometres south of the project site
- Hunter Estuary wetland (Ramsar wetland), around three kilometres north of the project site
- Hunter Wetlands National Park, around three kilometres north of the project site.

The LUSS identified the following areas of interest immediately surrounding the project site:

- Mayfield 4 Berth and associated cargo storage facility, around 170 metres east of the project site
- Stolthaven fuel terminal storage tank farm, around 70 metres north of the project site (closest tanks around 425 metres north of the project site)
- coal stockpiles, around 135 metres south of the project site.

6.3.2 Mine subsidence

Mine Subsidence Districts are declared to regulate development where there is a potential subsidence risk. Selwyn Street is within a designated Mine Subsidence District (Newcastle). This Mine Subsidence District is defined by historic underground coal mining that occurred south of the project site.

6.4 Potential impacts – construction

6.4.1 Dangerous goods

Construction of the project would require the transport and use of dangerous goods (e.g., paint, solvents, diesel, general oils and lubricants, cleaning products). There would be minimal storage of these dangerous goods, and no stockpiling would occur on the project site during construction of the project. The project during construction is not considered potentially hazardous as none of the dangerous good thresholds in the Applying SEPP 33 guideline (including transport movement thresholds) would be exceeded. All dangerous goods temporarily stored on-site would be stored in accordance with the Australian Dangerous Goods Code, relevant standards and guidelines.

The maximum expected storage quantities and storage locations for dangerous goods at the project site during construction are shown in Table 6-1. The full assessment of dangerous goods against the Applying SEP 33 thresholds is provided in Technical paper 1.

Table 6-1 Maximum expected storage quantities and storage locations for dangerous goods during construction

Goods	Maximum expected storage quantity (tonnes)	Location and mode of storage
Spray paint	0.02	Construction compound in spray cans
Liquefied Petroleum Gas (LPG)	0.09	Construction compound in cylinders
Acetylene (welding)	0.33	Construction compound in cylinders
Oxygen (welding)	0.3	Construction compound in cylinders
Paint (oil based considered worst-case)	0.1	Construction compound in paint tins
Solvents	0.1	Construction compound in 20 litre pails
Epoxy resins	0.1	Construction compound in 20 litre pails
Cleaning products	0.005	Construction compound in 20 litre pails
Diesel (C1)	8.5	Construction compound in above ground tank
General oils and lubricants (C2)	0.5	Construction compound in 20 litre pails and/or 44 gallon drums
Bitumen	Used on demand	Construction compound in mobile tank

6.4.2 Mine subsidence

Construction work within the Newcastle Mine Subsidence District is limited to the tie-in works required for the southern access (central) along Selwyn Street. Subsidence Advisory NSW confirmed in December 2025 that these works are considered minor and exempt from requiring approval, subsidence controls or mitigation measures.

6.5 Potential impacts – operation

6.5.1 Dangerous goods

Risk screening

Excluding the storage of lithium-ion batteries, operation of the project would require limited use, transport and/or storage of dangerous goods. All dangerous goods stored on-site during operation of the project would be stored in accordance with the Australian Dangerous Goods Code, relevant standards and guidelines.

None of the dangerous good thresholds in the Resilience and Hazards SEPP would be exceeded during operation of the project. However, based on industry knowledge of battery storage technology, there is a medium potential for harm due to localised fire risks. As such, the project has been considered 'potentially hazardous' and a Level 2 PHA has been prepared.

The maximum expected storage quantities and storage locations for dangerous goods during operation of the project are shown in Table 6-2. The full assessment of dangerous goods against the Resilience and Hazards SEPP thresholds is provided in Technical paper 1.

Table 6-2 Maximum expected storage quantities and storage locations for dangerous goods during operation

Goods	Maximum expected storage quantity	Location and mode of storage
LPG gas cylinder (for forklifts)	0.009 tonnes	Roll Shop building in cylinders
Spray paint	0.02 tonnes	Roll Shop building in spray cans
Paint (oil based considered worst-case)	0.1 tonnes	Roll Shop building in paint tins
Solvents	0.5 tonnes	Roll Shop building in 20 litre pails
Hand Sanitiser	0.02 tonnes	Roll Shop building in 20 litre pails
Cleaning products	0.1 tonnes	Roll Shop building in 20 litre pails
Cleaning products	0.1 tonnes	Roll Shop building in 20 litre pails
Lithium-ion batteries	18 clusters (50 m by 50 m) and 1 part cluster (less than 50 m by 50 m)	Designated cluster sites
Diesel (C1)	Mobile tanker capacity	Mobile refuelling tanker temporarily located within operational footprint for refuelling of plant and equipment.
General oils and lubricants (C2)	1.0 tonnes	Roll Shop building in 20 litre pails and/or 44 gallon drums

The project would not result in emissions of pollutants considered potentially offensive. The project would involve the storage of lithium-ion batteries, however, as these batteries would not be connected to charging infrastructure during storage, there would be no noise or vibration generated by this component and no adverse air emissions.

Hazard identification

The operational hazard identification included the following scenarios:

- vehicle interactions within the project site
- natural hazards (flooding, earthquake, lightning, fire)
- mechanical damage of lithium-ion batteries leading to fire (rapid heating of batteries, vehicle impact to batteries or impacts between batteries and other stored cargo during loading/unloading).

These hazards would be primarily controlled through implementation of a safety management system and would not result in any significant off-site impacts.

Hazard analysis

Hazards

Lithium-ion batteries

Lithium-ion batteries are regulated as Class 9 miscellaneous dangerous goods and articles. Lithium-ion batteries contain electrolyte and lithium in various forms, along with other metals, and are the only material with the potential to cause off-site impacts from a hazardous event during operation of the project.

Lithium-ion batteries pose unique safety hazards as they contain a combustible or flammable electrolyte and may be kept pressurised. Because of these risks, testing standards are more stringent than those for acid-electrolyte batteries, requiring both a broader range of test conditions and additional battery-specific tests.

There are also different types of battery chemistry associated with lithium-ion batteries. There is an industry-wide trend for stationary batteries to use lithium-ion phosphate chemistry rather than more conventional lithium chemistries due to a significant reduction in thermal runaway (fire) risk. The reason for the risk reduction is that lithium-ion phosphate batteries have high chemical and thermal stability, and a high temperature tolerance so provide a higher level of safety.

Battery state of charge (SOC) is independent of thermal runaway initiation and the associated radiant heat consequences. Although, having a higher SOC, makes a lithium-ion battery unit more sensitive to reaching thermal runaway potential if a unit is damaged/abused. No charging (or discharging) processes would be undertaken at the project site.

The Fire and Rescue NSW position statement on open yard storage of battery energy storage also state the SOC should be minimised as far as possible for transportation.

The SOC limit for BESS is not currently specified for transport in the International Maritime Dangerous Goods (IMDG) Code but is recommended that the SOC be minimised as far as possible for transportation. However, a passed transportation test according to section 38.3 of the UN Manual of Tests and Criteria is required. The tests are conducted on fully charged batteries (SOC of 100 per cent) and the results must meet minimum safety criteria, including no fire, explosion or leakage.

Based on requirements of the IMDG Code, each manufacturer will specify the SOC for sea transportation.

Other battery types

While most recent battery projects rely on lithium-ion chemistries (particularly lithium-ion phosphate), energy storage is an evolving space and multiple storage technologies beyond lithium-ion batteries are currently available or in development, such as:

- flow batteries
- sodium-ion batteries
- air batteries.

These battery types may be transported and stored at the project site during operation. Based on their chemical properties, these battery types are considered to have a fire risk that is equal or less than lithium-ion batteries. As such, these battery types have not been considered further in this assessment.

Hazard scenarios

The key hazard for battery systems is thermal runaway. As batteries would be transported and stored during operation of the project and would not be connected to charging infrastructure, the two credible hazard scenarios for the project would comprise:

- latent battery failure caused by a manufacturing fault
- latent battery failure caused by transport/handling issues.

Consequence assessment

The assumptions in Table 6-3 were used in the consequence determination.

Table 6-3 Consequence determination assumptions

Parameter	Value	Comment
Surrounding air temperature	22°C	Average outside air temperature for Newcastle
Assumed average container surface temperature during thermal runaway reaction	880°C	Internal flame temperature at cell level could reach 1,100°C and 660°C is melting point of aluminium. Conservatively assumed the average of the two as the external surface temperature of container.
Height of battery (container unit)	2.6 m	Assumed height of lithium-ion battery
Length of battery (container unit)	6.1 m	Assumed length of lithium-ion battery
Height of battery (stand-alone unit)	2.1 m	Assumed height of lithium-ion battery
Length of battery (stand-alone unit)	2.2 m	Assumed length of lithium-ion battery

The heat experienced between a battery fire and a person in the vicinity can be estimated by the radiation between two parallel plates/flat surfaces. This calculation estimates the net radiant heat exchanged between the surface of the battery unit that is on fire and a person standing opposite this surface at a given distance.

The distances to provide the indicated radiated heat outputs from a thermal runaway event are listed in Table 6-4.

Off-site health effects from smoke in the event of a battery fire, which may include very small quantities of fluorinated hydrocarbons or hydrofluoric acid, are considered low given the lack of combustible material available for a prolonged fire event within the project site. A lithium-ion battery fire is analogous to a residential house fire in its smoke impacts.

Stolthaven Fuel Terminal to the north has existing fuel storage tanks located approximately 425 metres from the closest section of the main logistics precinct and approval for additional fuel storage tanks being approximately 80 metres from the closest section of the main logistics precinct. Existing coal stockpiles to the south are approximately 250 metres away from the closest section of the main logistics precinct, while the closest distance from the lithium-ion battery storage areas and the residential area is approximately 130 metres. At these distances, heat radiation from the modelled fire event would be negligible.

Table 6-4 Summary of heat radiation consequences

Release scenario	Maximum distance downwind of release to heat radiation		
	4.7 kW/m² (heat radiation level that can cause injury)	**12.6 kW/m² (heat radiation level that can cause fatality)**	**23 kW/m² (heat radiation level that can cause property damage)**
Single container battery thermal runaway	9.7 m	5.3 m	3.3 m
Single stand-alone battery thermal runaway	5.3 m	3.0 m	1.9 m

Separation distance between containers is important to limit the potential for overheating adjacent containerised batteries. Relevant standards and codes providing separation distances relevant to the project are provided in Table 6-5.

Table 6-5 BESS separation distance guidelines

Standard/Code	Separation distance reference
Fire and Rescue NSW – Position statement summary for open yard storage of battery energy storage systems (BESS) 2024	6 m from fire source feature such as buildings, structures or boundary 1 m to adjacent unit that has access panel, door or deflagration vent(s)
NFPA 855 – Standard for the Installation of Stationary Energy Storage Systems 2023	0.9 m to adjacent indoor racks 3 m from buildings, boundary, hazardous or combustible materials 3 m clearance of combustible vegetation
UL 9540 – Standard for Safety of Energy Storage Systems and Equipment 2023 UL 9540A (Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems)	UL 9540 – refers to NFPA 855 (reduced distances require a large-scale fire test via valid thermal testing process) UL 9540A – Testing regime dependent
FM Global DS 5-33 – Data sheet (Electrical Energy Storage Systems) 2023	1.5 m (LFP)[1] or 4.0 m/2.4 m (NMC)[2] between BESS units 2.7 m from combustible elements

1. "On sides that contain access panels, doors or deflagration vents"
2. Depending on fire rating of wall construction (1 hour)

Based on the guidelines and in a worst-case scenario, EnergyCo would accommodate up to 18 battery clusters of BESS units (50 metres by 50 metres) and one part-cluster (less than 50 metres by 50 metres), noting that the main logistics precinct could accommodate up to 45 full clusters. The location of the battery clusters has been informed by the proximity to existing street hydrants. Firefighting equipment is not required, but the operational emergency response plan for the site would be developed for effective response to a fire emergency in accordance with Fire and Rescue NSW requirements. The need for additional on-site firefighting equipment within the project site will be confirmed as part of the operational emergency response plan.

Depending on the size, the number of batteries that can be stored within a cluster would vary. The storage of each unit would be separated along the side of the unit that incorporates any access panel, door, or deflagration vent(s) by one metre from the next unit, as outlined in Technical paper 1 and the Fire and Rescue NSW position statement on open yard storage of battery energy storage. Furthermore, batteries would not be stacked (i.e. only one level of storage is allowed). By avoiding mechanical damage, there is no limit to the storage duration of batteries. As increased length of storage does not increase the BESS fire risk, no maximum storage duration is required. However, it is not expected to be more than a year to coincide with the renewable energy development construction phase.

Separation distances between batteries stored within the main logistics precinct from the project site boundary and between groups of stored batteries would be six metres. This separation distance between battery clusters would also allow for fire brigade vehicle access around each battery cluster. The location of the battery clusters has been informed by the proximity to existing fire hydrants. The requirement for additional on-site fire fighting equipment within the project site would be confirmed as part of the operational emergency response plan (refer to Section 6.6). This plan would be prepared for the effective response to a fire emergency in accordance with Fire and Rescue NSW requirements.

Likelihood estimation

A summary of the frequency of thermal runaway in both scenarios identified in Section 6.5.1 is shown in Table 6-6.

It is important to note that the determination of ‘absolute values’ for assigned probabilities is less important than consistently using ‘comparative’ or ‘relative’ values. The overall aim is to provide a ranking to compare with risk criteria.

Table 6-6 Thermal runaway frequency

Scenario	Frequency per year	Interval years
Latent manufacturing fault leading to thermal runaway and fire (per annum)	9.0×10^{-5}	11,111
Impact during transportation movement leading to thermal runaway and fire (per annum)	1.80×10^{-2}	56
Combined site frequency for thermal runaway events	1.81×10^{-2}	55

Risk assessment

Combining the consequence assessment with the frequency estimation provides the risk of thermal runaway events occurring. The risk criteria for land use and safety planning within HIPAP 4 (Department of Planning, 2011) include on-site and off-site fatality values, as well as off-site injury and property damage values. The HIPAP 4 fire and explosion risk criteria are summarised in Table 6-7.

Table 6-7 HIPAP 4 risk criteria

Impact	On-site criteria	Off-site criteria
Fatality (12.6 kW/m^2 & 21 kPa)	5.00×10^{-05}	1.00×10^{-06}
Serious injury (4.7 kw/m^2 & 7 kPa)	–	5.00×10^{-05}
Property damage (23 kw/m^2 & 14 kPa)	–	5.00×10^{-05}

The assessment of fatality, injury and property damage for any thermal runaway event against HIPAP 4 risk criteria is summarised in Table 6-8. As shown, there would be no expected off-site impacts based on the proposed location of battery storage and distances between the project site and sensitive receivers. Off-site heat radiation from fire would be negligible. Coupled with the highly unlikely chance of an incident occurring, the risk of injury, fatality or property damage is negligible and complies with the relevant HIPAP 4 fire and explosion risk criteria. The on-site fatality risk also complies with the relevant HIPAP 4 criteria.

The assessment is valid for a maximum SOC of 100 per cent and is not dependant on BESS storage duration. Full details of the calculations are provided in Technical paper 1.

Table 6-8 Risk assessment results for thermal runaway events

Event	Frequency per year	Interval years	Compliance with HIPAP 4 fire and explosion risk criteria
Off-site property damage	0	0	Complies
Off-site serious injury	0	0	Complies
Off-site fatality	0	0	Complies
On-site fatality	7.5×10^{-06}	132,670	Complies

Societal risk assessment

The SEARs require confirmation that the project would not cause the societal risk to exceed the ALARP band developed in the 2017 LUSS (refer to Figure 6-1). As described in Section 6.2.2, societal risk is assessed using an FN curve which shows the relationship between how often a fatality occurs and how many people may be affected.

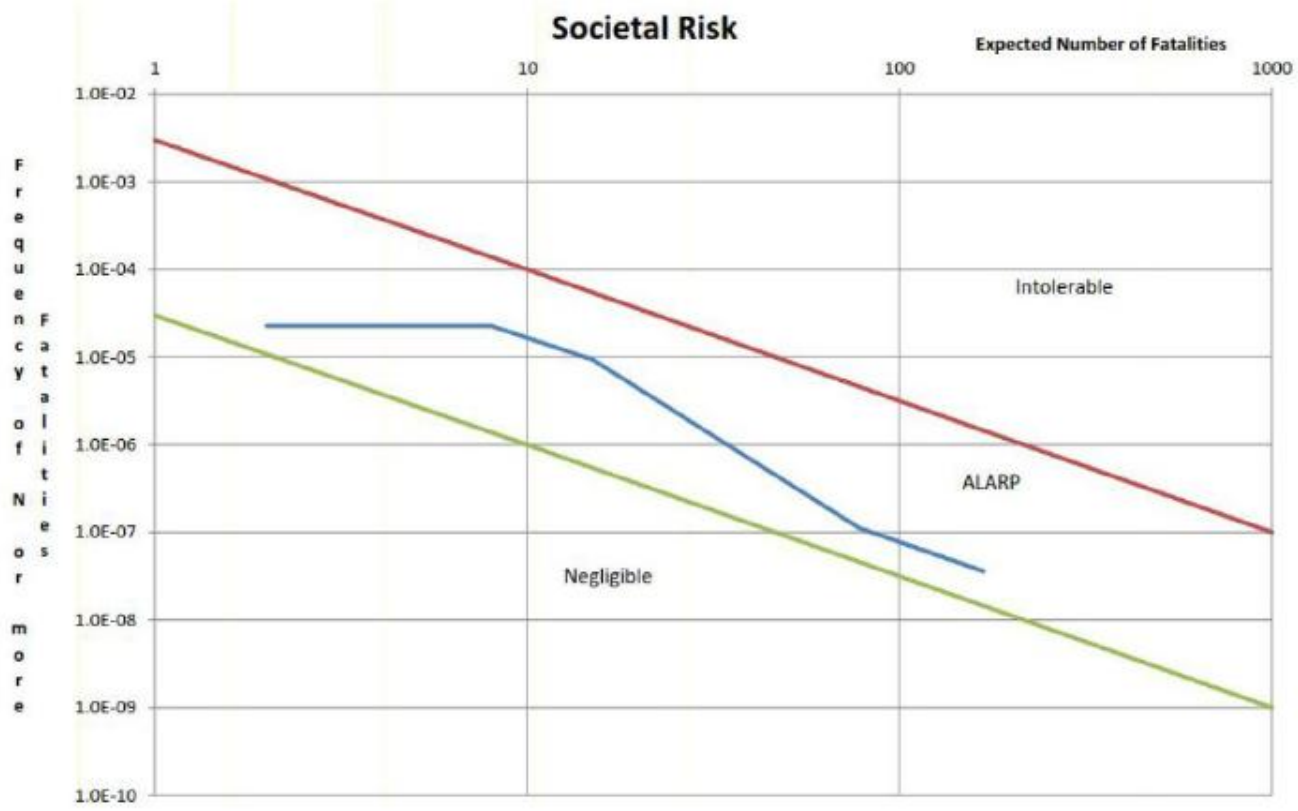


Figure 6-1 2017 Port of Newcastle LUSS societal risk chart

The project would introduce around 45 FTE employees to the project site at any one time (just over 100 people per square kilometre). Employees would be primarily based in the southern precinct, with activities in the main logistics precinct considered transient. This increase in people would not materially change the individual fatality risk and the potential loss of life would remain less than one. Further, the risk profile for the project would not change as result of visitors to the Newcastle Steelworks Memorial within the project site, or the current temporary storage of maritime heritage items from the Newcastle Maritime Heritage Working party in the southern precinct.

A single fatality for the project would have a frequency of less than 5 $x10^{-5}$ per annum. As such, the societal risk would fall within the 'negligible' area of the LUSS FN curve displayed in Figure 6-1. Therefore, the introduction of the project would not increase the existing and future societal risk profiles for the Port of Newcastle.

The 2023 LUSS concluded that the Mayfield precinct, which now excludes the project site, has minimal risk accumulation and is suitable for further development of potentially hazardous industries. The project would not change the individual fatality risk or the societal risk of the 2023 LUSS, indicating suitability of the project development, with no cumulative risk impact.

A local buried network gas pipeline runs along the southern side of Selwyn Street, adjacent to the construction footprint. Interaction with the gas line is not anticipated during construction or operation of the project. The location of all services and utilities within the construction footprint would be confirmed during detailed design, and any required protection or relocation works would be designed in consultation with utility providers as required. Cumulative impacts are considered further in Chapter 22 (Cumulative impacts).

6.6 Management of impacts

6.6.1 Environmental management

The approach to environmental management and mitigation of potential impacts during the construction of the project would be carried out through the development of a project specific CEMP for the main construction works. Standard environmental management measures, including the handling of dangerous goods and spill response procedures, will be implemented through the CEMP.

Operation of the project, including maintenance activities of the project would be managed through a project specific OEMP. This will be in addition to the measures provided in Section 6.6.2.

6.6.2 Mitigation measures

Site-specific mitigation measures have been proposed to minimise hazards and risk impacts associated with the project. Mitigation measures are presented in Table 6-9.

Table 6-9 Proposed mitigation measures – hazards and risk

Reference	Impact/issue	Mitigation measures	Timing
HAZ01	Battery fire	An emergency management plan for the project will be developed in consultation with Fire and Rescue NSW and implemented. It will include, but not be limited to: • emergency response procedures relating to battery fires • the confirmed location and requirements for on-site fire-fighting facilities • a schedule for the regular review, testing and improvement of the battery fire response controls and procedures.	Prior to storage of batteries Operation
HAZ02	Battery fire	A battery storage management plan will be developed and implemented for the project. The plan will include (but is not limited to): • locational requirements for battery storage areas as identified in Technical paper 1 – Preliminary Hazard Analysis, which will be confirmed with NSW Fire and Rescue prior to operation • physical controls at the battery storage area(s), such as bollards or protection barriers • protocols for the regular inspection of battery units while in storage and procedures for managing damaged batteries. Battery units will be stored in accordance with the applicable manufacturer requirements.	Prior to storage of batteries Operation

7 Traffic and access

This chapter provides an assessment of the potential traffic and access impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 2 – Traffic and access (Technical paper 2). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist). Matters relating to aviation within the traffic SEARs have been addressed in Chapter 17 (Land use and property).

7.1 Legislative and policy context

The traffic and access assessment was prepared with reference to the following legislation, policies, standards and guidelines:

- *Roads Act 1993* (Roads Act)
- *The NSW Road Rules 2014* (NSW Road Rules)
- *Guide to Traffic Management and Road Design*, including Part 12 (Austroads, 2020)
- *Guide to Transport Impact Assessment* (Transport for NSW, 2024a)
- *Traffic Control at Work Sites – Technical Manual* (Transport for NSW, 2022)
- *2026 Road Safety Action Plan* (Transport for NSW, 2026)
- *NSW Heavy Vehicle Access Policy Framework* (Transport for NSW, 2024b).

7.2 Assessment approach

7.2.1 Study area

The study area for the traffic and access assessment comprises the road network that provides access to the project site to/from the nearest State road (being Industrial Drive) and access to/from Mayfield 4 Berth (refer to Figure 7-1). Beyond this point, project traffic volumes are expected to diminish as it is distributed across the broader network to multiple origins.

OSOM vehicle movements would extend beyond the study area to travel to and from the project site. The OSOM movements within the Newcastle LGA would occur on approved OSOM routes and subject to National Heavy Vehicle Regulator permit conditions.

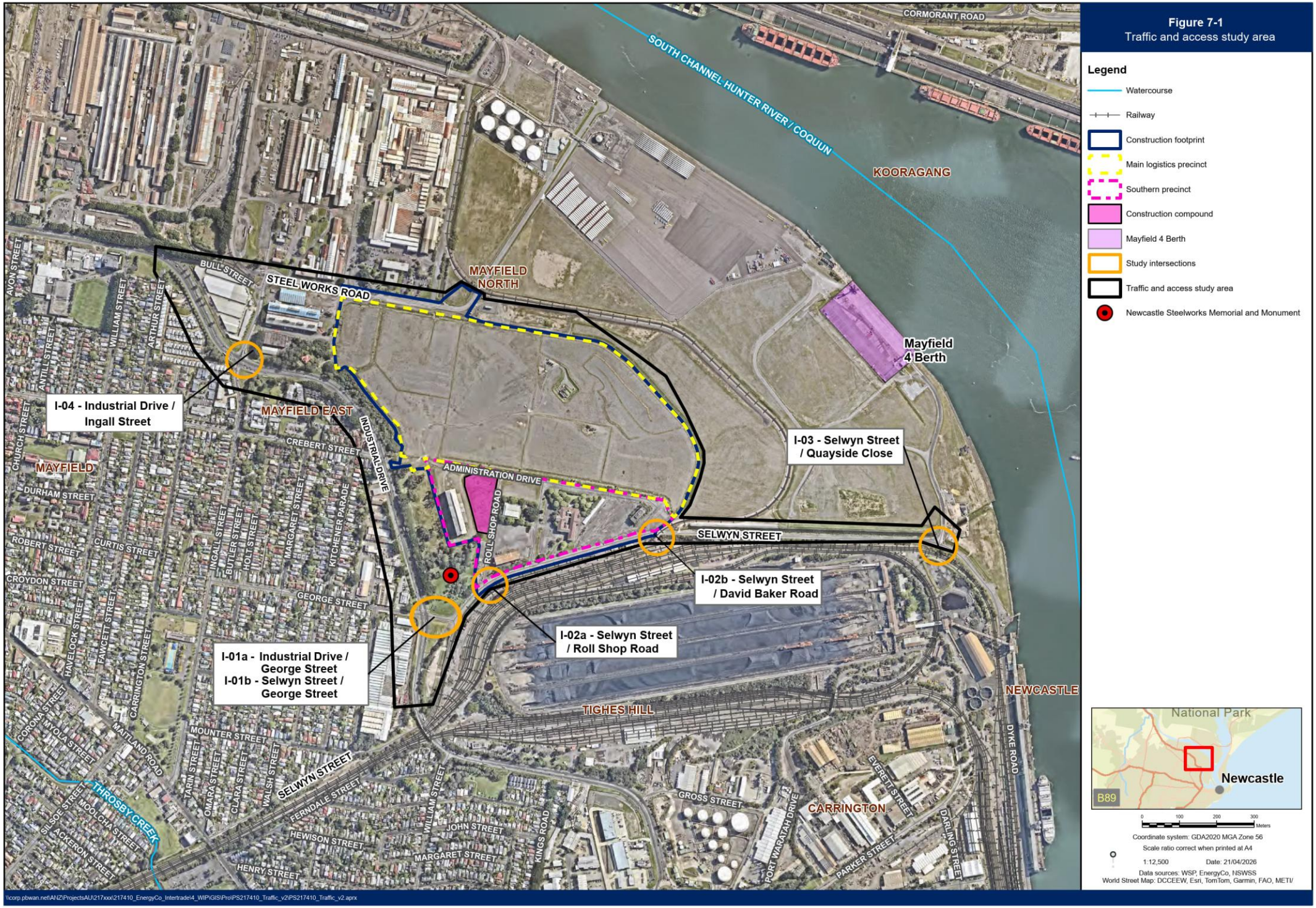


Figure 7-1
Traffic and access study area

Legend

- Watercourse
- Railway
- Construction footprint
- Main logistics precinct
- Southern precinct
- Construction compound
- Mayfield 4 Berth
- Study intersections
- Traffic and access study area
- Newcastle Steelworks Memorial and Monument

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7.2.2 Methodology

The methodology for the traffic and access assessment involved:

- a desktop analysis to identify, describe and qualitatively assess the existing conditions of routes expected to be used during both construction and operation of the project within the study area, including road classification, lane configuration, speed limit, pedestrian/cyclist facilities, railway crossings, existing heavy vehicle restrictions, crash history, intersection treatment, traffic operating performance, and public transport provisions
- a site inspection and mid-block and intersection counts at suitable locations on the public road network to understand the existing conditions and traffic patterns to further assess the impact of the project
- development of future background traffic volumes on key State and local roads in the study area using traffic count data with a background growth rate to reflect traffic volumes in 2027 (construction year) and 2037 (tenth year of operations) (refer to section 3.4 of Technical paper 2 for further detail)
- assessment of the potential impacts associated with the construction and operation of the project with regards to road network (capacity and efficiency), road safety, parking, active transport, public transport and property access. This included an assessment of mid-block and intersection performance during peak construction and during operations
- identification of mitigation and management measures to avoid, minimise and manage the potential traffic and access impacts of the project, as far as practicable.

Data collection

A site inspection of the study area was undertaken on 28 November 2024. Intersection traffic counts were undertaken on the same date during the AM peak period (7:00–10:00 am) and the PM peak period (4:00–7:00 pm) at the following intersections:

- I-01: Industrial Drive and George Street, including George Street and Selwyn Street intersection
- I-03: Selwyn Street and Quayside Close intersection
- I-04: Industrial Drive and Ingall Street intersection.

A survey at the intersections of Selwyn Street/Roll Shop Road (I-02a) and Selwyn Street/ David Baker Road (I-02b) was not conducted as the site is currently not operational (therefore is not generating traffic) and has restricted (gated) access.

Traffic volumes on Industrial Drive, north of its intersection with George Street (M-02), were recorded using cameras installed at the Industrial Drive and George Street intersection on Thursday 28 November 2024 for a 24 hour period.

A mid-block tube count survey (M-01) was carried out on Selwyn Street, around 100 metres east of the Industrial Drive and George Street intersection, from 22 to 28 November 2024. This survey captured seven days of 24 hour traffic data, including vehicle volumes, speeds, and classifications.

Level of service

To assess the impact on capacity and efficiency of the project on the road network, the assessment has applied:

- the criteria in the Guide to Traffic Management Part 3 (Austroads, 2020) to assess the volume-to-capacity ratio and level of service for the mid-block sections of a road (refer to Table 7-1), and
- the criteria in the Guide to Transport Impact Assessment (Transport for NSW, 2024a) to assess the average delay, queuing, degree of saturation and level of service for intersections within the study area (refer to Table 7-2). This was completed during SIDRA intersection modelling software.

Table 7-1 Level of service criteria for mid-block performance

Level of service	Description
A	This level of service describes free-flow operations. Vehicles are almost completely unimpeded in their ability to manoeuvre within the traffic stream.
B	This level of service represents reasonable free-flow operations. The ability to manoeuvre within the traffic stream is only slightly restricted and the general level of physical and psychological comfort provided to drivers is still high.
C	This level of service provides the flow conditions with speeds near the free-flow speed. Freedom to manoeuvre within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the drivers.
D	This level of service is the level at which speeds begin to decline slightly with increasing flows, with density increasing more quickly. Freedom to manoeuvre is seriously limited and the drivers experience reduced physical and psychological comfort levels. Performance up to LoS D is typically considered to be an acceptable level of service by Transport for NSW.
E	This level of service describes operation at or near capacity. Operations at this level are highly volatile with virtually no usable gaps within the traffic stream, leaving little room to manoeuvre within the traffic stream. The physical and psychological comfort of drivers is poor.
F	This level of service describes unstable flow.

Source: Guide to Traffic Management Part 3 (Austroads, 2020)

Table 7-2 Level of service criteria for intersection performance

Level of service	Average delay (seconds per vehicle)	Traffic signals	Give-way and stop signs, roundabout
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity. At signals, incidents would cause excessive delays	At capacity, requires other control modes Roundabouts require other control modes
F	Greater than 70	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing, requires other control modes

Source: Guide to Transport Impact Assessment (Transport for NSW, 2024a)

7.3 Existing environment

7.3.1 Road network

Key roads

A description of the key roads within the study area is provided in Table 7-3.

Table 7-3 Key roads in the study area

Road	Classification	Features
Industrial Drive (Main Road 316)	State road	• Industrial Drive runs in a north-south alignment through the Mayfield area, connecting to the Pacific Highway in the north and to Hannell Street in the south. Within the study area, it primarily functions as a multi-lane, bidirectional arterial road. • posted speed limits vary, with 80 kilometres per hour (km/h) north of George Street and 60 km/h to the south towards Newcastle • Industrial Drive includes turning bays and on-road bicycle lanes on both sides • Industrial Drive is pre-approved for access by Restricted Access Vehicles (RAV) (such as B-double vehicles) and OSOM vehicles

Road	Classification	Features
George Street	Local road	• George Street runs in an east–west alignment between Selwyn Street in the east and Ingall Street in the west, and access to Industrial Drive for industrial and port areas in Mayfield North and Tighes Hill. It provides access to residential and commercial areas in Mayfield East west of Industrial Drive, and access to areas east of Industrial Drive via Selwyn Street • within the study area, it generally operates as a two lane, bidirectional road with a posted speed limit of 50 km/h. It forms a signalised intersection with Industrial Drive and a priority controlled intersection with Selwyn Street, located immediately west of Industrial Drive • unrestricted parking is available on both sides of the road between Industrial Drive and Ingall Street • east of Industrial Drive, it is pre-approved for RAV and OSOM vehicle access • the signalised Industrial Drive/George Street intersection is being upgraded as part of the Port to REZ program of works to accommodate OSOM vehicles (including those that would be generated by this project)
Selwyn Street	Local road	• Selwyn Street runs in an east–west alignment from Dyke Road (a port road) in the east to the Pacific Highway (Maitland Road) in the west • within the study area, it functions as a two-lane, bidirectional road with a speed limit of 50 km/h • it passes under Industrial Drive to the southwest of the project site. There is an at-grade rail crossing for a freight line to the east of the project site • east of George Street, Selwyn Street is pre-approved for RAV and OSOM vehicle access
Quayside Close	Local road	• Quayside Close forms a priority-controlled T-junction with Selwyn Street, connecting to the Mayfield 4 Berth. This intersection is being upgraded as part of the Port to REZ program of works to accommodate OSOM vehicles (including those that would be generated by this project) • it is a two-lane, bidirectional road with a 50 km/h speed limit
Ingall Street	Local road	• Ingall Street runs in a north–south alignment from Industrial Drive in the north and the Pacific Highway in the south. At Industrial Drive, the road is signalised • within the study area, it typically operates as a two-lane, bidirectional road with a posted speed limit of 50 km/h, which reduces to 40 km/h in some sections during school hours • Ingall Street north of Industrial Drive is pre-approved for access by RAV and OSOM vehicles.
Bull Street	Local road	• Bull Street is a one-way road that runs in an east–west alignment between Industrial Drive and the Ingall Street/ Steel Works Road intersection

Road	Classification	Features
Steel Works Road	Port road	• a formed road, known as Steel Works Road, is a right of carriageway over the project site (Lot 332 DP1176879) • Steel Works Road runs around 500 metres in an east–west alignment along the northern boundary of the project site, with a 50 km/h speed limit • public entry restricted by a security gate and boom gate near the intersection with Ingall Street • it currently provides access to Mayfield 4 Berth for current operations at the Port of Newcastle (via the unnamed operational access road) and industrial developments north of Steel Works Road
Operational access road	Port Road	• the operational access road is a right of carriageway that runs around 660 metres in a southwest-northeast alignment between Steel Works Road and Stolthaven Terminal • it currently provides internal access to areas within the lease area • it is a continuation of Steel Works Road into the lease area at the boundary of Lot 332 DP1176879
Roll Shop Road, David Baker Road and Administration Drive	Internal roads	• these are gated internal access roads within the project site. These intersections form a priority-controlled T-junction with Selwyn Street • public access to the Newcastle Steelworks Memorial and Monument and the designated car park (located within the project site) is provided via Roll Shop Road between 9:00 am to 5:00 pm daily.

Road network operation

Mid-block performance

The mid-block assessment for Industrial Drive and Selwyn Street indicates that Industrial Drive operates at a satisfactory level (level of service C or better) and that Selwyn Street has ample capacity (Level of service A during peak periods) (refer to Table 7-4).

Table 7-4 Mid-block surveyed traffic counts data (2024) volume and measured level of service (weekday)

Survey ID	Location	Daily volume[1]		Peak hour volume (veh/hour)		Lane capacity (vph[3]/ lane)	Level of service	
		Light Vehicle	Heavy Vehicle	AM peak[2]	PM peak[2]		AM peak	PM peak
M-01	Selwyn Street[4]	655 (90.6%)	68 (9.4%)	WB: 21 EB:27	WB: 35 EB: 17	900	A	A
M-02	Industrial Drive, north George Street	29,686 (91.8%)	2,661 (8.2%)	NB: 1,212 SB: 1,504	NB: 1,469 SB: 1,446	1,400	C	C

1. *Average daily traffic for M-02 and single day for M-01*
2. *NB/WB: northbound/westbound. SB/EB: southbound/eastbound*
3. *Vehicles per hour*
4. *100 metres east of the Industrial Drive and George Street intersection*

Intersection performance

The performance of an existing road network is largely dependent on the operating performance of key intersections, which are critical capacity control points on the road network.

The existing performance of intersections within the study area based on the surveyed traffic volumes are summarised in Table 7-5. The results indicate that all intersections currently operate at a satisfactory level of service (being a level of service of C or better) during the weekday AM and PM peak periods.

Table 7-5 Existing intersection performance (2024)

ID	Intersection	Control	Peak period	Delay[1] (seconds)	Level of service	Queue[2] (metres)
I-01a	Industrial Drive/ George Street	Signal	AM	19	B	195 (N)
			PM	11	A	123 (S)
I-01b	George Street/ Selwyn Street	Priority	AM	6	A	1 (W)
			PM	5	A	1 (W)
I-03	Selwyn Street/ Quayside Close	Priority	AM	5	A	1 (N)
			PM	5	A	1 (N)
I-04	Industrial Drive/ Ingall Street	Signal	AM	26	B	230 (W)
			PM	34	C	274 (E)

Delay: Average delay (seconds)

Queue: 95th percentile queue (metres) and approach

Intersection layouts (turn warrant)

A turn warrant assessment was completed for non-signalised intersections on public roads within the study area to assess the need for new or upgraded priority-controlled intersections based on existing traffic demand. The review methodology is provided in the Guide to Traffic Management Part 6 (Austroads, 2020). The assessment confirmed that all relevant priority-controlled intersections can adequately accommodate the existing traffic demand within their current configuration.

Heavy vehicle travel restrictions

Within the study area, RAV and OSOM vehicles are permitted to travel on Industrial Drive, George Street, and Selwyn Street.

Crash data

Crash data for the last available five year period (2020-2024) from NSW Crash Data (accessible from the Transport for NSW Open Data platform) indicates that there were 12 crashes recorded on the road network within the study area. Analysis of the five year crash data for roads in the study area indicate that:

- no fatal crashes occurred
- none of the recorded crashes involved pedestrians or cyclists

- crashes within the study area were located on Industrial Drive with:
  - six crashes that involved vehicles leaving the carriageway
  - four crashes that involved vehicles travelling in the same direction, including rear-end type accidents
  - two crashes that involved vehicles from adjacent or opposing directions, including head-on and cross-turning type accidents
- no crashes were reported on the local roads within the study area, including Selwyn Street and Quayside Close.

7.3.2 Freight rail

The study area includes the freight rail network that services the Port of Newcastle. Two at-grade rail level crossings are located near the project site, with one positioned on Selwyn Street to the east of David Baker Road and the other on the right of carriageway referred to as the operational access road around 600 metres east of Ingall Street. Infrabuild own and operate both level crossings. The relevant rail operator at this location is Pacific National.

7.3.3 Public transport

Two general public bus routes and 10 school bus routes operate along Industrial Drive and Ingall Street near the project site. The most frequent service (route 24) runs between Wallsend and Marketown via Mayfield, with 45 services running between 5:10am and 10:10 pm. The remaining 11 have one to four services operating per day. No bus routes operate along Industrial Drive between Ingall Street and George Street.

7.3.4 Active transport

The study area has limited active transport infrastructure. Paved footpaths are provided on the following roads:

- George Street (both sides of the road, west of Industrial Drive)
- Industrial Drive (southwestern side of the road, near the intersection with George Street)
- Ingall Street (both sides of the road, south of Industrial Drive and adjacent to the Industrial Drive/ Ingall Street intersection).

Signalised pedestrian crossings are available only on the northern and western approaches of the George Street/Industrial Drive intersection.

Selwyn Street does not have any formal pedestrian paths between its intersection with Industrial Drive and the project site access points. As a result, pedestrian activity along this section of the road is expected to be minimal.

Dedicated bicycle lanes and shared shoulders are provided on both sides of Industrial Drive. Cyclists on surrounding road network are required to share lanes with general traffic.

7.4 Potential impacts – construction

7.4.1 Construction traffic generation

Light vehicles

Light vehicle movements would primarily consist of workforce commuting, with up to 110 FTE workers during peak construction. Assuming all workers travel by private vehicle, this represents around 110 inbound and 110 outbound movements per day. Most of these movements are expected to occur outside network peak periods due to the standard project construction hours (7:00 am to 6:00 pm). To assess the worst-case scenario, it was assumed that all light vehicle movements would occur during the AM and PM network peak period.

An additional five to 10 light vehicle movements per day are anticipated to occur outside the weekday AM and PM network periods.

Parking for construction workers would be available within the construction compound and at various designated work areas.

Heavy vehicles

At peak construction, the project would generate up to 400 heavy vehicles per day and would be associated with the delivery of materials and equipment, and waste removal. It is expected that, in a worst-case scenario, 40 heavy vehicle movements (20 inbound and 20 outbound) during peak construction would occur during both the AM and PM network peak hour.

Heavy vehicles would utilise existing hardstand areas within the project site. On-street parking would not be permitted on Selwyn Street or other local roads west of Industrial Drive.

Construction traffic routes and access

Daily construction traffic, including both light and heavy vehicles, would access the project site via two main entry points. The southern access would be provided through Roll Shop Road and David Baker Road, which connect to Selwyn Street via the Industrial Drive/George Street intersection. The northern access to the project site would be via an existing access on Steel Works Road, which provides connection from Industrial Drive via Bull Street or to and from Industrial Drive through the Ingall Street intersection, as shown in Figure 7-2.

Heavy vehicle movements are expected to be evenly distributed between the northern and southern access points. For the purposes of the assessment, it was assumed that all construction vehicles using the northern access would travel via the signalised Industrial Drive and Ingall Street intersection.



Figure 7-2
Construction routes

Legend

- Road
- Railway
- Construction routes
- Watercourse
- Construction footprint
- Newcastle Steelworks Memorial and Monument

Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:14,000 Date: 24/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/

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To minimise potential impacts and avoid unnecessary heavy vehicle movements through Newcastle city centre, all heavy vehicles would access the site from the north via Industrial Drive. Inbound construction heavy vehicles would turn left into Ingall Street (with 50 per cent directed to the northern access) and left into George Street/Selwyn Street (with 50 per cent directed to the southern accesses). Outbound construction heavy vehicles would depart via Selwyn Street/ George Street and Steel Works Road/Ingall Street, turning right onto Industrial Drive.

Light vehicles would access the project site via Selwyn Street. Since construction staff are likely to travel to and from various locations, it is assumed that light vehicle movements would be evenly split with half arriving from the north of the Industrial Drive/George Street intersection and half from the south of this intersection.

7.4.2 Impacts on the road network

Road network operation

Mid-block performance

The weekday mid-block traffic volumes and performance of roads in 2027 during the network AM and PM peak, incorporating both generated construction traffic (refer to Section 7.4.1) and projected background growth (refer to Section 7.3.1), are summarised in Table 7-6.

The results of the mid-block performance assessment indicate minor increases in traffic compared to projected background conditions for both Industrial Drive and Selwyn Street. Both roads are expected to continue operating at satisfactory levels during construction despite added construction traffic.

Table 7-6 Mid-block traffic volume and level of service for the construction year (weekday) (2027)

ID	Location	Road classification	Parameter	Without construction traffic				With construction traffic			
				AM peak		PM peak		AM peak		PM peak	
				NB/ WB[1]	SB/ EB[2]	NB/ WB[1]	SB/ EB[2]	NB/ WB[1]	SB/ EB[2]	NB/ WB[1]	SB/ EB[2]
M-01	Selwyn Street	Local road	Volume/ capacity ratio	0.02	0.03	0.04	0.02	0.04	0.17	0.17	0.03
			Level of service	A	A	A	A	A	A	A	A
M-02	Industrial Drive, north George Street	State road (Main Road 316)	Volume/ capacity ratio	0.47	0.55	0.54	0.57	0.48	0.58	0.56	0.57
			Level of service	C	C	C	C	C	C	C	C

1. *Northbound/westbound*
2. *Southbound/eastbound*

Intersection performance

The anticipated traffic generation and distribution patterns described in Section 7.4.1 have been combined with the projected background traffic volumes described in Section 7.3.1 to assess intersection performance for the peak construction year of 2027.

Table 7-7 presents a summary of intersection performance within the study area determined by SIDRA modelling, both with and without construction traffic in 2027.

The SIDRA modelling results indicate that all study intersections are expected to operate at a satisfactory level of service in 2027, with minimal impact on the overall performance of the road network. With the inclusion of construction traffic, the level of service at the Industrial Drive and Ingall Street intersection (I-04) is projected to change from level of service B to level of service C during the weekday AM peak hour. All other intersections are expected to experience similar operating conditions with or without the project, with only marginal increases in delays and queues.

Table 7-7 Intersection performance during peak construction year with and without construction traffic, weekday peak (2027)

ID	Intersection	Control	Peak period	Without construction traffic			With construction traffic		
				Delay[1] (seconds)	Level of service	Queue[2] (metres)	Delay[1] (seconds)	Level of service	Queue[2] (metres)
I-01a	Industrial Drive/ George Street	Signal	AM	22	B	229 (N)	24	B	243 (N)
			PM	15	B	161 (S)	19	B	177 (S)
I-01b	George Street/ Selwyn Street	Priority	AM	6	A	1 (W)	6	A	1 (W)
			PM	5	A	1 (W)	5	A	1 (W)
I-02a	Selwyn Street/Roll Shop Road	Priority	AM	–	–	–	6	A	2 (SW)
			PM	–	–	–	6	A	2 (N)
I-02b	Selwyn Street/David Baker Road	Priority	AM	–	–	–	6	A	1 (N)
			PM	–	–	–	7	A	1 (N)
I-03	Selwyn Street/ Quayside Close	Priority	AM	5	A	1 (N)	5	A	1 (N)
			PM	5	A	1 (N)	5	A	1 (N)
I-04	Industrial Drive/Ingall Street	Signal	AM	25	B	223 (W)	30	C	284 (W)
			PM	31	C	270 (E)	37	C	324 (E)

1. *Delay: Average delay (seconds)*
2. *Queue: 95th percentile queue (metres) and approach.*

Intersection layouts (turn warrant)

All non-signalised intersections within the study area that would be used by construction traffic would meet or exceed the required layout standards based on the projected traffic demand. No intersection upgrades would be required for the construction of the project.

Parking

Parking for both construction light and heavy vehicles would be provided within the construction compound and designated areas inside the project site. No construction-related parking would be permitted on the surrounding road network, with no adverse impacts on on-street parking expected during the construction period.

Road safety

Construction of the project would have minimal interaction with general traffic, pedestrians, and cyclists. Construction works that would interface with the public road network and internal port roads would be limited to:

- connection works on Steel Works Road and Selwyn Street
- utility protection or adjustments.

These works would temporarily interact with traffic and require the mitigation measures outlined in Section 7.6 to maintain safe vehicle movements and minimise disruption.

Most construction-related light vehicle trips by the workforce would occur outside weekday peak hours, and heavy vehicle movements would be distributed throughout the day. The overall impact on road safety from construction traffic generation is expected to be minimal.

7.4.3 Impacts on the freight rail network

During construction, all construction vehicle access to the project site would occur via the northern access on Steel Works Road (located west of the proposed northern access) and the southern access points on Selwyn Street via either Roll Shop Road or David Baker Road. These access points are located to the west of the existing at-grade rail level crossings on both Selwyn Street and the operational access road.

All construction movements would be directed to the designated access points that avoid the rail corridor, ensuring that rail operations and the safety and functioning of the crossings remain unaffected. As a result, construction activities are expected to have a negligible impact on the existing at-grade rail crossings.

7.4.4 Impacts on public transport

There are no public transport services operating along Selwyn Street or within the immediate frontage of the project site. Although some works are required on Selwyn Street to facilitate tie-in works for the project, these activities would not affect any bus routes or public transport operations. As a result, construction activities are expected to have negligible impact on public transport services in the study area.

Potential interactions may occur in the following situations:

- at intersections adjacent to the project site, such as Industrial Drive/George Street and Industrial Drive/Ingall Street, buses may experience minor delays or queuing due to additional construction traffic. However, as mentioned in Section 7.4.2, these impacts are not expected to be significant during weekday AM and PM peak periods
- along the broader construction routes, where workers and delivery vehicles travel to and from the project site, buses operating on Industrial Drive and passing through the Industrial Drive/ George Street and Industrial Drive/Ingall Street intersections may experience very limited interaction with construction traffic. These impacts are expected to be minimal because as most bus services in the study area operate infrequently, typically once or twice a day during school or peak periods. In addition, no public transport services operate on Selwyn Street or within the immediate project interface, and construction activities and vehicle movements on Selwyn Street are limited and managed to avoid delaying bus movements on the surrounding network.

7.4.5 Impacts on active transport

Construction activities are expected to have minimal impact on existing active transport infrastructure within the study area. Pedestrian facilities in the vicinity of the project site are limited, with footpaths primarily provided at the signalised intersection of Industrial Drive and George Street, with a non-continuous footpath along Selwyn Street. Pedestrian activity is expected to be very low due to the predominantly industrial land use and the relatively large spacing between adjacent developments. As a result, interactions between construction activities and pedestrian movement are likely to be negligible.

Cycling infrastructure in the study area comprises dedicated bicycle lanes and shared lanes within the road shoulders on both sides of Industrial Drive. These facilities would be retained and maintained throughout the construction period. Overall, the anticipated impacts on active transport, including both pedestrian and cycling movements, are expected to be negligible.

7.4.6 Access impacts

Property access

The majority of construction activities would be fully contained within the project site, with no property access impacts. All property entrances and driveways would remain operational, and any temporary works or deliveries within the site would be managed to avoid obstructing neighbouring access points.

Access to the Newcastle Steelworks Memorial and Monument would be maintained during construction. Visitor access would continue to be provided via Selwyn Street and Roll Shop Road to the dedicated parking area adjacent to the park in which the Memorial and Monument is located. Fencing would be established to restrict public entry to active construction areas to maintain public safety.

Based on the intersection performance results for the Selwyn Street and Roll Shop Road intersection outlined in Table 7-7, visitor access to the Newcastle Steelworks Memorial would not be impacted during construction of the project.

Integration works on Selwyn Street would be associated with tie-in works for the new southern access (central), and any associated adjustments to utilities and street lighting to accommodate the new access connection. These works may result in short-term, temporary disruption to traffic movements. Vehicle access would be maintained at all times through appropriate staging and the implementation of a traffic management plan.

Integration works on Steel Works Road and the operational access road would result in temporary impacts to internal port vehicle movements when works for the proposed northern access are underway. These works would be staged and managed in accordance with the measures outlined in Section 7.6 to ensure internal port access is maintained and that any disruptions are minimised.

In particular, it is acknowledged that operators, such as Stolthaven, require continuous access to/from port areas 24 hours a day, and that the staging of works would be critical in minimising this impact. EnergyCo will continue to engage with Port of Newcastle and Stolthaven on the final staging and construction methodology, including any temporary configuration of the road.

Where utility works would affect properties with direct access to Steel Works Road, access arrangements would be coordinated with affected property owners to ensure continuity of access and safe movement.

Emergency access

Construction of the project would be managed in accordance with the measures outlined in Section 7.6 to ensure that the existing road network remains fully operational for emergency purposes. Construction traffic management plans would be implemented to ensure clear paths and unobstructed routes for emergency response vehicles, maintaining safety and rapid response capability within and around the project site.

7.5 Potential impacts – operation

7.5.1 Traffic generation during operation

The project would operate 24 hours, seven days a week. Traffic generated by the project is associated with:

- staff and visitors to the project site (light vehicles)
- heavy vehicles associated with delivering components to renewable energy projects
- heavy vehicles transporting components from Mayfield 4 Berth to the project site
- escort and pilot vehicles (light vehicles) that would accompany heavy vehicles with OSOM loads.

Vehicles travelling to/from areas located outside the Port of Newcastle would access the project site via Industrial Drive, George Street and Selwyn Street. The indicative 24 hour distribution of these movements is provided in Figure 7-3. A movement represents a vehicle arriving or departing the site.

To assess a worst-case scenario, this assessment has assumed that 48 light vehicle movements and three heavy vehicle movements would occur during the network peak hour.

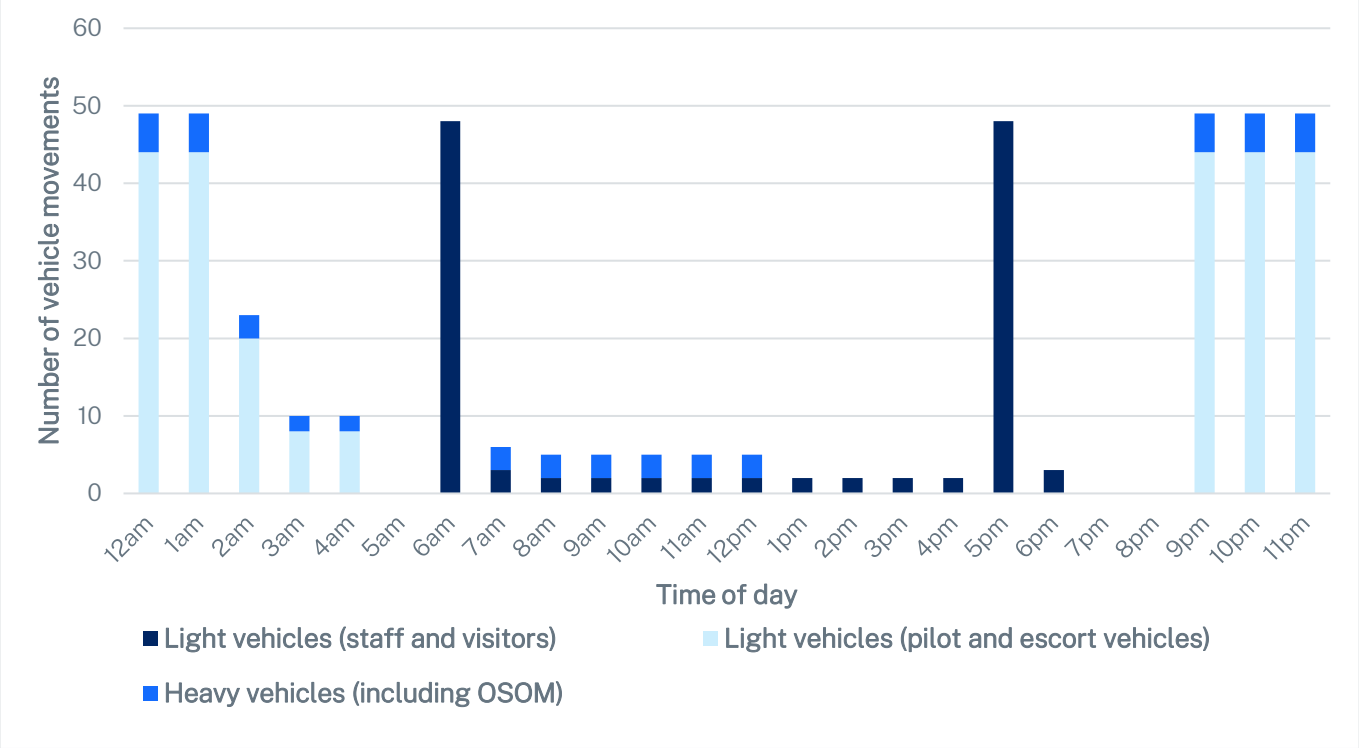


Figure 7-3 Operational vehicle movements to or from Industrial Drive during peak operations (indicative)

Vehicles travelling to/from Mayfield 4 Berth would access the project site via Selwyn Street and Quayside Close, or via internal port roads (Steel Works Road). The indicative 24 hour distribution of these vehicle movements during peak operations is provided in Figure 7-4.

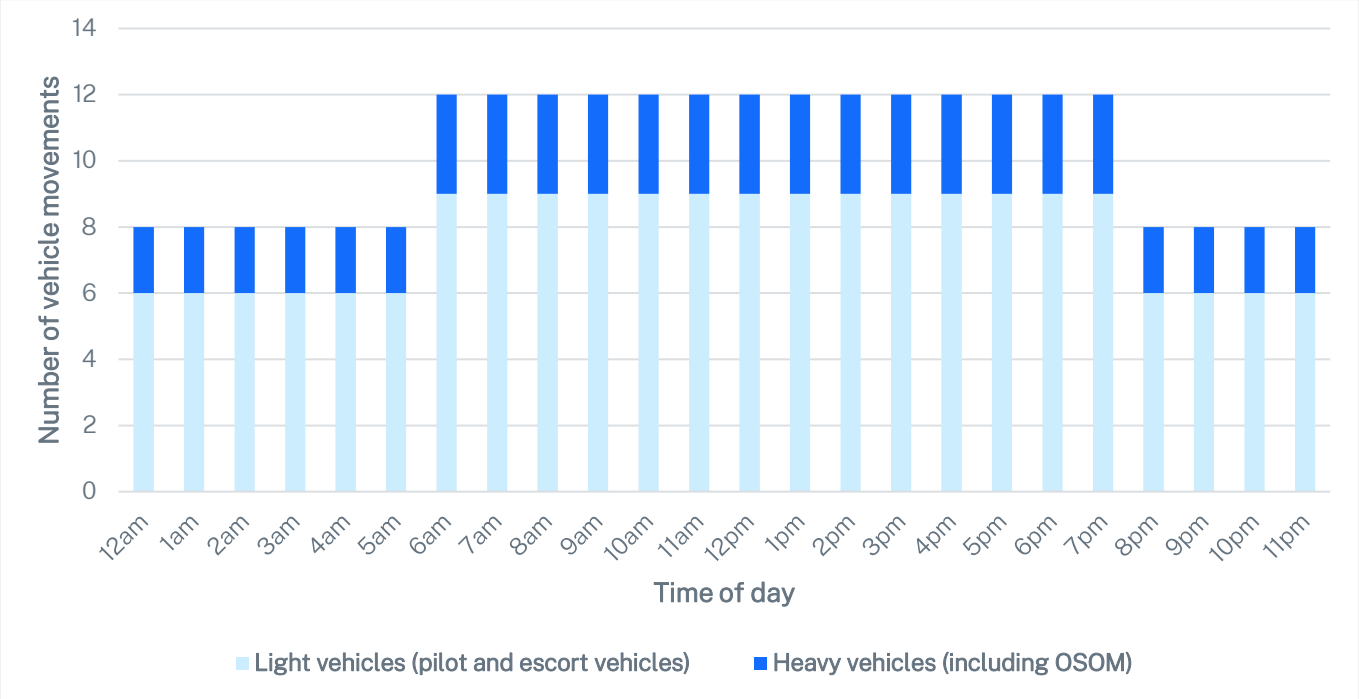


Figure 7-4 Operational vehicle movements to or from Mayfield 4 Berth during peak operations (indicative)

Heavy vehicles with OSOM loads would represent a proportion of the total heavy vehicle movements occurring across the 24 hour period during peak operations, specifically:

- for vehicles travelling to or from renewable energy projects, 32 heavy vehicle movements during the evening and night-time periods
- for vehicles travelling to or from Mayfield 4 Berth, 42 heavy vehicle movements across a 24 hour period.

Heavy vehicles with OSOM loads would be subject to National Heavy Vehicle Regulator permit conditions. To maximise safety and minimise disruption to the public road network, OSOM vehicle loads are expected to depart at night (expected between 9:00 pm and 3:00 am for outbound OSOM loads, and 9:30 pm to sunrise for returning OSOM heavy vehicles).

Further information on operational traffic volumes is provided in Chapter 3 (Project description) of this EIS.

Traffic routes and access during operation

Access to the project site during operation would be via gated entries at the Selwyn Street and Roll Shop Road intersection (southern access (west)) and the Selwyn Street and David Baker Road intersection (southern access (east)), as shown in Figure 7-5. These access points would accommodate light and heavy vehicles. OSOM vehicles would not use these access points.

To support ongoing operations, two new priority-controlled accesses would be provided:

- Selwyn Street (southern access (central))
- Steel Works Road (northern access).

These new access points would accommodate light, heavy and OSOM vehicle movements entering and exiting the main logistics precinct.

Vehicle movements to/from the Mayfield 4 Berth via the northern access would be dependent on the provision of an internal access road through the Port of Newcastle lease area. The Port of Newcastle is in the early stages of planning for this new access road. Until this access has been provided the southern accesses via Selwyn Street would operate as the sole access point to/from Mayfield 4 Berth. For the purposes of the assessment of impacts to the public road network, it has been assumed that all operational vehicle movements to/from Mayfield 4 Berth would occur via Selwyn Street.

The internal circulation road network within the main logistics precinct would be designed to suit the operational requirements of multiple developers and accommodate a range of component configurations. The northern access and the southern access (central) would allow two-way movement for both light and heavy vehicles between Mayfield 4 Berth and the project site, while the Selwyn Street connections would provide bidirectional access to and from the surrounding road network.

Internal access between the main logistics precinct and southern precinct would be provided from the new southern access (central). Except where directly impacted by construction of the project, the existing internal road network would remain.


Access to/ from Mayfield 4 Berth via the Port of Newcastle multi-purpose terminal
Northern access
Southern access (central)
Access to/from Mayfield 4 Berth, and access to/from external road network
SOUTH CHANNEL HUNTER RIVER / COQUUN
KOORAGANG
MAYFIELD NORTH
MAYFIELD EAST
MAYFIELD
TIGHES HILL
CARRINGTON
Mayfield 4 Berth
BULL STREET
STEEL WORKS ROAD
WILLIAM STREET
ARTHUR STREET
INGALL STREET
MCNEIL CLOSE
CREBERT STREET
FAWCETT STREET
SWANSON STREET
BELL PLACE
HANN STREET
CURTIS STREET
BUTLER STREET
HOLT STREET
KITCHENER PARADE
GEORGE STREET
PARK STREET
ALBION STREET
GORRICK STREET
CARRINGTON STREET
MARGARET STREET
HENSON AVENUE
AMY STREET
SMITH STREET
GREAVES STREET
MOUNTER STREET
MAITLAND ROAD
TARIN STREET
OMARA STREET
CLARA STREET
WALSH STREET
FERNDALE STREET
PROCTOR STREET
ROSE STREET
INDUSTRIAL DRIVE
SELWYN STREET
ROLL SHOP ROAD
ADMINISTRATION DRIVE
DAVID BAKER ROAD
QUAYSIDE CLOSE
PORT WARATAH DRIVE
EVERETT STREET
PARKER STREET
GROSS STREET
Figure 7-5
Site access
Legend
Railway
Watercourse
Access route between the project site and Mayfield 4 Berth
Vehicle movements form the project site to renewable projects
Operational footprint
Northern access
Southern access (central)
Main logistics precinct
Southern precinct
Roll Shop building (all weather storage)
The operational amenities building and car park
Mayfield 4 Berth
Newcastle Steelworks Memorial and Monument
National Park
Newcastle
B89
0
100
200
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:10,000
Date: 30/04/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/
U:\Projects\AU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\PS217410_Traffic_v2\PS217410_Traffic_v2.aprx

7.5.2 Impacts on the road network

Road network operation

Mid-block performance

The mid-block traffic volumes and road performance in 2037, accounting for both generated operational traffic and expected background growth, are summarised in Table 7-8.

The results of the mid-block performance assessment indicate minor increases in traffic compared to projected background conditions for both Industrial Drive and Selwyn Street. The level of service for Industrial Drive north of George Street (M-02) is projected to change from level of service C to level of service D during the weekday AM peak hour. Both roads are expected to continue operating at satisfactory levels during operation despite additional traffic.

Table 7-8 Mid-block traffic volume and level of service during operation (2037)

ID	Location	Road classification	Condition	Parameter	AM peak		PM peak	
					NB/WB[1]	SB/EB[2]	NB/WB[1]	SB/EB[2]
M-01	Selwyn Street	Local road	Without project	Volume/ capacity ratio	0.05	0.11	0.12	0.05
				Level of service	A	A	A	A
			With project	Volume/ capacity ratio	0.07	0.14	0.15	0.07
				Level of service	A	A	A	A
M-02	Industrial Drive, north George Street	State road (Main Road 316)	Without project	Volume/ capacity ratio	0.50	0.62	0.60	0.61
				Level of service	C	D	D	D
			With project	Volume/ capacity ratio	0.50	0.63	0.61	0.61
				Level of service	C	D	D	D

1. *Northbound/westbound*
2. *Southbound/eastbound*

Intersection performance

Table 7-9 presents a summary of intersection performance within the study area determined by SIDRA modelling, both with and without operational traffic in 2037.

The analysis indicates that the additional traffic generated during project operation in the weekday AM and PM peak hours would have a negligible effect on the overall road network performance. When compared to the 2037 future base case, all intersections are expected to continue operating at similar and acceptable levels, maintaining their respective level of service.

Table 7-9 Intersection performance during operation with and without operation traffic (2037)

ID	Intersection	Control	Peak period	2037 without operation traffic			2037 with operation traffic		
				Delay[1] (seconds)	Level of service	Queue[2] (metres)	Delay[1] (seconds)	Level of service	Queue[2] (metres)
I-01a	Industrial Drive/George Street	Signal	AM	26	B	279 (N)	26	B	279 (N)
			PM	18	B	191 (S)	19	B	191(S)
I-01b	George Street/ Selwyn Street	Priority	AM	6	A	1 (W)	6	A	1 (W)
			PM	5	A	1 (W)	5	A	1(W)
I-02c	Selwyn Street/ Southern access (central)	Priority	AM	–	–	–	6	A	1 (N)
			PM	–	–	–	6	A	1 (N)
I-03	Selwyn Street/ Quayside Close	Priority	AM	5	A	1 (N)	5	A	1 (N)
			PM	5	A	1 (N)	5	A	1 (N)
I-04	Industrial Drive/Ingall Street	Signal	AM	32	C	288 (W)	33	C	294 (W)
			PM	47	D	398 (E)	48	D	411 (E)

1. *Delay: Average delay (seconds)*
2. *Queue: 95th percentile queue (metres) and approach.*

OSOM movements

Heavy vehicles with OSOM loads would be subject to National Heavy Vehicle Regulator permit conditions. These movements would be irregular during the evening and night; and undertaken under an approved traffic management plan to ensure safety and minimise disruption to other road users. While short and temporary delays may occur when OSOM convoys pass through key intersections or access points, the impacts are expected to be minimal because these operations occur outside commuter peak periods and at times when general traffic volumes are very low.

Heavy vehicles transporting OSOM loads from Mayfield 4 Berth would occur throughout the 24 hour period, with up to two OSOM loads per hour. The project would preferentially use the new northern access during the day to travel to/from Mayfield 4 Berth, but this would be dependent on completion of the additional works by the Port of Newcastle to facilitate this access. Until the northern access is made available, these movements would solely occur via Selwyn Street and Quayside Close. Similar to the external movements, some short-term delays may occur as OSOM vehicles travel through key intersections or manoeuvre through access points. However, the overall impacts are expected to be minimal, as these routes are industrial in nature, are routinely used by heavy vehicles, and experience relatively low volumes of general traffic. Movements through the port lease areas would be coordinated with the Port of Newcastle to minimise disruption to its operations.

Intersection layouts (turn warrant)

Based on the projected vehicle demand, the layout of the non-signalised intersections (existing and new) that would accommodate operational traffic within the study area would meet or exceed the required layout standards.

Parking

Parking for both operation light and heavy vehicles would be provided within the project site. Staff car parking would be located in the southern precinct east of Roll Shop Road and would be sufficient to accommodate the expected operational workforce and visitors. No adverse impacts of on-street parking would be expected during operation of the project.

Road safety

The project is expected to have a negligible impact on road safety within the study area. The design of the internal access points has been informed by the swept path requirements for the relevant largest design vehicle, including heavy vehicles used for transporting long components such as wind turbine blades via the southern access (central). Further detail on the swept path analysis is provided in section 6.3.4 of Technical paper 2.

Further, the Port to REZ program of works have upgraded the Industrial Drive/George Street and Selwyn Street/Quayside Close intersections to safely accommodate heavy vehicles with OSOM loads.

7.5.3 Impacts on the freight rail network

During operation, most vehicle movements to and from the project site would occur via the southern access points on Selwyn Street. These access points are located to the west of the existing Selwyn Street rail level crossing and do not require vehicle interaction with the rail operations.

Up to three heavy vehicle movements per hour, including up to two OSOM vehicles (and associated light vehicle movements), may be required to southern accesses on Selwyn Street or the northern access on Steel Works Road to access Mayfield 4 Berth. These routes require vehicles to cross the existing level rail crossings on Selwyn Street and the operational access road (within the Port of Newcastle lease area). Movements would be managed in accordance with the measures outlined in Section 7.6. No adverse effects on the safety or operation of the level rail crossings are anticipated during operation of the project.

Engagement with Port of Newcastle and Infrabuild has not identified any operational concerns with the movement of project-related vehicles at the level crossings, subject to the implementation of communication and scheduling protocols.

7.5.4 Impacts on public transport

Impact on the public transport network within the study area is expected to be negligible. Vehicle movements during operation would have limited interaction with the bus routes or public transport operations within the study area.

Bus Route 24 is the only service operating during night-time periods within the study area when OSOM vehicle movements to renewable energy projects would occur. Within the proximity to the project site, this route predominately travels along residential streets of Mayfield East and Mayfield, turning off Industrial Drive at the Industrial Drive/George Street intersection and returning to Industrial Drive for only a short section between Ingall Street and Vine Street. The impact on public transport by OSOM movements is expected to be minimal as Bus Route 24 only has one service operating each during this period and OSOM movements are expected to commence from 9 pm and conclude at sunrise.

7.5.5 Impacts on active transport

Operation of the project is expected to have minimal impact on existing active transport infrastructure within the study area along the public road network. Existing pedestrian and cycling movements within the study area is low, reflecting the surrounding industrial land use, the absence of continuous footpaths along Selwyn Street adjacent to the site and the limited provision of pedestrian infrastructure in the area.

Short and temporary disruptions would occur when heavy vehicles with OSOM loads travel through key intersections or access routes, affecting all road users including pedestrians and cyclists. Heavy vehicles with OSOM loads travelling to renewable energy projects would occur only during approved evening and night-time periods, when pedestrian and cyclist volumes are expected to be negligible.

Within the project site, there is presently limited formalised pedestrian infrastructure. Internal pedestrian access arrangements would be refined during further design development. This would consider the need for internal pedestrian walkways to safely facilitate movements within the site, including the use of line marking and or appropriate engineering controls at key pedestrian desire lines, consistent with workplace safety requirements.

Any site workers travelling by bicycle would use the existing public road network and Roll Shop Road to access the operational amenities building. If required based on worker requirements and the intended mode of travel, bicycle parking would be provided at the amenities building.

Pedestrian access associated with buildings and on-site parking areas would be designed in accordance with relevant Australian Standards applicable to private sites, including AS 1428 (Design for access and mobility), AS 2890 (Off-street parking), and Safe Work Australia guidance on workplace traffic management.

7.5.6 Access impacts

Property access

Operation of the project would be contained within the project site and designated heavy vehicle routes. Access to surrounding properties, including residences, businesses, and other land uses, would not be affected by the operation of the project.

Vehicular access to the BHP Administration Building, including access for emergency services, would be maintained at all times during operation via designated internal access routes, including access via the intersection of Selwyn Street and David Baker Road, and a connection from the new southern access (central) to residual section of Administration Drive (south). The internal road layout and access arrangements at these key access points have been designed to accommodate vehicle movements safely and efficiently, ensuring uninterrupted access for staff, visitors and emergency responders.

Access to the Newcastle Steelworks Memorial and Monument would continue to be maintained during operation of the project via the Selwyn Street and Roll Shop Road intersection to the dedicated parking area.

The project would interface with the Port of Newcastle internal road network during operation via Steel Works Road, operational access road and Selwyn Street. Operators (such as Stolthaven) and the Port of Newcastle rely on uninterrupted access to/from port areas 24 hours, seven days a week. Stolthaven has advised that its heavy vehicle movements to/from Mayfield 7 Berth do result in queuing or parking along the operational access road when operating at peak capacity. This may constrain project-related movements depending on the timing of the project-related movement with Stolthaven operations, and position of the future connection that Port of Newcastle may deliver between Mayfield 4 Berth and the operational access road.

Movements to/from Mayfield 4 Berth would be coordinated with the Port of Newcastle, noting access through the lease area is subject to access being granted by the Port of Newcastle.

Emergency access

Operation of the project would be managed in accordance with the measures outlined in Section 7.6 to ensure that the existing road network remains fully operational for emergency purposes.

Heavy vehicles with OSOM loads would require short periods of controlled manoeuvring at key intersections within the study area. These convoys would be managed under an approved traffic management plan to ensure that emergency vehicles can pass through safely and without undue delay.

7.6 Management of impacts

7.6.1 Environmental management

Traffic and access impacts would be managed in accordance with the CEMP and the OEMP. Of relevance, the CEMP will include a Construction traffic management sub-plan includes traffic management objectives to minimise impacts on the transport network, including road safety and capacity, rail crossing management, public and active transport, property access and emergency access.

The mitigation measures proposed in Section 7.6.2 would be included in the issue-specific environmental management plans for the project.

7.6.2 Mitigation measures

Site-specific mitigation measures have been proposed to minimise traffic and access impacts associated with the project. Mitigation measures are presented in Table 7-10.

Table 7-10 Proposed mitigation measures – traffic and access

Reference	Impact/issue	Mitigation measures	Timing
T1	Road and traffic management	A Construction traffic management sub-plan as part of the CEMP will be developed in consultation with the relevant road authorities. The sub-plan will set out the temporary traffic control measures required during construction, including signage, lane arrangements, speed controls and proposed routes to ensure the safe movement of road users around work areas.	Pre-construction
T2	Road safety – design related	All accesses via public roads will be designed to accommodate the required design vehicle(s) requiring access and generally in accordance with relevant guidelines (where applicable).	Detailed design

Reference	Impact/issue	Mitigation measures	Timing
T3	Road condition	Routine road condition inspections and pre-construction road dilapidation surveys will be completed along all nominated construction routes on local roads and existing accesses within the Port of Newcastle. Where rectification works are required due to project construction impacts, consultation with the appropriate road authority or landowner will be undertaken prior to undertaking the required works. Rectification works must be implemented as required to ensure thoroughfare is maintained for ongoing vehicular access.	Pre-construction Construction
T4	Parking (construction)	Parking for construction workers will be fully accommodated at the construction compound and various work areas. All construction heavy vehicles will use the existing hardstand areas within the project site.	Construction
T5	Coordination with the Port of Newcastle for works on Steel Works Road	Construction works along Steel Works Road and operational access road will be coordinated with the Mayfield Industrial Estate Association to minimise disruption to access and internal port vehicle movements, and to maintain safe traffic movements.	Construction
T6	Emergency access	Emergency access to the project site must be maintained at all times. Local emergency services must be notified of any traffic changes.	Construction
T7	Safety measures for visitors to the Newcastle Steelworks Memorial and Monument	Visitor access to the Newcastle Steelworks Memorial and Monument including the public car parking area will be maintained. Should access including the public car parking area be temporarily restricted during construction to ensure public safety, advanced warning will be provided to the community in accordance with notification policies developed and included in the Construction Environmental Management Plan. Safety measures will be implemented to manage interactions with the general public accessing the Newcastle Steelworks Memorial and Monument during construction. These measures will be confirmed during detailed design and may include temporary fences or barriers where delineation is required, and using appropriate signage and traffic controls.	Construction

Reference	Impact/issue	Mitigation measures	Timing
T8	Operational traffic movements to/from Mayfield 4 Berth	Communication and scheduling protocols for OSOM movements at the level crossings on Selwyn Street and the operational access road will be agreed with Port of Newcastle and Infrabuild, and implemented prior to the commencement of operations.	Operation
T9	OSOM vehicle access	OSOM movements will be managed in accordance with the National Heavy Vehicle Regulator permit requirements and in consultation with Transport for NSW.	Operation
T10	Parking (operation)	Sufficient parking spaces for site staff and site visitors will be provided within the project site.	Detailed design Operation

8 Non-Aboriginal heritage

This chapter provides an assessment of the potential non-Aboriginal heritage impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 3 – Statement of Heritage Impact (Technical paper 3) and Technical paper 4 - Maritime heritage (Technical paper 4). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

8.1 Legislative and policy context

The Statement of Heritage Impact was prepared with reference to the following legislation, policies, standards and guidelines:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Heritage Act 1977* (Heritage Act)
- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- Newcastle Local Environment Plan 2012 (Newcastle LEP 2012)
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS, 2013)
- Assessing Heritage Significance (NSW Heritage Manual) (NSW Department of Planning and Environment, 2023a)
- Guidelines for Preparing a Statement of Heritage Impact (NSW Department of Planning and Environment, 2023b)
- Investigating Heritage Significance (NSW Heritage Council, 2022)
- Heritage Asset Management Guidelines (NSW Heritage Council, 2008)
- Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Branch, NSW Department of Planning, 2009)
- Archaeological Assessments: Guidelines for Archaeological Assessment (Archaeological Assessment Guidelines) (NSW Heritage Office, 1996)
- Design in Context: Guidelines for Infill Development in the Historic Environment (NSW Heritage Office, 2005)
- Design Guide for Heritage (Heritage Council of NSW and Government Architect NSW, 2023)
- Guidelines for Landscape and Visual Impact Assessment (Landscape Institute and Institute of Environmental Management and Assessment, 2013).

The maritime heritage assessment was prepared with reference to the following additional policies and guidelines:

- The United Nations Educational, Scientific and Cultural Organisation (UNESCO) Convention on the Protection of the Underwater Cultural Heritage
- Thematic study of NSW Shipwrecks (Heritage NSW, 2020).

8.2 Assessment approach

8.2.1 Study area

The study area for the Statement of Heritage Impact assessment is shown in Figure 8-1 and comprises the construction footprint and any heritage items or areas of archaeological potential within 100 metres of the construction footprint.

The study area for the maritime heritage assessment is limited to the construction footprint for the project shown in Figure 8-1.

8.2.2 Methodology

Statement of Heritage Impact

The methodology for the Statement of Heritage Impact assessment involved:

- a desktop analysis of historical research, land use history and previous impacts within the study area to identify, describe and qualitatively assess the historical background and archaeological potential of the study area
- identification of heritage listed items through a search of relevant state and Commonwealth statutory and non-statutory heritage registers (refer to section 2.2 of Technical paper 3 for full list of registers), as well as relevant Conservation Management Plans (CMPs) and heritage assessments completed for the former BHP Steelworks site and the project site
- a site inspection of the study area to further determine and/or confirm the presence, or likelihood of occurrence, of heritage items and archaeological potential within the study area
- determination of the significance of heritage items or potential archaeological resources using the system of assessment outlined in the Heritage Act and implemented through the NSW Heritage Manual, the Archaeological Assessment Guidelines and Assessing Significance for Historical Archaeological Sites and 'Relics'
- assessment of the potential direct and indirect impacts associated with the construction and operation of the project with regards to non-Aboriginal heritage items and potential archaeology
- identification of mitigation and management measures to avoid, minimise and manage the potential non-Aboriginal heritage impacts of the project, as far as practicable.

Site inspection

A site inspection was carried out to determine the presence, or likelihood of occurrence, of heritage items and archaeological potential within the study area. The site inspection was carried out by a qualified heritage consultant on 20 January 2026.

Maritime heritage

The methodology for the maritime heritage assessment involved the review of archival research and historical map overlays to:

- provide an understanding of past land type and usage
- determine the likelihood of riverine reclamation being present in the study area
- determine if a maritime archaeological assessment would be required for the project.



Figure 8-1
Non-Aboriginal heritage study area

Legend

- Road
- Railway
- Construction footprint
- Non-Aboriginal heritage study area
- Cadastre



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:8,000 Date: 14/05/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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8.3 Existing environment

8.3.1 Heritage context

The study area forms part of the former BHP Steelworks site in Newcastle, NSW. The study area has State heritage significance for its central role in the 20th century industrialisation of NSW and Australia. As one of the state's most important heavy industrial enterprises, the site made a substantial contribution to steel production, wartime manufacturing, regional employment and the broader economic development of NSW. Its significance is derived not only from its physical fabric but from its deep historical, economic and social associations and its enduring place in the identity and collective memory of the Newcastle community.

Within the broader steelworks landscape, the Newcastle BHP Administration Precinct (Administration Precinct) is listed on the State Heritage Register as being of state significance as a tangible demonstration of the industrialisation of NSW. The Administration Precinct showcases architectural and technological expertise and reflects the contribution of BHP to the NSW economy. It is significant for its associations with BHP and key figures such as Guillaume Delprat, as well as the architects Ross and Rowe, responsible for the distinctive design of the BHP Administration Building. The BHP Administration Building exemplifies 20th century industrial heritage typology and served as the public face of BHP, providing a direct connection to the company's role in Newcastle's growth and the development of the Australian steelmaking industry.

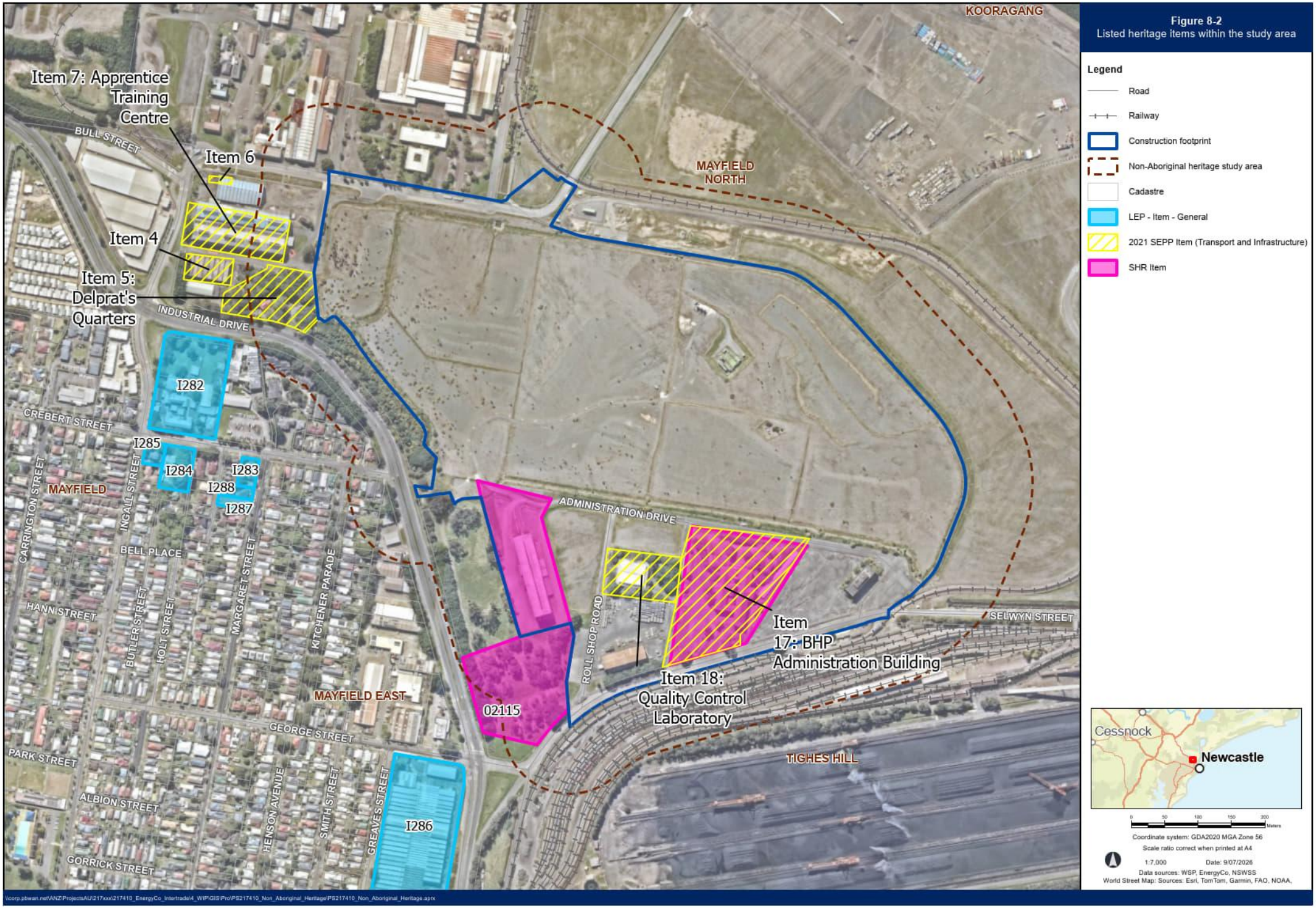
More broadly, the study area is best understood as an industrial cultural landscape. From the occupation of the Waratah Coal Company in 1865 to the closure of BHP in 1999, the study area is characterised by continual modification, expansion, demolition and reconstruction in response to technological change, production demands and economic conditions. This dynamic pattern of adaptation is intrinsic to its heritage significance. The heritage value of the place lies not in the static preservation of all individual elements, but in recognising the steelworks as an evolving industrial process. Ongoing change was a defining characteristic of its operational life.

Many original operational structures and items of equipment were removed during the working life of the steelworks, and further change occurred following closure and remediation. The significance of the place is therefore not solely dependent on the survival of individual industrial structures, but on its historical associations, architectural expression within the Administration Precinct, and its contribution to Newcastle's industrial identity and the broader narrative of NSW's industrial development.

Today the land presents as a large, cleared and levelled expanse of engineered earth and concrete pavement, with only isolated fragments of old rail sidings or fence lines. Almost all above-ground plant and structures were demolished by the early 2000s. A small number of heritage-listed buildings survived in the southern precinct of the construction footprint. Vegetation is minimal and limited to former garden plantings and screening vegetation associated with the remaining structures on the site.

8.3.2 Heritage items

Heritage items within the study area are shown in Figure 8-2.


KOORAGANG
Item 7: Apprentice Training Centre
BULL STREET
Item 6
Item 4
Item 5: Delprat's Quarters
INDUSTRIAL DRIVE
MAYFIELD NORTH
I282
CREBERT STREET
I285
I284
I283
I288
I287
MAYFIELD
CARRINGTON STREET
INGALL STREET
BELL PLACE
HANNI STREET
BUTLER STREET
HOLT STREET
MARGARET STREET
KITCHENER PARADE
ADMINISTRATION DRIVE
ROLL SHOP ROAD
Item 17: BHP Administration Building
Item 18: Quality Control Laboratory
SELWYN STREET
02115
MAYFIELD EAST
GEORGE STREET
PARK STREET
TIGHES HILL
ALBION STREET
HENSON AVENUE
SMITH STREET
GREAVES STREET
I286
GORRICK STREET
Figure 8-2
Listed heritage items within the study area
Legend
Road
Railway
Construction footprint
Non-Aboriginal heritage study area
Cadastre
LEP - Item - General
2021 SEPP Item (Transport and Infrastructure)
SHR Item
Cessnock
Newcastle
0 50 100 150 200 Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:7,000
Date: 9/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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State Heritage Register

Portions of the study area are listed on the State Heritage Register as the BHP Administration Precinct (SHR# 02115). The Administration Precinct listing includes the following:

- BHP Administration Building and associated landscaping
- the Roll Shop
- Memorial Park, which includes the Newcastle Steelworks Memorial and Muster Point Memorial
- items of moveable heritage associated with the former Newcastle Steelworks.

The Administration Precinct is of State heritage significance as a tangible demonstration of the process of the 20th century industrialisation of NSW. The Administration Precinct showcases architectural and technological expertise and innovation and reflects the contribution of BHP to the NSW economy.

The memorials constructed in 1999 and 2015 are significant as evidence of the enduring value of the Administration Precinct to former workers, whose contributions were vital to the economic growth of NSW, as well as their families and the broader community. The moveable heritage collection at the site is also of State heritage significance for its ability to provide a tangible connection to the evolution of operations and technological advancements associated with the steelworks.

Transport and Infrastructure SEPP

Two items listed on the Transport and Infrastructure SEPP are located within the construction footprint:

- item 17: BHP Administration Building
- item 18: Quality Control Laboratory.

Two items listed on the Transport and Infrastructure SEPP are located within the study area but outside the construction footprint:

- item 5: Delprat's Quarters
- item 7: Apprentice Training Centre.

8.3.3 Archaeological potential

Archaeological potential refers to the likelihood that an area contains physical remains associated with an earlier phase of occupation, activity or development of that area. The archaeological potential of a site is presented in terms of the likelihood of the presence of archaeological remains, considering the land use history and previous impacts at the site.

Potential archaeological resources within the study area associated with past activities at the site are outlined in Table 8-1.

Table 8-1 Potential archaeological resources within the study area

Phase/use	Archaeological resource	Potential
Phase 1: 1863–1896	Waratah Coal Company Ownership	Low
Phase 2: 1896–1999	BHP ownership	Moderate

8.3.4 Maritime heritage

Review of archival research and historical map overlays indicate that the study area was originally low-lying plains, in a predominantly agricultural area of outer Newcastle. From the 1860s, the general location became heavily industrialised, particularly along the river edge northeast of the study area, with infrastructure for coal mining and copper smelting established at Port Waratah. The arrival of BHP in the early 1900s solidified the suburb as a key industrial area.

Historical maps indicate that the study area was prone to tidal influence, including flooding at high spring tides. Mapping shows minor watercourses flowing into the study area. These watercourses are not considered significant and are likely to include unnavigable creeks and/or drainage channels.

Land reclamation work was carried out in the early 1900s to link Bullock Island to mainland Newcastle to the east of the study area. Additional land reclamation work was carried out in the 1940s at Platt's Channel to the north of the study area. Review of archival research and historical map overlays concluded that the study area is not located on reclaimed riverine land and has been inland of the Hunter River since European arrival in Australia. Therefore, maritime heritage has not been considered further in this assessment.

8.4 Potential impacts – construction

Overall, the construction of the project would respect the heritage significance of the study area by retaining all heritage-listed buildings and by avoiding direct impacts to significant fabric. Instead, potential impacts would be related to changes in setting and existing access arrangements for heritage-listed buildings. Construction work would minimise potential impacts to archaeological resources, being largely confined to areas of contemporary pavement and non-significant landscape areas. Excavation would likewise be predominantly limited to the existing remediation capping layer.

Adaptive re-use cannot be supported for the majority of buildings within the construction footprint due to their poor physical condition, the presence of hazardous material, and incompatibility with the functional and operational requirements of the project. The Roll Shop building is the only building that has been considered suitable for adaptive re-use. Refer to Section 2.5.3 for further detail.

Impacts would be managed and minimised using the measures outlined in Section 8.6.

8.4.1 Administration Precinct

Table 8-2 provides a summary of potential construction impacts to State Heritage listed items within the Administration Precinct.

Table 8-2 Summary of potential construction impacts to State Heritage listed items within the Administration Precinct

Heritage item	Impact type	Impact level
BHP Administration Building and associated landscaping	Direct	Minor adverse
	Potential direct	Minor adverse
	Indirect	Minor adverse
The Roll Shop	Direct	Minor positive
	Potential direct	Neutral
	Indirect	Neutral
Memorial Park	Direct	Neutral
	Potential direct	Neutral
	Indirect	Neutral

BHP Administration Building and associated landscaping

The construction of new access infrastructure, including the southern access (central), would introduce new engineered elements into areas historically characterised by open space within the Administration Precinct. While no significant architectural fabric would be removed and no impact to the associated landscaping area proposed, these works would alter established access patterns and modify a small portion of the State Heritage listed curtilage, including the original pedestrian pathway, to accommodate the swept path for the largest design vehicle. No items of moveable heritage would be removed or impacted as part of the project.

Vegetation management, including tree trimming and removal, in proximity to the BHP Administration Building would modify aspects of the current setting but would not diminish the heritage significance. Increased visibility may enhance appreciation of its landmark qualities, and significant vegetation and the semi-circular drive at the northern façade would not be impacted.

The noise and vibration assessment prepared for the project identified potential direct impacts by construction work within safe work distances for heritage structures. As the BHP Administration Building historically functioned within a heavy industrial environment characterised by rail movements, steel production operations and associated vehicular activity, the introduction of contemporary heavy vehicle movements in proximity to the building is not considered inconsistent with its historic context.

Opportunities to interpret and reinforce the historical values of the Administration Precinct, including its industrial, technological and community associations, would be integrated into the project and are discussed further in Section 8.6 and Technical paper 3.

The Roll Shop

During construction, impacts to the Roll Shop would be limited to upgrading and repair works to enable its operational use as an all-weather storage facility for smaller components, plant and equipment associated with project's maintenance activities. Construction would avoid major structural alteration or façade modification and would not involve the removal of significant heritage fabric. The proposed use represents a continuation of the building's industrial character and function and supports the conservation of its heritage values within an industrial context.

Potential direct impacts may be associated with construction work within safe work distances for heritage structures. However, vibration from equipment movements within the building is consistent with industrial warehouse use and likely less than the historic steelmaking operations for which the building was designed.

Indirect impact would not be considered likely as the external envelope of the heritage item would remain unaltered and the building's scale, industrial character and landmark qualities within the former works area would be retained. While the scale of stored materials and frequency of vehicle movement may alter visual conditions around the building, such activity is consistent with its historic operational setting.

The Roll Shop is the only building considered suitable for adaptive re-use. It is a robust structure constructed for industrial purposes, has remained in largely continuous use as a storage facility, and would be capable of accommodating an ongoing compatible industrial use.

Memorial Park

There would be no direct or potential direct impacts to the Memorial Park heritage item during construction of the project. Impacts would be visual only and would arise from changes within the broader precinct, including removal of vegetation, construction of the new access road, installation of staff amenities, parking areas and temporary stockpiling of materials and operational storage across the precincts.

Many of these visual changes would be screened from the Memorial Park by existing vegetation and topography. Any increase in visibility caused by vegetation removal within the southern precinct may provide an opportunity to strengthen interpretation of the memorial site, reinforcing its tangible and visual connection to the former BHP Steelworks and enhancing public understanding of the memorials within their historic industrial context.

8.4.2 Quality Control Laboratory

Table 8-3 provides a summary of potential construction impacts to the Quality Control Laboratory.

Table 8-3 Summary of potential construction impacts to the Quality Control Laboratory

Heritage item	Impact type	Impact level
Quality Control Laboratory	Direct	Minor adverse
	Potential direct	Minor adverse
	Indirect	Minor adverse

Construction of the project would not alter or remove heritage fabric from the Quality Control Laboratory (including moveable heritage within the building). However, construction of the southern access (central) would be located around five metres to the east and the staff amenities and parking to the north would modify the immediate setting of the heritage item. Construction works would require the removal of trees and garden beds against the façade of the building, modify the landscaped buffer currently surrounding the building and introduce new built elements within its immediate curtilage.

While the landscaping is not original to the building's early 1960s design and does not form part of its architectural intent or assessed heritage significance, construction of the project would alter its present visual context and increase exposure to adjacent operational activity. The removal of vegetation may increase visual clarity of the building's form and would not diminish the ability of the heritage item of to demonstrate historic function or architectural qualities. The indirect/visual impact of tree removal and introduction of car parking and amenities was assessed as moderate in terms of change to setting, but minor in terms of impact on heritage significance.

Potential direct impacts arising from vibration intensive work may be caused by construction work within safe work distances for heritage structures.

8.4.3 Archaeological resources

Table 8-4 provides a summary of potential construction impacts to the archaeological resources.

Table 8-4 Summary of potential construction impacts to the archaeological resources

Heritage item	Impact type	Impact level
Archaeological resources	Direct	Neutral
	Potential direct	Nil
	Indirect	Nil

Excavation during construction of the project would be primarily limited to existing capping layer. Works within the capping layer would not impact intact archaeological features. Material associated with former BHP steelmaking operations, as well as materials relating to subsequent remediation activities, would likely be encountered during excavation. However, these materials are considered common and expected across the site and would not constitute unexpected finds.

There is potential for disturbance of archaeological remains where excavation below the capping layer and into underlying BHP subgrade material is required. However, as the nature and distribution of the former industrial infrastructure is well documented in archival plans and engineering drawings, the research potential remains low. Only items that are demonstrably inconsistent with the known industrial and remediation context, such as intact structural features not represented in archival sources, deposits with clear stratigraphic integrity, or evidence of pre-BHP occupation, would trigger the unexpected finds procedure and associated stop works requirements.

8.4.4 Delprat's Quarters

Table 8-5 provides a summary of potential construction impacts to Delprat's Quarters.

Table 8-5 Summary of potential construction impacts to the Delprat's Quarters

Heritage item	Impact type	Impact level
Delprat's Quarters	Direct	Neutral
	Potential direct	Neutral
	Indirect	Neutral

Construction of the project would not involve any direct works to Delprat's Quarters or its curtilage. Construction works may alter the visual experience of the heritage item, introducing greater activity and industrial presence into views. However, the elevated siting of the item, its physical separation from the construction footprint, and the absence of new structures directly adjoining the heritage curtilage would not impact the architectural integrity of the heritage item and its symbolic relationship to the broader industrial landscape would remain intact.

8.4.5 Apprentice Training Centre

Table 8-6 provides a summary of potential construction impacts to the Apprentice Training Centre.

Table 8-6 Summary of potential construction impacts to the Apprentice Training Centre

Heritage item	Impact type	Impact level
Apprentice Training Centre	Direct	Neutral
	Potential direct	Neutral
	Indirect	Neutral

Construction of the project would not directly impact the heritage item. The form, scale and utilitarian character of the item would remain legible and intact.

Construction of the project to the east of the heritage item would result in minor alteration of the surrounding environment. However, construction of the project would not undermine the building's ability to demonstrate its historic role as a training facility embedded within the steelworks complex and would not impact the experience of users of the site.

8.5 Potential impacts – operation

The proposed use of the project site, including increased vehicle movements across the operational footprint, would result in a substantial intensification of activity. The continued industrial use of the project site would reinforce the historic character of the former BHP Steelworks, which was defined by active operations, technological innovation and ongoing adaptation. The Quality Control Laboratory historically represented BHP's investment in scientific research and technical advancement within an operational industrial setting. The reintroduction of contemporary industrial activity, access infrastructure and associated vehicle movements would be consistent with this historic context and would not constitute an incompatible land use.

Overall, the project would maintain the legibility of the heritage items, support the ongoing functional life of significant buildings, and manage archaeological resources proportionately.

8.6 Management of impacts

8.6.1 Environmental management

Non-Aboriginal heritage impacts would be managed in accordance with the project-specific CEMP and the OEMP.

8.6.2 Mitigation measures

Site-specific mitigation measures have been proposed to minimise non-Aboriginal heritage impacts associated with the project. Mitigation measures are presented in Table 8-7.

Table 8-7 Proposed mitigation measures – non-Aboriginal heritage

Reference	Impact/issue	Mitigation measures	Timing
NAH1	Unexpected finds	An Unexpected Finds Procedure (UFP) for all ground disturbance works below the capping layer will be prepared and implemented during construction. In the event of potential archaeological remains are uncovered, works will cease in the immediate area and a qualified historical archaeologist engaged to assess significance and recommend management actions. Any required management actions will be determined with consideration of the interaction with the underlying BHP subgrade material and any other contamination risks. Maintain records of any archaeological discoveries to inform future works and contribute to the archival record for the site. Notify Heritage NSW where required under the Heritage Act 1977 as per the Unexpected Finds Procedure to be prepared for the construction footprint. Note: only finds that are demonstrably inconsistent with the known industrial and remediation context, such as intact structural features not represented in archival sources, deposits with clear stratigraphic integrity, or evidence of pre-BHP occupation, would trigger the UFP and associated stop works requirements.	Construction
NAH2	Heritage interpretation	Appropriate heritage interpretation will be implemented within the Newcastle Steelworks Memorial and Monument park prior to the commencement of operations or in a timeframe agreed with Heritage NSW and the Newcastle Industrial Heritage Association. Appropriate examples are outlined in Section 7.3 and 7.4 of Technical paper 3. The form and location of the heritage interpretation will be determined in consultation with Heritage NSW and the Newcastle Industrial Heritage Association.	During and post construction

Reference	Impact/issue	Mitigation measures	Timing
NAH3	Impact to non-Aboriginal heritage sites	The location of listed heritage items within and adjacent to the construction footprint and the relevant protocols to manage and minimise potential harm to these items will be documented in the Construction Environmental Management Plan. This includes the delineation of heritage curtilage boundaries on construction drawings, and the establishment of heritage exclusion zones within the construction footprint prior to the commencement of works with potential impacts.	Pre-construction and construction
NAH4	Potential vibration impacts	The project's Construction and Environmental Management Plan will include measures that mitigate potential vibration impacts on heritage listed items.	Construction
NAH5	Impact to built heritage	A photographic archival recording of the BHP Administration Precinct State heritage item and its broader site context must be completed prior to commencement of construction. This recording will be prepared in accordance with the Guidelines for preparing archival recordings of heritage items as a condition of consent (Heritage NSW, 2025).	Pre-construction
NAH6	Changes to the Roll Shop building	Any repair or upgrade works to the Roll Shop building must follow conservation best practice, retaining original structural systems, cladding profiles and overall form.	Construction
NAH7	Impact to built heritage	Heritage awareness training will be carried out for all construction and project personnel working within the project site as part of the site induction(s). As a minimum, the training is to cover sites of heritage significance within the project site and the protocols that must be complied with to minimise and manage potential impacts to these sites.	Construction

9 Aboriginal heritage

This chapter provides an assessment of the potential Aboriginal heritage impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 5 – Aboriginal heritage assessment (Technical paper 5). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

9.1 Legislative and policy context

The Aboriginal heritage assessment and Aboriginal community consultation were undertaken in accordance with following policies:

- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (NSW DECCW, 2010a)
- *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage (OEH), 2011)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (NSW DECCW, 2010b).

9.2 Assessment approach

9.2.1 Study area

The Aboriginal heritage study area is the construction footprint for the project. Where relevant, a broader area was considered in database searches and review of literature to provide context of the study area and its surrounds.

9.2.2 Methodology

The methodology for the Aboriginal heritage assessment involved:

- a desktop assessment involving the review of relevant databases and literature for the study area and its surrounds, including reviews of:
  - Heritage NSW's Aboriginal Heritage Information Management System (AHIMS) on 26 August 2025. For this review, a buffer of 2.5 kilometres was applied to the study area
  - previous archaeological studies in the Newcastle region
  - reports to inform the geology, soil, vegetation, hydrology and historical context within the study area and surrounds
- consultation with Aboriginal individuals and organisations with cultural knowledge of the study area and its surrounds to identify objects, sites and values of cultural significance. The consultation was undertaken in accordance with *Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b) and the requirements of the SEARs. It included consultation with the 15 Registered Aboriginal Parties (RAPs) on the proposed assessment methodology and review of the draft Technical paper 5 – Aboriginal heritage assessment. Further detail on the RAP consultation is provided in Chapter 2 of Technical paper 5

- identification of the potential for Aboriginal objects or sites within the study area based on the desktop review
- completion of an archaeological field survey on 31 July 2025 with representatives of the Awabakal Local Aboriginal Land Council (LALC). This consisted of a visual assessment to identify any Aboriginal archaeological sites or areas with the potential to contain Aboriginal objects, focused on areas where excavation into potentially natural soils is proposed. Based on the outcomes of this survey and the presence of underlying contamination, no further archaeological investigations were completed. Further information on the archaeological field survey is available in Chapter 6 of Technical paper 5
- discussion and analysis of the findings of the desktop review and archaeological field survey
- identification of mitigation measures, if required.

9.3 Existing environment

The study area falls within the traditional lands of the Worimi people. Consultation with RAPs identified that the study area has general cultural heritage value to the Worimi people and is associated with the important landscape feature of the Hunter River.

Areas of marshy, low-lying tidal flats such as the study area may have contained artefacts or midden sites associated with camping and resource processing sites on the adjacent dry ground. The study area was likely visited on a limited but regular basis during seasonal rounds when people would come to exploit the resources available from the marshes and estuaries. Occupation sites on the tidal flats are unlikely, with camping tending to occur on the more elevated dry ground. While the occasional discard of stone tool material is likely to have occurred within the tidal flats, the dynamic geomorphology of the landscape makes it highly unlikely that such objects would be preserved in-situ. Instead, these objects are likely to exist as part of the generalised background scatter of dispersed Aboriginal objects across the wider landscape. Stone artefacts and deposits were recorded in the 1920s. However, evidence suggests they may have formed part of redeposited or introduced materials rather than an archaeological or soil deposit. While the broader Hunter River corridor holds ongoing Aboriginal cultural value, the archaeological potential of the study area is considered low due to extensive historical disturbance and redeposition of materials.

The study area and surrounding region have been subject to significant disturbance due to development, extensive industrial land use, extractive industries and natural geomorphological processes including flooding and erosion/ deflation. Archaeological evidence suggests that while Aboriginal objects are known to occur widely across the region, the likelihood of intact subsurface deposits varies significantly based on the level of disturbance. The study area is a cleared and levelled area of engineered earth and concrete hardstand with wide-scale landscape disturbance to significant depths. As such, the likelihood of any intact archaeological deposits remaining within the study area is low.

The archaeological field survey confirmed the project site is heavily modified. The project site does not display any potential for remnant surface sites and minimal to no potential for sub-surface deposits. Ground surface visibility and exposure to natural soils was not evident.

The search of databases, including the AHIMS database, found no previously recorded Aboriginal heritage sites or objects within the study area. There are 10 AHIMS sites within 2.5 kilometres of the study area. The most common site types identified are artefact sites, followed by burial sites and potential archaeological deposits (PADs). Of the 10 AHIMS identified, one was listed as a restricted site and detailed information was not available, likely due to cultural restrictions or sensitivities of the site's nature. Consultation with the AHIMS registrar confirmed that this restricted AHIMS site (38-4-2365) is not located within or near the study area.

The heritage criteria and values identified in the State heritage listing for the BHP Administration Precinct do not include Aboriginal heritage values. However, the listing does refer to the Aboriginal sites recorded in the 1920s (as discussed above) and that further evidence could potentially occur in a sub-surface capacity below or within reclamation fill. The listing states that further research is required to refine this potential.

Further, in response to the consultation on the draft assessment in accordance with NSW Heritage guidelines, a RAP expressed the view that there remains potential for stone artefacts across the study area. The research undertaken to inform this assessment concluded that the study area displays no potential for intact archaeological deposits, minimal potential for remnant disturbed deposits, and no identified areas (surface or subsurface) of archaeological sensitivity. This is based on the original landscape context of the study area, and a long history of modification and heavy industrial disturbance.

Further archaeological investigation (i.e. test excavation) of the remnant natural deposits within the study area is not warranted due to historical disturbances and contamination within the fill, as well as the absence of any identified archaeological sensitivity or potential for intact subsurface deposits. No areas free of subsurface contamination with archaeological potential have been identified.

9.4 Potential impacts – construction

Impacts to Aboriginal heritage are unlikely during the construction of the project. No Aboriginal heritage sites or objects have been recorded within the construction footprint. Historical photos and the site walkover confirmed that the likelihood of in-situ cultural material being present within the construction footprint is low. The construction footprint has been highly modified and is considered to retain no potential for intact archaeological deposits, has minimal potential for remnant disturbed deposits, and no identified areas (surface or subsurface) of archaeological sensitivity. No Aboriginal objects, archaeological sites or areas of archaeological potential have been identified within the construction footprint.

It is acknowledged that isolated Aboriginal objects and cultural material can occur even in highly disturbed landscapes. The primary construction activities involving ground disturbance with the potential to impact Aboriginal archaeological heritage include earthworks and site access works. The majority of these works are confined to the upper layers of fill, removal of existing pavements and earthworks (with an excavation depth of up to one metre), with driven piling for culverts likely to extend into the upper portion of the remnant natural material beneath. Given the depth of these works, the potential for unexpected heritage finds is considered low. Further, based on the geotechnical and landscape review, there was no evidence indicating archaeological sensitivity for subsurface cultural materials.

It is noted that Aboriginal cultural (social) values for the area are not necessarily tied to physical factors such as the presence of archaeological sites, and an area of low or no archaeological sensitivity may still be of high cultural value. It has been identified during the consultation process that the study area has general cultural heritage value to the Worimi people and is associated with the important landscape feature of the Hunter River. The study area forms part of a complex and overarching Aboriginal cultural landscape, undiminished by the physical context of the project site and its history of industrial disturbance. However, the construction of the project is unlikely to impact the Hunter River or the surrounding landscape. Further, potential impacts to specific intangible Aboriginal cultural values from the project were not identified during the Aboriginal community consultation process.

9.5 Potential impacts – operation

Direct and indirect impacts to the cultural environment by ongoing operation of the project are not anticipated. While the project would change the use of study area, the operational activities would generally remain within the existing context of the landscape (being an industrial area). The operation and maintenance of the project would be confined to hardstand areas and areas disturbed during construction.

9.6 Management of impacts

9.6.1 Environmental management

Based on the assessment, standard mitigation measures would apply to appropriately manage any unexpected finds during construction (refer to Table 9-1). Additional management through the CEMP or OEMP is not required.

9.6.2 Mitigation measures

Mitigation measures that would be implemented to manage unexpected finds during construction are listed in Table 9-1.

Table 9-1 Proposed mitigation measures – Aboriginal heritage

Reference	Impact/issue	Mitigation measures	Timing
AH1	Impacts to Aboriginal heritage	If at any time during construction any unanticipated Aboriginal objects or human remains are discovered within the construction footprint, they will be managed in accordance with an unexpected finds protocol that is aligned with the procedure outlined in Chapter 8 of Technical paper 5 – Aboriginal heritage assessment.	Construction

9.6.3 Residual impact

The construction footprint has been highly modified and is considered to retain no potential for intact archaeological deposits, minimal potential for remnant disturbed deposits, and no identified areas (surface or subsurface) of archaeological sensitivity. If an Aboriginal site, object or human remains are uncovered during construction, the unexpected find protocols would be implemented.

10 Contamination and soils

This chapter provides an assessment of the potential contamination and soil impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 6 – Contamination and soils (Technical paper 6). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

10.1 Legislative and policy context

The contamination and soil assessment was prepared with reference to the following legislation, policies, standards and guidelines:

- specifically for contamination:
  - *Contaminated Land Management Act 1997 (NSW)*
  - *Environmental health risk assessment: Guidelines for assessing human health risks from environmental hazards* (EnHealth, 2012)
  - National Environment Protection (Assessment of Site Contamination) Measure – Sections 1-6, Schedule A and Schedule B 1999 as Amended 2013 National Environment Protection (Assessment of Site Contamination) Measure 1999 and National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (National Environmental Protection Council, 2013)
  - *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (NSW) (NSW EPA, 2015)
  - *Guidelines for the NSW Site Auditor Scheme* (3rd edition) (NSW EPA, 2017a)
  - *Consultants Reporting on Contaminated Land* (NSW EPA, 2020)
  - *Contaminated Land Guidelines Sampling Design Part 1 and Part 2* (NSW EPA, 2022b)
  - *Preparing environmental management plans for contaminated land Practice Note* (NSW EPA, 2022c)
  - Chapter 4 of the Resilience and Hazards State Environment Planning Policy (the Resilience and Hazards SEPP)
  - *Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban and Planning and NSW EPA, 1998)
  - *NSW EPA Practice Note — Preparing environmental management plans for contaminated land (2022)*
- specifically for soils:
  - *Acid Sulfate Soils Manual 1998* (Acid Sulfate Soil Management Advisory Committee, 1998)
  - *Best Practice Erosion and Sediment Control for building and construction sites Books 1-3* (International Erosion Control Association, 2025)
  - National Environment Protection (Assessment of Site Contamination) Measure – Sections 1-6, Schedule A and Schedule B 1999 as Amended 2013 National Environment Protection (Assessment of Site Contamination) Measure 1999 and National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (National Environmental Protection Council, 2013)

— *Waste Classification Guidelines – Part 1 to Part 4* (NSW EPA, 2014)

— *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (NSW) (NSW EPA, 2015)

— *The Blue Book, Volumes 1, 2A to 2E* (Landcom, 2004)

— *National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018a)

— *National Acid Sulfate Soils Guidance: National acid sulfate soils identification and laboratory methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018b).

10.2 Assessment approach

10.2.1 Study area

The study area for the contamination and soil assessment consists of three distinct areas to encompass the construction footprint (refer to Figure 10-1) including:

- the area subject to the Intertrade CSMP: Lot 332 DP 1176879 inclusive of the main logistics precinct, the southern precinct and Steel Works Road
- the area subject to the Port Lands CSMP: the part of operational access road and adjacent vacant land located within the Port of Newcastle lease area (part of Lot 53 DP1229869, Lot 54 DP 1229869 and Lot 38 DP 1191723) that is located within the construction footprint
- Selwyn Street: the part of Selwyn Street that is located within the construction footprint (referred to as the Selwyn Street site).

10.2.2 Methodology

The methodology for the contamination and soils assessment involved:

- a desktop review of existing publicly available reports, mapping and databases relevant to contamination and soil, including historical aerial photographs, Department of Land and Water Conservation Newcastle Acid Sulfate Soil Risk Map 1:25 000, NSW Department of Mineral Resources Sydney Geological Series, NSW DPIE Hydrological Soil Groups of NSW, version 4.5 and NSW Soil and Land Information System (eSPADE)
- review of the Intertrade CSMP and Port Lands CSMP
- review of previous investigations completed on Selwyn Street and the areas subject to the Intertrade CSMP and Port Lands CSMP
- preparation of a preliminary site investigation for Selwyn Street site which identifies potential areas and contaminants of concern and development of an initial conceptual site model of the Selwyn Street site to identify potential receivers to any contamination that may be present and where complete exposure pathways are present or potentially present between any potential contaminants and those receivers
- assessment of potential contamination and soil impacts associated with construction and operation of the project
- identification of mitigation and management measures to avoid, minimise and manage the contamination and soil impacts of the project, as far as practicable.



Figure 10-1
Contamination and soil study area

Legend

- Road
- Railway
- Construction footprint

Contamination and soil study area

- Area subject to the Intertrade CSMP
- Area subject to the Port Lands CSMP
- Selwyn Street Site
- Northern access
- Southern access (central)
- Cadastre
- Newcastle Steelworks Memorial



0 100 200 Meters

Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:6,000 Date: 19/06/2026
Data sources: WSP, EnergyCo, NSWSS
World Hillshade: Esri, CGIAR

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10.3 Existing environment

10.3.1 Contamination

Areas subject to the Intertrade CSMP and Port Lands CSMP

The areas relating to the Intertrade CSMP and Port Lands CSMP has an extensive history of industrial activities and uses associated with the operation of the BHP steelworks between 1915 to the late 1990s. Prior to the establishment of the BHP steelworks, the areas were part of a large estuarine area adjacent to the Hunter River. Parts of the steelworks to the north and east of the areas subject to the Intertrade CSMP and Port Lands CSMP were progressively reclaimed using dredging sands and sediments from the Hunter River and then filled with materials that comprised wastes such as coal washery rejects from coal mining in the local region and wastes from the BHP Steelworks operation.

Remediation works were completed across the former BHP Steelworks following its closure resulting in contamination being retained within the sub-surface material, referred to as the BHP subgrade. This material is covered by remediation infrastructure that forms a capping layer comprising of either a minimum of 500 millimetres thick layer of placed Virgin Excavated Natural Material (VENM), surface coverings such as hardstand concrete or asphalt pavements, or landscaping. Where a VENM cap is not provided within the southern precinct, BHP subgrade material is below the surface covering.

Investigations during these remediation works identified the presence of contaminated soils and groundwater. Polycyclic aromatic hydrocarbons (PAHs) within shallow fill materials and soil were the primary contaminant of concern for these areas within the construction footprint. In accordance with the National Environment Protection (Assessment of Site Contamination) Measure, the levels of recorded PAHs were considered less than the commercial/land use criteria, presenting a low risk to users under a commercial/industrial setting. The area subject to Port Lands CSMP is outside the areas identified as containing the most significant contamination of the former BHP Steelworks site. However, the underlying material may contain heavy metals, with a lower likelihood of petroleum hydrocarbons, ammonia or asbestos.

The Intertrade CSMP and the Port Lands CSMP also identify that the retained contaminated material has the potential to generate volatile organic compounds, explosive, hazardous or toxic gases. Based on the review of the information contained in each CSMP, these risks are limited to where the former benzol plant was located which is beyond the construction footprint. The risk of vapour or gases being generated or accumulating on the underlying BHP subgrade within the construction footprint is low to very low.

The conceptual site model for the areas subject to the Intertrade CSMP and the Port Lands CSMP adopts a conservative approach that all retained BHP subgrade material and underlying sediments are contaminated and could pose a risk if disturbed and exposed. The presence of the remediation infrastructure provides a physical barrier to the environment and users of the land. The presence and ongoing maintenance of the remediation infrastructure ensures that any exposure pathway to the underlying contamination is incomplete.

The areas subject to the Intertrade CSMP and Port Lands CSMP are suitable for commercial/industrial use, subject to the implementation of the CSMPs and the applicable ongoing maintenance orders. As detailed in Chapter 2 (Strategic context), the CSMPs and the applicable ongoing maintenance orders specify the owner obligations with respect to the applicable land and what remediation infrastructure must be maintained. For the project site, this includes what the future redevelopment of the site must maintain or address to ensure integrity of the remediation infrastructure.

Subsequent to the completion of remediation works, per- and polyfluoroalkyl substances (PFAS) was identified in groundwater beneath the areas subject to both CSMPs and in surface water. Testing found that the concentrations were low and acceptable with no evidence of groundwater discharge into the surface drains. PFAS in groundwater and surface water remains a potential contaminant of concern depending on the concentration and only in circumstances where a complete exposure pathway occurs.

The ongoing maintenance order issued for the project site was amended on 6 March 2025 to remove the requirement for ongoing groundwater monitoring. Groundwater is further discussed in Chapter 13 (Groundwater).

Selwyn Street

The Selwyn Street site is not subject to either CSMP. A review of historical plans for the Parish of Newcastle and aerial imagery indicates that the current alignment of the Selwyn Street site was likely formed during the 1920s and was established through several originally smaller parcels of land. While operation of the BHP Steelworks began in 1915, the land adjacent to Selwyn Street remained relatively vacant until the 1960s and 1970s. Despite its proximity to the BHP Steelworks, the operations never extended into Selwyn Street. As such, the land on which Selwyn Street is located is unlikely to have been reclaimed using waste from the BHP Steelworks.

Given continued use as a road and the fact that the BHP Steelworks never extended into the roadway, the presence of contamination is considered to be low within the Selwyn Street site. The surface of the roadway and grass verges of the Selwyn Street site is likely to be underlain by estuarine clayey sands and sands. While the presence of fill materials cannot be discounted, fill materials are considered to be limited to shallow depths and associated with road maintenance or improvements that have occurred over time, rather than being due to any direct contaminating activities or land reclamation. Further, the source of any fill materials present beneath the Selwyn Street site is more likely to have been sourced from dredged sediments or sands or coal washery rejects, rather than comprise waste from the BHP Steelworks operations.

The initial conceptual site model developed for the Selwyn Street site did not identify any evidence of contaminating activity. Public roads such as Selwyn Street have a very low sensitivity land use, with a lower exposure scenario compared to a typical commercial/industrial scenario. This is due to road users not being regularly exposed to contaminated soils, groundwater or other environmental media present beneath the road pavement. For road users on a public road, the exposure scenario is considered nil. The conceptual site model considered the exposure scenario presented by the road construction works on the Selwyn Street site for the project. The risk of contamination being present is assessed as being low. On this basis, the preliminary site investigation concluded that a detailed site investigation is not required.

10.3.2 Soils

Under Australian Soil Classification mapping, soils within the study area are ‘not assessed’. This is due to the previous heavy disturbance of soils within the study area. This extends throughout the areas associated with the Port of Newcastle and zoned as SP1 – Special activities due to historic port operations and heavy industries.

NSW soil landscape mapping identified the area of Mayfield North, including the former BHP Steelworks site, as ‘Disturbed Terrain’, where natural soil profiles have been subject to significant modification and disturbance during activities such as filling for land reclamation. This indicates that the natural soil landscapes are no longer present. The study area predominantly comprises a large open hardstand area of either pavement, capped surfaces or paved roads with some landscaped areas within the vicinity of buildings and along the western boundary of the area subject to the Intertrade CSMP adjacent to Industrial Drive.

Actual acid sulfate soils and potential acid sulfate soils are naturally occurring soils containing iron sulfides. When exposed to air during excavations or other forms of soil disturbance, those iron sulfides oxidise and form sulfuric acid. This increase in acidity can result in the mobilisation of aluminium, iron, and manganese from the soils.

Acid sulfate soil mapping indicates that the study area is located on disturbed terrain and not within class 1, 2, 3, or 4 acid sulfate soil areas. However, previous investigations undertaken outside the study area suggest potential acid sulfate soils may be present in the natural estuarine sediments at depth beneath the fill materials.

Salinisation is the process where salts stored in the soil profile are mobilised by the movement of water. Subsequent evaporation and accumulation cause an increase in salt levels to the extent that vegetation and building materials such as concrete and steel are affected. The potential risk of salinisation in the study area is low to negligible, and limited only to where acid sulfate soils are present and disturbed. There is currently no evidence of salting within the study area, and there is no evidence of poor vegetation health within the study area that may indicate salinity. Refer to section 3.3 of Technical paper 6 for further detail.

10.4 Potential impacts – construction

10.4.1 Contamination

The potential contamination impacts of the project on the areas subject to the Intertrade CSMP and Port Lands CSMP are primarily related to the potential risks associated with disturbance of the capping layer, and exposure of underlying BHP subgrade material. During construction, risks associated with these activities include:

- uncontrolled exposure of construction workers to contaminated materials, including the inhalation of hazardous concentrations of gas or vapours
- migration of exposed contaminants in the BHP subgrade via surface water or sediment runoff to the stormwater drainage channels on the areas subject to the Intertrade CSMP and Port Lands CSMP that ultimately discharge to the Hunter River
- migration of exposed contaminants where wind blows dusts which could affect neighbouring land users
- contaminated materials impacting non-contaminated materials within the areas subject to the Intertrade CSMP and Port Lands CSMP due to uncontrolled earthworks and materials movements.

These risks and potential impacts are required to be mitigated through the preparation of a Work Method Statement (WMS) for the area subject to the Intertrade CSMP and the preparation of a Work Management Plan (WMP) for the area subject to the Port Lands CSMP (refer to Section 10.6.1).

As identified in Section 10.3.1, the risk of vapour or gases being released or accumulating below the construction footprint is low to very low. No new on-ground structures that could result in gas or vapour accumulation are proposed with only demountable structures within the construction compound. As such, further assessment has not been completed and a conservative approach of monitoring for vapours or gases during any works that disturb the capping layer or BHP subgrade material would be implemented (refer to Section 10.6.1).

At the completion of construction works, the existing remediation infrastructure would be restored, reinstated or replaced to ensure the people are not exposed to the retained BHP subgrade, leachate and groundwater beneath the remediation infrastructure. These works would be undertaken so that the remediation infrastructure is either consistent with or improves upon that detailed in each CSMP. These works would be undertaken to achieve the issue of a Section A Site Audit Statement

certifying the suitability of the area subject to the Intertrade CSMP for continued commercial and industrial land use, subject to a Long-term Environmental Management Plan (LEMP) that will replace the Intertrade CSMP (refer to Section 10.6.1). As part of this process, the EPA would be consulted and the NSW EPA would determine the requirements for ongoing regulation of the project site under the CLM Act, including any amendments to the current ongoing maintenance order. For land subject to the Port Lands CSMP, there is no permanent change in land use as a result of the project. Subject to certification by the NSW EPA Accredited Site Auditor at the completion of construction, the area will remain suitable for commercial/industrial uses at the completion of construction.

Construction within the Selwyn Street site would require some removal of existing road pavement, verge surfaces and subgrade as well as disturbance of underlying soils to a shallow depth. Disturbance of these sub-surface soils may result in exposure of contaminants within these soils or shallow groundwater. The disturbance of the surface and sub-surface environment on the Selwyn Street site may pose a risk to the surrounding environment if soils or waters migrate to off-site areas. The disturbance of the surface and sub-surface environment also has the potential to impact construction personnel. Further, contamination or other unexpected finds being uncovered during the works on the Selwyn Street site remain a low risk. Potential risks to the environment during construction works for the project on the Selwyn Street site will be mitigated via the implementation of a specific unexpected finds procedure. The unexpected finds procedure will set out the process for the identification of contamination or other unexpected finds in the sub-surface environment and the environmental management measures required to be implemented in such a matter to manage risks to workers and the environment.

Storage of stockpiled material and construction waste originating from land subject to the Intertrade CSMP would occur on the Bar Mill slab, which would limit risk to the soil or groundwater environment. Material originating land subject to the Port Lands CSMP, the Selwyn Street site, and any excess excavated material from land subject to the Intertrade CSMP would be managed in accordance with mitigation measures detailed in Section 21.6.

Accidental spills or leaks (fuels, diesel, oils) during the construction of the project have the potential to impact the surrounding environment, which may result in the accidental contamination of soil. While spill volumes from any incidents would be expected to be minor, spill containment facilities such as bunded containers, designated fill points, and spill kits would be used during construction to minimise risks to the environment in line with the *Storing and Handling of Liquids: Environment Protection -Participants Manual* (DECC, 2007). Incident response procedures would be developed in the CEMP and implemented to manage the risk of contamination from these occurrences.

Further, building work in the Roll Shop building is likely to require the removal of hazardous materials from the internal structure. Any such works would be managed in accordance with *Work Health and Safety Act 2011* obligations, including the *Code of practice: How to manage and control asbestos in the workplace* (SafeWork NSW, 2022a) and *Code of practice: How to safety remove asbestos* (SafeWork NSW, 2022b). The handling and management of this material is discussed in Chapter 21 (Waste).

10.4.2 Soils

During the construction of the project, pavement material would be imported to raise the current surface of the main logistics precinct prior to sealing the surface. Any imported soils required for the remediation cap would consist of VENM. Construction of the project would also temporarily expose soils that are not otherwise normally exposed during excavation and earthworks. The exposure of soil to surface water runoff and wind can increase soil erosion and sediment transport. Increased sediment loads would primarily occur during excavation for the northern and southern access (central), excavation into the upper layer of the capping infrastructure, utility adjustments and excavation for the northwestern channel realignment, as well as runoff from storage of imported material and vehicle movements across excavated surfaces. Construction work

procedures would be included in the CEMP to mitigate erosion and runoff of existing soils, and runoff from stockpiled materials, waste or newly imported materials during the construction phase. In addition, specific procedures for soil management would be documented in the WMS and WMP, including erosion and sediment controls in accordance with the Blue Book.

Disturbance of the subgrade material to depths where estuarine sands and sediments could be encountered would be limited to piling activities for the construction of culvert crossings over the perimeter stormwater channels, with little to no soil returns expected to the surface. Given the limited extent of ground disturbance works, it would be unlikely that any volume of estuarine sediments and sand material that are considered potential or actual acid sulfate soils or soils that could pose a salinity hazard would be brought to the surface. Any potential to expose acid sulfate soils (and therefore soils posing a salinity hazard) would be managed in accordance with NSW guidelines.

10.5 Potential impacts – operation

10.5.1 Contamination

As discussed in Section 10.4.1, the existing remediation infrastructure would be restored, reinstated or replaced in a manner that is consistent or improved from that detailed in the Intertrade CSMP and Port Lands CSMP. There would be no ongoing interaction with sub-surface soils or materials as part of the general operation of the project.

As identified in Section 10.3.1, the risk of vapour or gases being released or accumulating below the construction footprint is low to very low. No new on-ground structures that could result in gas or vapour accumulation are proposed with only demountable structures proposed for the operational amenities building.

The LEMP for the area subject to the Intertrade CSMP would specify control measures for works that have the potential to disturb the BHP subgrade during these works. Given operations would be confined to the project site, EnergyCo would not be responsible for ongoing management of the land subject to the Port Lands CSMP.

At the conclusion of construction works, Selwyn Street would be reinstated, and no ongoing maintenance by EnergyCo would be required during operation.

During operation, potential impacts to the surrounding environment in the event of a leak or spill within the operational footprint would be low. Spill containment facilities such as bunded containers, designated fill points, and spill kits would be used during maintenance activities within the operation footprint. Furthermore, it is expected that incident response procedures would be developed in the OEMP which would be implemented to manage the risk of contamination from these occurrences.

10.5.2 Soils

Operation of the project would not result in any changes to the existing sub-surface environment on the study area. Existing stormwater drainage systems would be improved and would connect to existing drainage channels to ensure appropriate surface water drainage during the operation of the project. Impacts to the existing underlying profile of fill materials and at depth estuarine sediments and sands would be minor. Improvements to the surface of the study area including capping works would reduce any potential soil erosion risks.

10.6 Management of impacts

10.6.1 Environmental management

Contamination and soil impacts will be managed in accordance with the CEMP, Intertrade CSMP, Port Lands CSMP, WMS and WMP. The CSMPs will continue to be considered during the detailed design of the project to ensure remediation infrastructure is maintained or improved upon. Operation of the project, including maintenance activities will be managed through the LEMP and OEMP.

The WMS, WMP and LEMP will be prepared by a suitably qualified contamination consultant and in accordance with the relevant requirements of the *Contaminated Land Guidelines Consultants Reporting on Contaminated Land* (NSW EPA , 2020), *Practice Note Preparing environmental management plans for contaminated land* (NSW EPA, 2022c), the *National Environment Protection (Assessment of Site Contamination) Measure*, the *Guidelines for the NSW Site Auditor Scheme* (NSW Government, 2017), and the *Work Health and Safety Regulation 2025*.

WMS and WMP

The Intertrade CSMP requires that, where works are to be undertaken on the area subject to the Intertrade CSMP that have the potential to disturb the capping layer and/or sub-surface environment, a WMS must be prepared and implemented in accordance with the requirements of the Intertrade CSMP. Similarly, the Port Lands CSMP requires that where works are to be undertaken within the area subject to the Port Lands CSMP that have the potential to disturb the capping layer and/or sub-surface environment, a WMP must be prepared.

The WMS and WMP will document the procedures that are required to manage identified risks to soils and receivers during construction to ensure that:

- works that require disturbance of the capping layer and sub-surface environment are undertaken in a manner that protects the health of human and environmental receivers
- on completion of the construction, that the remediation infrastructure has been restored, reinstated or replaced in a manner that ensures the workers are not exposed to the BHP subgrade material, leachate and/or groundwater beneath the capping layers and that the environment remains protected to the standard that existed prior to construction.

In this regard, the WMS and WMP will detail, with reference to the relevant requirements of each CSMP, the:

- scope of works that will be undertaken that will disturb the capping layer, BHP subgrade material, groundwater or underlying natural sediments
- how the remediation infrastructure will be replaced, reinstated or restored where it is fully or partially disturbed by construction
- measures for the appropriate handling, segregation, stockpiling, reuse (where practicable) and reinstatement of disturbed materials
- precautionary vapour and gas monitoring requirements during works that disturb the capping layer and sub-surface environment
- requirements for verification reporting.

The WMS and WMP will need to be accepted by an NSW EPA Accredited Site Auditor prior to the commencement of works that result in the disturbance of the capping layer and/or underlying materials. Upon completion of the construction work, a verification report will be required which will document the implementation of the WMS and WMP and will reconfirm land use suitability.

Further detail on the WMS and WMP requirements is provided in Chapter 2 of Technical paper 6.

LEMP

The LEMP will be prepared at the completion of construction to provide an overarching document for the area subject to the Intertrade CSMP. The Intertrade CSMP was originally prepared as an outcome of the remediation works on the area subject to the Intertrade CSMP and was developed to be applied on an interim basis until such time that future redevelopment determined a final end use, allowing the CSMP to cease and be replaced by a LEMP.

The LEMP for the area subject to the Intertrade CSMP will be consistent with the Intertrade CSMP in terms of adopting the capping, containment and long-term management approaches. The LEMP will also:

- document the final capping layers that will have been installed on the area subject to the Intertrade CSMP during construction
- provide the control measures and procedures to be implemented to protect the health of workers, occupiers and users of the area subject to the Intertrade CSMP.

General environmental management

Standard environmental management measures, including spill response procedures, will be implemented through the CEMP and OEMP.

The CEMP will identify all reasonably foreseeable risks relating to soil erosion during construction and describe how these risks will be managed. As part of the CEMP, erosion and sediment control plans (ESCPs) will be prepared and implemented in accordance with the Blue Book and other relevant guidelines, noting that specific procedures for the handling and management of contaminated materials and capping materials will be detailed in the WMS and WMP.

10.6.2 Mitigation measures

Measures that would be implemented to address potential contamination and soil impacts are listed in Table 10-1.

Table 10-1 Proposed mitigation measures – contamination and soils

Reference	Impact/issue	Mitigation measures	Timing
CS1	Disturbance to remediation infrastructure and underlying BHP subgrade material	Prior to commencement of any works on the project site likely to impact existing remediation infrastructure and/or underlying sub-surface environment, a Work Method Statement (WMS) will be prepared in accordance with the Contaminated Site Management Plan, Lot 332 DP 1176879, Former BHP Steelworks Mayfield, Newcastle Hunter Development Corporation' dated December 2018 (Intertrade CSMP) and relevant NSW Environment Protection Authority guidelines and suitable for acceptance as appropriate by a NSW EPA Accredited Site Auditor. The WMS is to be implemented for the duration of construction works.	Pre-construction Construction

Reference	Impact/issue	Mitigation measures	Timing
CS2	Disturbance to remediation infrastructure and underlying BHP subgrade material	Prior to commencement of any works on the project site within the Port of Newcastle lease area likely to impact existing remediation infrastructure and/or underlying sub-surface environment, a Work Management Procedure (WMP) will be prepared in accordance with the *Contaminated Site Management Plan, Port Lands, Former BHP Steelworks Mayfield, Newcastle* (Hunter Development Corporation, 2016) (Port Lands CSMP) and relevant NSW Environment Protection Authority guidelines and suitable for acceptance as appropriate by a NSW EPA Accredited Site Auditor. The WMP is to be implemented for the duration of construction works.	Pre-construction Construction
CS3	Unexpected contamination within Selwyn Street	Prior to commencement of any construction work that involves ground disturbance within the Selwyn Street site, a specific unexpected contamination finds procedure for the Selwyn Street site will be prepared by, or in consultation with, a suitably qualified contamination consultant. The procedure will detail the requirements for the identification, notification and management of unexpected contaminated materials, in accordance with relevant NSW Environment Protection Authority guidelines. The procedure will be implemented along with the project's Construction Environmental Management Plan for the duration of construction works on the Selwyn Street site.	Pre-construction for works within Selwyn Street Construction
CS4	Disturbance of acid sulfate soils	Prior to commencement of construction works with the potential to generate actual or potential acid sulfate soils, a procedure for the identification, and if required subsequent assessment and management of actual or potential acid sulfate soils will be prepared in accordance with the relevant NSW guidelines, including: • *Acid Sulfate Soils Manual 1998* (Acid Sulfate Soil Management Advisory Committee, 1998) • *National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018a) • *National Acid Sulfate Soils Guidance: National acid sulfate soils identification and laboratory methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018b). The procedure will be implemented during construction works that have the potential to generate actual or potential acid sulfate soils.	Pre-construction Construction

Reference	Impact/issue	Mitigation measures	Timing
CS5	Erosion and sedimentation	Site-specific or activity-specific erosion and sediment control plans will be developed as part of the Construction Environmental Management Plan and implemented for activities associated with the excavation or importation of soils within the construction footprint. Erosion and sediment controls will be designed with consideration of *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004), and *Volumes 2A* (DECC, 2008a) and *2C* (DECC, 2008b), commonly referred to as the 'Blue Book'.	Construction
CS6	Contamination	A Long-term Environmental Management Plan (LEMP) will be prepared to detail the ongoing management of remediation infrastructure and contamination exposure risk following construction of the project within the area subject to the Intertrade CSMP that is suitable for acceptance as appropriate by the NSW EPA Accredited Site Auditor. The implementation of the LEMP will be required during operation to maintain suitability of the area subject to the Intertrade CSMP for the project.	Operation
CS7	Containment of chemicals, fuels and other dangerous goods	All chemicals, fuels or other dangerous goods will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and the NSW EPA's *Storing and Handling of Liquids: Environment Protection - Participants Manual* (DECC, 2007). This includes provision of appropriate spill containment. Incident response procedures will be implemented to avoid and manage accidental spillages of fuels, chemicals or fluids. Spill kits will be provided at strategic, accessible locations, and staff will be trained in incident response procedures.	Construction Operation

11 Noise and vibration

This chapter provides an assessment of the potential noise and vibration impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 7 – Noise and vibration (Technical paper 7). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

11.1 Legislative and policy context

The noise and vibration assessment was prepared with reference to the following legislation, policies, standards and guidelines:

- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Interim Construction Noise Guideline* (ICNG) (NSW DECC, 2009)
- *Construction Noise and Vibration Guideline* (Roads) (Transport for NSW, 2024c)
- *Noise Policy for Industry* (NPfI) (NSW EPA, 2017b)
- *Assessing Vibration: A Technical Guideline* (NSW DEC, 2006a)
- Australian Standard AS 1055 Description and measurement of environmental noise (AS1055)
- ISO 8297 – Determination of Sound Power Levels of Multisource Industrial Plants for Evaluation of Sound Pressure Levels in the Environment (Engineering Method)
- *Approved methods for the measurement and analysis of environmental noise in NSW* (NSW EPA, 2022a)
- German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures (German Building and Civil Standards Committee, 1999)
- Australian Standard AS2187.2-2006 Explosives – Storage, Transport and Use
- British Standard BS 7385-2:1993 – Evaluation and measurement for vibration in buildings
- *Guide to damage levels from groundborne vibration* (General Mechanical Engineering Standards Policy Committee, 1993)
- *NSW Road Noise Policy* (RNP) (NSW DECCW, 2011).

The following guidelines and policies have been listed in the SEARs for the project that are not relevant to this noise and vibration assessment:

- *Development Near Rail Corridors and Busy Roads – Interim Guideline* (NSW Department of Planning, 2008). This guideline does not apply to project, as per Clause 2.99 and 2.100 of the Transport and Infrastructure SEPP, given the type of land use proposed as well as the depth and location of excavation relative to the freight rail line located east of the project site.
- *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (Australian and New Zealand Environment Council , 1990). This guideline only applies to blasting, which is not proposed for the project.

11.2 Assessment approach

11.2.1 Study area

The noise and vibration study area is shown in Figure 11-1.This was defined with consideration of the proposed activities, location of sensitive receivers within the surrounding environment, and the anticipated level of impact.

11.2.2 Methodology

The methodology for the noise and vibration assessment involved:

- defining the noise catchment areas (NCAs) within the noise and vibration study area. NCAs are areas of sensitive receivers that are likely to have a similar existing noise environment and experience similar impacts from the project
- baseline noise monitoring to determine the existing environment of the study area
- identification of the relevant noise and vibration criteria and limits, with reference to regulatory guidelines and standards and results of the baseline noise monitoring survey
- predictive modelling of noise levels at sensitive receivers to inform the assessment of the potential impacts to residential and non-residential receivers during construction and operation of the project
- calculation of safe working distances for plant and equipment to identify where vibration impacts to structures or human comfort may occur during construction
- assessment of changes to road traffic noise during construction and operation
- identification of mitigation and management measures to avoid, minimise and manage any potential impacts of noise and vibration from construction and/or operation of the project.

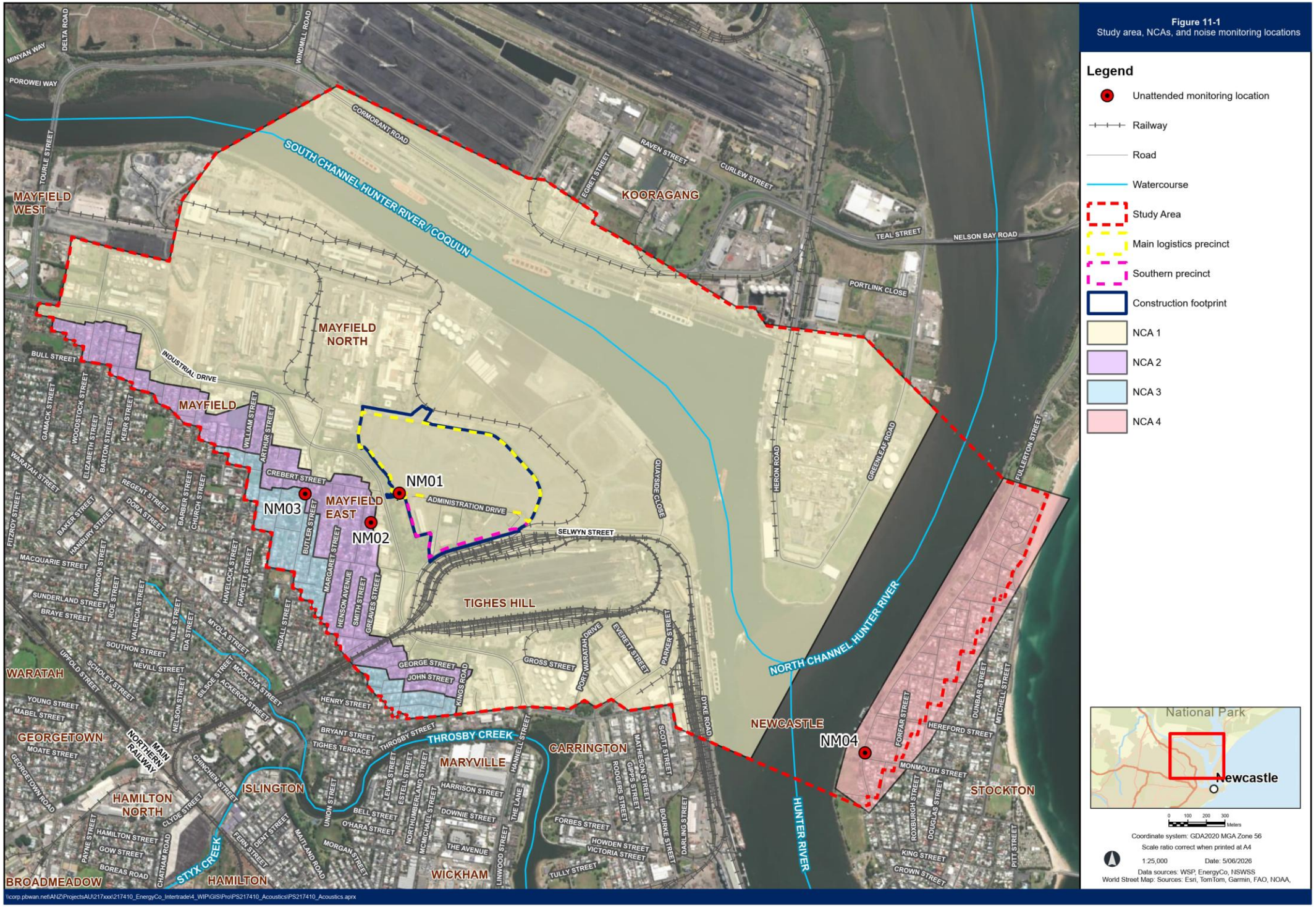
Further detail on the methodology followed for this assessment is provided in Chapter 3 of Technical paper 7.

Noise monitoring

Noise monitoring was undertaken in four locations representative of residential areas to quantify and characterise the existing ambient noise environment of the noise and vibration study area. Noise monitoring locations are shown in Figure 11-1.

Noise monitoring involved a combination of unattended and attended noise monitoring. Unattended noise monitoring was carried out at NM01 between 25 November and 11 December 2024, with attended noise monitoring carried out on 25 November 2024.

Unattended monitoring was carried out at NM02, NM03, and NM04 between 25 March 2026 and 2 April 2026. Attended noise monitoring was carried out on 25 March 2026 and 2 April 2026.


Figure 11-1
Study area, NCAs, and noise monitoring locations
Legend
Unattended monitoring location
Railway
Road
Watercourse
Study Area
Main logistics precinct
Southern precinct
Construction footprint
NCA 1
NCA 2
NCA 3
NCA 4
NM01
NM02
NM03
NM04
MAYFIELD WEST
MAYFIELD NORTH
MAYFIELD
MAYFIELD EAST
KOORAGANG
TIGHES HILL
WARATAH
GEORGETOWN
HAMILTON NORTH
ISLINGTON
MARYVILLE
CARRINGTON
NEWCASTLE
STOCKTON
WICKHAM
HAMILTON
BROADMEADOW
SOUTH CHANNEL HUNTER RIVER/COQUUN
NORTH CHANNEL HUNTER RIVER
HUNTER RIVER
THROSBY CREEK
STYX CREEK
CORMORANT ROAD
NELSON BAY ROAD
TEAL STREET
PORTLINK CLOSE
INDUSTRIAL DRIVE
ADMINISTRATION DRIVE
SELWYN STREET
GREENLEAF ROAD
HERON ROAD
DYKE ROAD
KINGS ROAD
MAIN NORTHERN RAILWAY
National Park
Newcastle
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:25,000
Date: 5/06/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
\\corp.pbwan.net\ANZ\Projects\AU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\PS217410_Acoustics\PS217410_Acoustics.aprx

11.3 Existing environment

11.3.1 Noise

The existing noise environment varies across the noise and vibration study area. Land uses within the noise and vibration study area are generally characterised as suburban and urban residential, commercial and industrial. The activities which dominate existing noise levels include industrial operation noise from Port of Newcastle and various manufacturing facilities, residential noise, road noise and natural noises (for example winds and waves).

Light winds (three metres per second) during the day, evening and night, or temperature inversions during the night-time period can increase the propagation of noise. A review of meteorological data collected from the Williamtown RAAF automatic weather station in 2025 identified that noise-enhancing meteorological conditions do not occur at a frequency that requires specific consideration in accordance with the NPfI.

Noise sensitive receivers are defined in relevant NSW legislation and guidelines, and generally include land uses potentially affected by noise impacts such as residential, educational, industrial, or recreational areas. A total of 2,386 sensitive receivers were identified in the study area. Non-residential receivers in the study area comprise industrial, commercial, educational, a place of worship, and recreational spaces.

Four NCAs have been identified for this assessment as outlined in Table 11-1 and shown in Figure 11-1.

Table 11-1 Noise catchment areas for the project

NCA	Representative monitoring location	Region/description of noise environment	Approximate number of noise sensitive receivers
NCA 1	NM01	Residential area of Mayfield and Mayfield East adjacent to Industrial Drive, and industrial areas of Mayfield North and Kooragang Island. Road noise from Industrial Drive and Cormorant Road. Industrial operation noise from Port of Newcastle and various manufacturing facilities.	470
NCA 2	NM02	Residential area of Mayfield and Mayfield. Road noise from Industrial Drive. Industrial operation noise from Port of Newcastle and various manufacturing facilities.	957
NCA 3	NM03	Mayfield and Mayfield East at the western and southern extent of study area. Local traffic noise, urban hum, and fauna noise (predominately bird song).	425
NCA 4	NM04	Northwestern extent of Stockton. Local traffic noise, industrial noise from Kooragang Island, and fauna noise (predominately bird song).	534

Ambient noise levels quantified during unattended noise monitoring are shown in Table 11-2. Ambient noise levels quantified during attended noise monitoring are shown in Table 11-3. Background noise levels were generally observed during attended noise monitoring to be moderate during the day-time period and dominated by road traffic noise and industrial sources, with minor natural sources (birds and insects, etc.). Consistent background noise levels of approximately 40 to 50 dBA were generally observed across both unattended and attended noise monitoring programs.

Table 11-2 Unattended noise measurement results

ID	Rating background level, (RBL) dBA			Ambient noise level dBA $L_{eq(15\ min)}$		
	Day[1]	Evening[1]	Night[1]	Day[1]	Evening[1]	Night[1]
NM01	48	48	47	56	55	53
NM02	42	42	37	53	54	44
NM03	41	41	35	61	57	54
NM04	42	40	42	62	58	54

1. Time periods defined as – Day: 7 am to 6 pm Monday to Saturday, 8 am to 6 pm Sunday; Evening: 6 pm to 10 pm; Night: 10 pm to 7 am Monday to Saturday, 10 pm to 8 am Sunday

Table 11-3 Attended noise measurement results

ID	Date and time	Measured noise level dB			Comments
		$L_{A90,15min}$	$L_{Aeq,15min}$	$L_{Amax,15min}$	
NM01	25 November 2024 10:53 – 11:08	46	55	64	Road noise from Industrial Drive. Industrial operation noise from Port of Newcastle and various manufacturing facilities.
NM02	2 April 2026 12:56 – 13:09	42	46	69	Road noise from Industrial Drive. Industrial operation noise from Port of Newcastle and various manufacturing facilities.
NM03	25 March 2026 15:52 – 16:07	44	59	74	Local road traffic noise, urban hum, and fauna noise (predominately bird song).
NM04	25 March 2026 14:55 – 15:10	46	64	81	Local road traffic noise, industrial noise from Kooragang Island, and fauna noise (predominately bird song).

11.3.2 Vibration

Vibration sensitive receivers include all regularly occupied buildings and sensitive structures within the study area. At sufficient levels, vibration can lead to cosmetic (and possibly structural) building damage as well as disturbance to occupants (human comfort). All identified noise sensitive receivers are also considered potentially vibration sensitive and have been assessed for possible vibration impacts during construction of the project.

Vibration can also affect sensitive structures, including heritage listed buildings. Given the proposed construction methodology, vibration impacts have the potential to affect vibration sensitive heritage structures within 54 metres from construction works involving vibratory equipment (refer to Technical paper 7 for further detail).

Three listed non-Aboriginal built heritage items have been identified with the potential to be damaged by ground vibration within this range and have been considered in this assessment. These items are all located within the construction footprint, being the BHP Administration Building, the Roll Shop building and the Quality Control Laboratory (refer to Chapter 8 (Non-Aboriginal heritage)). No Aboriginal heritage items have been identified within this range of the construction footprint (refer to Chapter 9 (Aboriginal heritage).

11.4 Potential impacts – construction

11.4.1 Construction noise

The following sections present a summary and discussion of the results of the construction noise assessment for the project.

Standard project construction hours would be between 7 am to 6 pm, Monday to Saturday. This is a mixture of both standard and non-standard construction hours as defined in the ICNG. As such, the assessment has assessed out of hours (OOH) periods to reflect work carried out on Saturdays between 7 am to 8 am and 1 pm to 6 pm.

To assess the worst-case or maximum potential impact in accordance with the ICNG, construction noise levels have been predicted using a 'peak' construction scenario for each construction stage. This is based on the loudest equipment that may be used simultaneously within a 15-minute window positioned at the closest point to the noise sensitive receivers for that construction stage. Actual construction noise levels would vary based on the plant location and the setback distances of receivers from these areas. As such, predicted noise levels are often highly conservative and actual noise levels are likely to be lower than the levels predicted for the majority of the time. To reflect this, additional scenarios ('typical' and 'additional') have been considered to illustrate the variation in potential noise impacts during construction.

Detailed results of the construction noise assessment are presented in Chapter 5 of Technical paper 7, including a detailed analysis and comparison of 'peak', 'typical' and 'additional' scenarios.

Residential receivers

Noise management levels (NMLs) are set in accordance with the ICNG and are informed by the results of the noise monitoring survey. The NMLs for residential receivers is presented in Table 11-4.

Table 11-4 Noise management levels for residential receivers

NCA	NMLs, $L_{eq(15min)}$ dBA[1]		
	Standard hours	OOH 1	OOH 2
1	58	53	52
2	52	47	42
3	51	46	40
4	52	47	47

1. OOH 1 comprises Monday to Friday – 6 pm to 10 pm, Saturday – 7 am to 8 am/1 pm to 10 pm, Sunday/Public Holiday – 8 am to 6 pm. OOH 2 comprises Monday to Friday – 10 pm to 7 am, Saturday – 10 pm to 8 am, Sunday/Public Holiday – 6 pm to 7 am

A summary of predicted NML exceedances for residential receivers is presented in Table 11-5 and Table 11-6.

Table 11-5 Summary of exceedances of residential standard hours NMLs during peak scenario for all construction stages

Construction stage	Duration	Number of residential receivers exceeding standard hours NML per NCA															
		Total	Highly noise affected (>75 dBA)				0 – 10 dBA				10 – 20 dBA				>20 dBA			
			NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4
CS-1a: Site access (enabling works) and stockpile	Across 3 months	51	–	–	–	–	11	27	–	–	8	5	–	–	–	–	–	–
CS-1b: Construction compound construction		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-1c: Vegetation clearance (southern precinct)		5	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–
CS-2: Utilities (above and below ground)	1.5 months	7	–	–	–	–	2	5	–	–	–	–	–	–	–	–	–	–
CS-3a: Earthworks and stockpile	Across 9 months	42	–	–	–	–	18	19	–	–	4	1	–	–	–	–	–	–
CS-3b: Drainage swales		1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
CS-3c: Screening and blending of crusher dust		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-4a: Structures (culvert construction) (north and south)		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-4b: Access roads		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-5a: Stockpile		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-5b: Asphaltic spray seal		36	–	–	–	–	18	18	–	–	–	–	–	–	–	–	–	–
CS-6a: Permanent staff amenities		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-6b: Roll Shop building upgrade and repair		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-7: Construction compound operations	9 months	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-8: Demobilisation	1 month	35	–	–	–	–	14	19	–	–	1	1	–	–	–	–	–	–

Table 11-6 Summary of exceedances of residential out of hours NMLs during peak scenario for all construction stages

Construction stage	Duration	Number of residential receivers exceeding out of hours NML per NCA																
		Total	0 – 5 dBA				5 – 15 dBA				15 – 25 dBA				>25 dBA			
			NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4
CS-1a: Site access (enabling works) and stockpile	Across 3 months	118	6	56	3	–	15	29	–	–	4	5	–	–	–	–	–	–
CS-1b: Construction compound construction		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-1c: Vegetation clearance (southern precinct)		121	1	78	33	–	–	9	–	–	–	–	–	–	–	–	–	–
CS-2: Utilities (above and below ground)	1.5 months	23	4	10	–	–	2	7	–	–	–	–	–	–	–	–	–	–
CS-3a: Earthworks and stockpile	Across 9 months	75	3	25	3	–	21	21	–	–	1	1	–	–	–	–	–	–
CS-3b: Drainage swales		27	6	11	–	–	8	2	–	–	–	–	–	–	–	–	–	–
CS-3c: Screening and blending of crusher dust		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-4a: Structures (culvert construction) (north and south)		1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-4b: Access roads		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-5a: Stockpile		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-5b: Asphaltic spray seal		108	4	53	11	–	21	19	–	–	–	–	–	–	–	–	–	–
CS-6a: Permanent staff amenities		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-6b: Roll Shop building upgrade and repair		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-7: Construction compound operations	9 months	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CS-8: Demobilisation	1 month	53	1	10	–	–	17	24	–	–	1	–	–	–	–	–	–	–

Noise levels during the loudest construction stages (CS-1a, CS-1c, CS-3a, and CS-5b) are predicted to exceed NMLs at a large number of residential properties throughout NCAs 1, 2 and 3. There is some variance in the magnitude (extent of exceedance) and the total number of exceedances between these construction stages, which is caused by variation in plant and equipment being used as well as the location of the activity within the construction footprint. Additionally, some stages are not expected to cause any exceedances of standard hours or OOH NMLs, due to the distance between construction location and the nearest residential receiver. Impacts during OOH periods are isolated to the extended day-time working hours on Saturdays and are higher due to the lower corresponding NMLs.

During the 'peak' scenario:

- no receivers are predicted to be highly noise affected
- no exceedances are predicted in NCA 4 during all construction stages and time periods
- no exceedances are predicted in NCA 3 during all construction stages and time periods, except when earthworks and stockpiling (CS-3a) and asphalting and concrete spray seal (CS-5b) activities occur during OOH
- enabling works (CS-1a) would be responsible for the greatest combined number of exceedances across the standard hours and OOH period. Thirteen standard hours exceedances are 10–20 dB above NMLs, 44 OOH exceedances are 5–15 dB above NMLs and nine OOH exceedances are 15–25 dB above NMLs. The remaining 38 standard hours exceedances are considered minor (less than 10 dB above NMLs), as are 65 of the remaining OOH exceedances (less than 5 dB above NMLs). These impacts are primarily due to the large area in which this activity could occur and as such, the number of sensitive receivers located close to the work area would vary. Further, these impacts would not occur concurrently
- the highest number of exceedances during OOH work is predicted during CS-1c (vegetation clearance (southern precinct)) with 121 exceedances. However, 112 of the 121 out of hours exceedances are considered minor at less than 5 dB above NMLs, and the remaining nine OOH exceedances are between 5–15 dBA above NMLs. A total of five standard hours exceedances are predicted during this work stage, which are all less than 10 dB above NMLs
- earthworks and stockpiling (CS-3a) activities are also predicted to generate a high number of exceedances at residential receivers during standard hours and OOH, with 42 and 75 receivers respectively. During standard hours, the majority are considered to be minor (37 receivers) with the remainder predicted to exceed standard hour NML by 10–20 dB. During OOH, 31 residential receivers would experience minor exceedances (less than 5 dB above NMLs), with 42 receivers experiencing 5–15 dB over OOH NMLs and two receivers experiencing 15–25 dB over OOH NMLs
- asphalting spray seal (CS-5b) activities would result in 108 exceedances of the OOH NML. Of these, 68 exceedances are considered minor at less than 5 dB above OOH NMLs. The remaining exceedances are 5– 15 dB above the OOH NMLs. During standard hours, 36 exceedances are predicted to occur and all are considered minor at less than 10 dB above NMLs.

During the 'typical' or 'additional' scenarios, which reflects different equipment operating at the closest point to the residential receiver, construction noise levels were predicted to be between four and 13 dB less than the 'peak' construction stage (refer to section 5.1.3 of Technical paper 7 for further detail). For example, during asphalting and concrete spray seal (CS-5b) activities:

- no residential receiver would experience noise levels that would exceed standard hours NML
- during OOH, the number of residential receivers that would exceed OOH NML would reduce from 108 receivers to 10 receivers during a 'typical' scenario, with exceedances being less than 5 dBA. For the 'additional' scenario, no residential receivers are predicted to experience an exceedance of the OOH NMLs.

For all assessed scenarios, construction noise levels (and their subsequent impacts) would generally be less than predicted as the distance between the construction works and the nearest sensitive receivers increases. These exceedances are unlikely to occur simultaneously at all residential receivers as works progress throughout the site and actual noise levels are likely to be lower than the levels predicted for the majority of the time.

Non-residential receivers

NMLs for non-residential receivers are set by the ICNG and are detailed in Table 11-7. The NMLs apply to these non-residential receivers when the properties are in use.

Table 11-7 Noise management levels for non-residential receivers

Land-use	NMLs ($L_{eq(15\ min)}$ dBA)
Classrooms at schools and other educational institutions	Internal noise level – 45 (external – 55)[1]
Places of worship	Internal noise level – 45 (external – 55)[1]
Active recreation areas	External noise level – 65
Passive recreation	External noise level - 60
Industrial premises	External noise level – 75
Commercial premises	External noise level – 70

1. As the acoustic performance of the building envelopes of these receivers is not known accurately, an external to internal correction of 10 dB has been applied. This is generally accepted as the minimum noise reduction that is typically provided by standard building facades, allowing for windows being open for ventilation.

For non-residential receivers, exceedances would occur for a limited number of the construction scenarios. A summary of predicted NML exceedances for the scenarios when an exceedance is predicted is presented in Table 11-8.

Table 11-8 Summary of predicted exceedances of non-residential NMLs during construction

Construction stage	Number of non-residential receivers exceeding NML (when in use)					
	Education	Commercial	Industrial	Active recreation	Passive recreation	Place of worship
CS-1a: Site access (enabling works) and stockpile	1	4	2	–	1	–
CS-2: Utilities (above and below ground)	–	2	–	–	–	–
CS-3a: Earthworks and stockpile	–	–	1	–	1	–
CS-3b: Drainage swales	–	–	–	–	1	–
CS-5b: Asphaltic spray seal	–	–	–	–	1	–
CS-8: Demobilisation	–	3	–	–	1	–

The assessment shows that construction noise exceedances are predicted to be the highest during construction activities associated with enabling works (CS-1a). Noise levels during this stage have been predicted to exceed NMLs at up to eight non-residential properties located in NCA 1 when in use across multiple stages. This includes up to:

- a drone training facility on Industrial Drive on Industrial Drive may experience an exceedance of up to 3 dB during CS-1a
- four commercial buildings, which includes the Morandoo Freight Yard, and the service station immediately west of the project. In particular, the three impacted buildings at the Morandoo Freight Yard may experience high noise levels due to the proximity to the construction footprint. However, given the size of the freight yard and the nature of activities at this site, perceived impacts are likely to be minor
- Delprat's Quarters (also known as Delprat's Cottage) may experience exceedances of passive recreation NMLs of up to 9 dB. This receiver operates as a local heritage museum, and only operates in this capacity during set open days, not continuously. In addition, the NIHA (who run the open days) regularly meet within the building. There is the potential that this receiver is not occupied when the loudest construction stages are near this receiver and can be easily managed during construction
- two industrial buildings to the north of the construction footprint.

These exceedances are only applicable when the non-residential receivers are in use, and represent a worst-case scenario, where actual construction noise levels would vary based on the plant location and the actual setback distances of receivers from these areas.

During the 'typical' or 'additional' scenarios for Delprat's Quarters and commercial buildings at Morandoo Freight Yard were considered to determine what variation in noise levels may occur over the 12 month construction program. This indicated that construction noise levels were predicted to be between four and 14 dB less than the 'peak' construction stage (refer to section 5.1.3 of Technical paper 7 for further detail).

11.4.2 Construction traffic road noise

Road traffic generated by the construction of the project has the potential to cause adverse road noise impacts at nearby sensitive receivers. Construction traffic would access the project site via Selwyn Street and Steel Works Road from Industrial Drive. However, the only road noise sensitive receivers as defined in the RNP are located along Industrial Drive (residential and educational receivers).

Existing traffic volumes along Industrial Drive are around 30,000 vehicles per day. Construction of the project is expected to increase the daily peak construction traffic volume by 620 vehicles. This represents an approximate increase in road traffic numbers of two per cent and less than two dB. As such construction road traffic noise impacts are not expected during construction of the project.

11.4.3 Construction vibration

Construction stages where sensitive receivers were identified within the minimum working distances are presented in Table 11-9 and shown in Figure 11-2.

Table 11-9 Predicted vibration impacts during construction

Construction stage	Predicted number of sensitive receivers within minimum working distances		
	Cosmetic damage (BS 7385)	Heritage (DIN 4150-3)	Human response (AVaTG)
CS-1b: Construction compound construction	1	2	0
CS-3a: Earthworks and stockpile	0	0	15
CS-4a: Structures (culvert construction) (north and south)	0	0	0
CS-4b: Access roads	2	2	2
CS-5b: Asphaltic/concrete spray seal	2	2	9

Cosmetic damage and heritage impacts

There is potential for cosmetic damage to up to three structures within the construction footprint, specifically where vibratory rollers are proposed to be used in proximity:

- Quality Control Laboratory
- Roll Shop building
- IT Building.

Construction work would also be within the recommended safe working distances for heritage structures across various stages for the Quality Control Laboratory, Roll Shop building and the BHP Administration Building. Further discussion of these potential impacts on listed heritage items is considered in Chapter 8 (Non-Aboriginal heritage).

Where cosmetic damage minimum distances are complied with, damage to utilities, pipelines and infrastructure is considered highly unlikely. Mitigation measures are identified in Section 11.6 and are expected to eliminate cosmetic damage to structures.

Human comfort impacts

There is potential for human comfort vibration impacts during earthworks (CS-3a) and asphalting and concrete spray seal (CS-5b) activities at the following receivers within 100 metres of the construction footprint:

- one commercial receiver
- three industrial receivers
- eleven residential receivers
- Delprat's Quarters.

The use of vibratory equipment across all areas of the construction footprint is not guaranteed, which would reduce the likelihood of these impacts. Mitigation measures are identified in Section 11.6 and are expected to reduce any human comfort impacts to an acceptable level.



Figure 11-2
Vibration impacted receivers

Legend

- Railway
- Road
- Watercourse
- Construction footprint

Vibration impact type

- Cosmetic Damage
- Human Response
- Heritage



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:6,000 Date: 28/06/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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11.5 Potential impacts – operation

11.5.1 Operational noise

This section presents a summary and discussion of the results of the operational noise assessment for the project.

Operations would be conducted 24 hours a day, seven days a week. The project would operate as a storage area with minimal activity except during the loading or unloading of renewable energy components onto heavy vehicles (and their arrival and departure from the project site). This peak activity would occur infrequently according to ship arrivals and demand from the renewable energy project(s).

The predicted noise impacts from operations conducted within the project site have been assessed for the day, evening and night-time periods as defined in the NSW EPA's NPfI. The applicable project noise trigger levels (PNTLs), determined in accordance with the NPfI are outlined in Table 11-10.

Table 11-10 PNTLs

Receiver	PNTL – dB $L_{eq\ (15\ min)}$			PNTL – dB $L_{eq\ (15\ min)}$
	Day[1]	Evening[1]	Night[1]	When in use
Residential receivers in NCA 1	53	53	48	–
Residential receivers in NCA 2	47	47	42	–
Residential receivers in NCA 3	46	46	40	–
Residential receivers in NCA 4	47	47	43	–
Hotels	63	53	48	–
School classroom[2]		–		43
Place of worship		–		48
Passive recreation		–		48
Active recreation		–		53
Commercial premises		–		53
Industrial premises		–		68

1. Day: the period from 7:00 am to 6.00 pm Monday to Saturday; or 8.00 am to 6.00 pm on Sundays and public holidays; evening: the period from 6.00 pm to 10.00 pm; night: the remaining periods
2. During the noisiest 1 hour period

Actual operational noise levels would vary based on the plant location and the setback distances of receivers from these areas. The configuration of the storage areas would change according to the components being stored and the number of operators at the site. To account for this, these noise predictions have been calculated as a likely worst-case, conservative scenario to represent the greatest potential operational noise impact.

Given the large size of the project site and that noise impacts from each assessed scenario would not occur concurrently, actual operational noise levels may be substantially lower under most operating scenarios.

Detailed results of the operational noise assessment are presented in Chapter 6 of Technical paper 7.

Residential receivers

No residential receivers are predicted to experience an exceedance of the PNTLs during the day and evening periods. During the night-time period, exceedances of the PNTLs at residential receivers are predicted for some scenarios. This is summarised in Table 11-11. Due to the large footprint of the site, and the dynamic nature of operations, the presented impacts represent a worst-case scenario.

Table 11-11 Worst-case summary of residential receivers exceeding PNTLs during all unmitigated operational scenarios

Operational scenario	Worst-case number of residential receivers exceeding PNTL per NCA												
	Total	0 – 2 dBA				2 – 5 dBA				>5 dBA			
		NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4	NCA 1	NCA 2	NCA 3	NCA 4
Night													
Reach stackers loading/unloading OSOM vehicles	31	10	9	–	–	6	5	–	–	–	1	–	–
Mobile crane loading/unloading OSOM vehicles	7	2	4	–	–	–	1	–	–	–	–	–	–
Other loading activities	12	6	3	–	–	–	3	–	–	–	–	–	–
On-site vehicle movements (north)	–	–	–	–	–	–	–	–	–	–	–	–	–
On-site vehicle movements (south)	–	–	–	–	–	–	–	–	–	–	–	–	–
Sleep disturbance													
Reach stackers loading/unloading OSOM vehicles	15	–	9	–	–	–	5	–	–	–	1	–	–
Mobile crane loading/unloading OSOM vehicles	5	–	4	–	–	–	1	–	–	–	–	–	–
Other loading activities	6	–	3	–	–	–	3	–	–	–	–	–	–
On-site vehicle movements (north)	–	–	–	–	–	–	–	–	–	–	–	–	–
On-site vehicle movements (south)	–	–	–	–	–	–	–	–	–	–	–	–	–

Overall, operational noise levels at a maximum of 31 residential receivers exceed their respective PNTLs, which occurs during night-time reach stacker loading/unloading operations. No impacts at residential receivers in NCAs 3 and 4 are predicted.

Due to the lower PNTL, the number of impacts during the night-time are highest. Due to the large footprint of the site, and the dynamic nature of operations, the presented impacts represent an absolute worst-case, in particular where loading/unloading operations occur at the western extent of the main logistics precinct. This large footprint has the benefit that the actual distance from operations to the nearest sensitive receiver can be maximised, particularly during the critical time periods. It is likely that activity along the western boundary is infrequent, where the loading/unloading of OSOM components at these locations could occur approximately once every three months.

As it has been assumed that the OSOM vehicle would be stationary (not idling) during loading/unloading operations, the reach stacker/mobile crane are the only noise sources during this activity. However, it has been conservatively assumed during other loading activities that a heavy vehicle and two escorting light vehicles would be generating noise although it is unlikely that all these items would be simultaneously operating. Where only forklifts are generating noise during this activity at night, noise levels would reduce by only 1 dB, but the total number of residential receivers exceeding PNTLs would reduce to seven (from 12). Furthermore, light and heavy vehicle noise is an existing characteristic of the noise environment, so it is less likely to be differentiated from public road traffic noise.

Through implementation of the mitigation measures presented in Section 11.6.2 potential exceedances can be avoided. This is discussed further in Section 11.6.2.

Non-residential receivers

For non-residential receivers, exceedances would occur for a limited number of the operational scenarios. A summary of predicted NML exceedances for the scenarios when an exceedance is predicted is presented in Table 11-12.

Table 11-12 Summary of non-residential receivers predicted to exceed PNTLs during operation of the project

Receiver type	Meteorology	Number of properties exceeding PNTLs per NCA[1]			
		NCA 1	NCA 2	NCA 3	NCA 4
Other loading activities					
Commercial	Neutral	3	–	–	–

1. When in use

Operational noise levels are predicted to exceed the PNTLs under one scenario at three commercial receivers only.

Three commercial buildings located in Morandoo Freight Yard adjacent to the southern logistics precinct may experience a PNTL exceedance of up to 4 dB during other loading activities at day and evening times, or a significant exceedance of up to 7 dB at night-time where they are in use. As noted, these noise predictions have been calculated as a likely worst-case, conservative scenario and actual operational noise levels are likely to be substantially lower under most operating scenarios.

No other non-residential receivers are predicted to be impacted by operational noise.

11.5.2 Road traffic noise

Day-time road traffic noise levels were predicted to increase by up to 0.4 dB during operation of the project. As such, road traffic noise impacts during day-time are consider unlikely, primarily due to the high existing traffic volumes on Industrial Drive.

Night-time road traffic noise levels were predicted to increase by more than 2 dB, and as such have been assessed using a detailed road traffic noise assessment. Modelled traffic noise levels for the night-time period ($L_{Aeq, 9hr}$) for the worst affected sensitive receiver are summarised in Table 11-13.

Table 11-13 Traffic noise impacts during operation of the project

Address	NCA	Floor	Façade direction	Road traffic noise level $L_{Aeq, 9hr}$ dBA			Increase of road traffic noise level, dBA	Does the project cause a >2 dBA increase?	Consider further additional noise mitigation?
				RNP criteria	Without project	With project			
119 Barton Street, Mayfield	2	G	North	55.0	67.4	67.8	0.4	No	No

Existing road noise levels are likely to exceed the RNP criteria during night-time hours during operation of the project. However, none of the sensitive receivers would exceed the relative increase criteria of 2 dB because of the project. The detailed assessment has shown that road traffic noise levels may increase by 0.4 dB for the night-time period during operation of the project.

11.6 Management of impacts

11.6.1 Environmental management

Noise and vibration impacts would be managed in accordance with the CEMP and OEMP.

The CEMP would include a construction noise and vibration management sub-plan (CNVMP) that would identify measures to avoid and reduce the potential for noise and vibration impacts. It would also review final design and construction methodology and include the consideration of noise and vibration mitigation measures recommended in this assessment. The mitigation measures proposed in Section 11.6.2 would be included in the issue-specific environmental management sub-plans for the project.

11.6.2 Mitigation measures

Construction noise mitigation and management

Where exceedances of construction noise criteria are predicted, standard noise management measures, as outlined in Table 11-14, would likely be applied.

Table 11-14 Indicative noise reduction from construction controls

Reference	Standard mitigation measure	Estimated noise reduction (dBA)
1	Portable temporary screens.	5–10
2	Screen or enclosure for stationary equipment.	10–15
3	Maximising the offset distance between noisy plant items and sensitive receivers.	3–6
4	Avoiding using noisy plant simultaneously and/or close together, adjacent to sensitive receivers.	2–5
5	Orienting equipment away from sensitive receivers.	3–5
6	Carrying out loading and unloading away from sensitive receivers.	3–5
7	Using noise source controls, such as the use of residential class mufflers, to reduce noise from all plant and equipment including bulldozers, cranes, graders, excavators and heavy vehicles.	5–10
8	Selecting site access points and roads as far as possible away from sensitive receivers.	3–6

Following the application of the standard noise management measures, the predicted noise exceedances would be substantially reduced, with major reductions in the extent and number of impacted receivers. However, residual noise impacts are likely to still occur, where the construction noise criteria are still not met. These properties would primarily be residential properties near Industrial Drive.

These residual noise impacts would be addressed through a combination of site-specific noise mitigation and/or appropriate management of those construction activities responsible for the exceedances. Specific noise mitigation measures would be determined by the construction contractor during detailed construction planning. These mitigation measures would be included in the CNVMP.

Impacts during OOH work during standard project hours would be isolated to the extended day-time working hours on Saturdays. The standard project hours would achieve a reduction in overall construction program by two months. As outlined in Chapter 2 (Strategic context), the project is critical for addressing the shortage of port storage capacity for components required for renewable energy projects and supports the NSW Government's objectives to accelerate the energy transition. Furthermore, the project is located within the Port of Newcastle (adjacent to the lease area), where port related uses operate over 24 hours, and impacts to nearby potentially impacted receivers would be appropriately managed during non-standard construction hours.

The extended hours including those activities listed outside of standard hours have been socialised with the community via online media, letterbox drops and targeted community engagement events. The need for out of hours works was first identified in the project's Scoping Report and was subsequently described in a project noise and vibration fact sheet circulated to 2,714 properties within the NCAs, which included a short survey seeking community feedback. The key findings of this engagement demonstrated a varying sensitivity to existing noise from the surrounding area, with feedback commonly noting the numerous existing noise sources. However, there was consistency with concern for the potential of increased noise levels during more sensitive time periods. Community feedback emphasised the importance of implementing appropriate measures to manage noise impacts outside of standard hours, which has been considered when developing the recommended mitigation measures.

Operational noise mitigation

To minimise the potential impacts at impacted receivers, reasonable and feasible mitigation options were explored.

The provision of a noise barrier along the western boundary of the main logistics precinct was not considered a reasonable mitigation measure. It was found to provide very minor reductions in noise given the effectiveness of the barrier is reduced due to:

- the higher elevation of the potential affected receivers relative to the project, and
- loading/unloading activities would occur across the main logistics precinct and not near any permanent, fixed barrier.

As such, a range of operational and at-source controls were identified, which would be confirmed prior to the commencement of operations. These include:

- prioritising the use of the eastern parts of the main logistics precinct during the worst-case time periods. This would have a possible reduction of 6 dB
- implementation of at-source controls, such as mufflers and cowling, and behavioural controls, such as turning off engines and machinery when idling. This would have a nominal reduction of 5–10 dB (or maximum 20 dB) per control. Substituting diesel daymakers for electric daymakers would reduce night-time noise levels by 3 dB (during other loading activities), 7 dB (during mobile crane loading activities) and 2 dB (during reach stacker loading activities)
- possible implementation of temporary noise screening near loading activities. This would have a nominal reduction of 5–10 dB.

With the implementation of these controls, no residual noise impacts are predicted.

Summary

Site-specific mitigation measures have been proposed to minimise noise and vibration impacts associated with the project. Mitigation measures are presented in Table 11-15.

Table 11-15 Proposed mitigation measures – noise and vibration

Reference	Impact/issue	Mitigation measures	Timing
NV1	Construction noise and vibration impacts	A CNVMP will be prepared as part of the CEMP and will consider the final, detailed construction methodology and scheduling and identify measures to schedule these activities appropriately to reduce potential for noise impacts where practicable.	Detailed design/ pre-construction/ construction

Reference	Impact/issue	Mitigation measures	Timing
NV2	Construction noise impacts	Where construction is likely to result in exceedances of NMLs at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures: • select quieter plant and equipment and use alternative construction methods to minimise noise levels • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • install screens or use barriers to mitigate noise from stationary noise sources • maximise the offset distance between noisy plant and sensitive receivers • orient noisy plant and equipment away from sensitive receivers • use non-tonal reversing alarms in place of traditional beeper reversing alarms during OOH where noise impacts are predicted • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacture's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as excavator bucket impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of regular toolbox meetings • notify potentially sensitive receivers of any upcoming works that are predicted to be impacted by noise intensive activities • confirm that noise affected receivers outside standard construction hours and highly noise affected sensitive receivers are managed with consideration to the *Construction Noise and Vibration Guideline* (TfNSW, 2026) additional mitigation measures such as notifications, verification, and respite where appropriate.	Construction

Reference	Impact/issue	Mitigation measures	Timing
NV3	Construction noise validation	Monitoring will be carried out at representative locations during noise intensive activities that have the potential to cause noise exceedances at sensitive receivers, to confirm that actual levels are consistent with the predictions and that appropriate mitigation measures have been implemented.	Construction
NV4	Out of hours construction works	An out of hours (OOH) work protocol that details how the project will identify, assess and approve OOH work outside standard construction hours will be developed and implemented. The protocol will include provisions to: • carry out additional assessments for work proposed outside standard construction hours, to confirm noise levels at potentially affected sensitive receivers and determine suitable mitigation measures to minimise noise levels • notify and engage with potentially noise affected receivers about upcoming work outside standard construction hours and address any associated complaints • identify appropriate respite for noise affected receivers (where required).	Pre-construction Construction
NV5	Construction vibration exceeding cosmetic damage	Where vibration intensive work is required within the recommended minimum working distances and is considered likely to exceed the cosmetic damage criteria: • different construction methods with lower source vibration levels will be investigated and implemented, where feasible • confirm any vibration-sensitive heritage structures that could be impacted by the proposed works, including confirming the structural integrity of the structure, have an appropriate vibration criteria applied • vibration monitoring and alert system will be installed and functional prior to the commencement of vibratory causing work within safe working distances • work will cease if the monitoring levels indicate vibration levels are likely to exceed the vibration criteria • construction methodology must be amended to ensure limits are within appropriate vibration criteria before recommencement of works.	Construction

Reference	Impact/issue	Mitigation measures	Timing
NV6	Operational noise exceedances	Where operations are likely to result in exceedances of PNTLs during the night-time period at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures: • select quieter plant and equipment to minimise noise levels • maximise the offset distance between noisy plant and sensitive receivers • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • use non-tonal reversing alarms in place of traditional beeper reversing alarms • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacture's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of site inductions regular toolbox meetings.	Operation
NV7	Operational noise exceedances	For residences where potential operational noise levels are predicted to exceed the Project Noise Trigger Level (PNTL), noise monitoring to confirm actual operational noise levels will be carried out at representative locations following commencement of project operation. Where the monitoring identifies operational noise is above PNTLs, modify night-time activity (quieter equipment or separation distance, or rescheduling to less sensitive periods) to avoid exceedances.	Operation

12 Surface water and flooding

This chapter provides an assessment of the potential hydrology, water quality and flooding impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the flood impact and risk assessment provided in Technical paper 8 – Surface water and flooding (Technical paper 8). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

12.1 Legislative and policy context

The surface water and flooding assessment was prepared with reference to the following legislation, policies, standards and guidelines:

- Protection of the Environment Operations Act 1997 (NSW)
- Water Management Act 2000 (NSW)
- Transport and Infrastructure SEPP
- Draft State Environmental Planning Policy (Climate Change and Natural Hazards) 2025
- Newcastle LEP 2012
- National Water Quality Management Strategy (Australian Government, 2018a)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Australian Government, 2018b)
- NSW Water Quality and River Flow Objectives (NSW DCCEEW, 2006)
- the Blue Book
- Australian Rainfall and Runoff Guidebook (version 4.2) (Ball et al, 2024)
- NSW Flood Risk Management Manual and Toolkit (NSW DPE, 2023c)
- Practical Consideration of Climate Change 2007 (NSW DECC, 2007)
- NSW Floodplain Risk Management Guide Incorporating 2016 Australian Rainfall and Runoff in studies (Office of Environment and Heritage, 2018)
- Shelter in Place Guideline for flash flooding (NSW DPHI, 2025b)
- Newcastle DCP (Newcastle City Council, 2023)
- City of Newcastle Flood Emergency Sub-plan (SES, 2022).

12.2 Assessment approach

12.2.1 Study area

The surface water and flooding study area is the Hunter River catchment, including the Hunter Estuary Wetland Ramsar site and the tributary Throsby Creek to the south of the project. Figure 12-1 shows the Hunter River and Throsby Creek catchments relative to the project site and construction footprint.


Hunter River Catchment
HUNTER RIVER
SINGLETON
Project
WILLIAMTOWN
CESSNOCK
MANGROVE CREEK
WINDMILL ROAD
CORMORANT ROAD
EGRET STREET
RAVEN STREET
CURLEW STREET
SOUTH CHANNEL HUNTER RIVER / COQUUN
TEAL STREET
NELSON BAY ROAD
PORTLINK CLOSE
MAIN NORTHERN RAILWAY
BOATMAN CREEK
KOBA CREEK
GREGSON AVENUE
BURUDA STREET
BULL STREET
WOODSTOCK ST
CALLISTEMON CLOSE
VICKERS STREET
MAUD STREET
FRITH STREET
WARATAH STREET
ELIZABETH STREET
BARTON STREET
LEHR STREET
VINE STREET
AVON STREET
ANTILL STREET
WILLIAM STREET
CREBERT STREET
UNIVERSITY DRIVE
KIMIAN AVENUE
ANGUS AVENUE
LORNA STREET
ALFRED STREET
ADA STREET
PRINCE STREET
FITZROY STREET
BAKER STREET
HANBURY STREET
DORA STREET
CHURCH STREET
HAVELOCK STREET
FAWCETT STREET
CARRINGTON STREET
INGALL STREET
MARGARET STREET
SMITH STREET
GEORGE STREET
SELWYN STREET
QUAYSIDE CLOSE
HERON ROAD
GREENLEAF ROAD
FULLERTON STREET
LEONORA PARADE
ALLOWAH STREET
MACQUARIE STREET
PLATT STREET
MYALL ROAD
SMART STREET
STATION STREET
COOKSEY CLOSE
EDITH STREET
BRIDGE STREET
HIGH STREET
RAWSON STREET
ROE STREET
VALENCIA STREET
NILE STREET
IDA STREET
MYOLA STREET
SOUTHON STREET
NEVILL STREET
UPFOLD STREET
SCHOLEY STREET
SILSOE STREET
FERNDALE STREET
JOHN STREET
KINGS ROAD
PORT WARATAH DRIVE
PARKER STREET
DYKE ROAD
NORTH CHANNEL HUNTER RIVER
MORPETH
OVORO
CLARENCE ROAD
ACACIA AVENUE
HILL STREET
NEWCASTLE ROAD
DICKSON STREET
DE VITRE STREET
ELDER STREET
LAMBTON ROAD
COOLAMIN ROAD
GEORGETOWN ROAD
MABEL STREET
HENRY STREET
BRYANT STREET
HARRIET STREET
CRESCENT ROAD
CHRISTO ROAD
KAHIBAH ROAD
BRETT STREET
CHINCHEN STREET
UNION STREET
ESTELL STREET
HARRISON STREET
DOWNIE STREET
O'HARA STREET
FORBES STREET
HOWDEN STREET
TULLY STREET
THE AVENUE
LINWOOD STREET
THROSBY CREEK
DARLING STREET
SCOTT STREET
BOURKE STREET
MATHESON STREET
GIPPS STREET
YOUNG STREET
ROGERS STREET
FORFAR STREET
ROXBURGH STREET
DOUGLAS STREET
DUNBAR STREET
MITCHELL STREET
KING STREET
CROWN STREET
NEWCASTLE STREET
PITT STREET
SHIPWRECK WALK
POINT ROAD
BULLOCK ROAD
BALLAST ROAD
HUNTER RIVER
BINDERA ROAD
CLYDE STREET
GOW STREET
BOREAS ROAD
STYX CREEK
MORGAN STREET
POWER STREET
MATLAND ROAD
COPL STREET
FERN STREET
DENTS STREET
THE LANE
ANNIE STREET
ROBERT STREET
FLEMING STREET
ALBERT STREET
WILSON STREET
DENSON STREET
COWPER STREET NORTH
BROADMEADOW
GRIFFITHS ROAD
WOMBOIN ROAD
WONG ROAD
YOUNG ROAD
COCKBURN LANE
ILLALUNG ROAD
FITZROY ROAD
KAROOLA ROAD
DURHAM ROAD
MOREHEAD STREET
HOWE STREET
LAMBTON WEST
RAILWAY ROAD
HOBART ROAD
WALLABAH ROAD
TUSTON ROAD
MONASH ROAD
CURLEY ROAD
CHATHAM ROAD
BAIRD STREET
DONALD STREET
HUDSON STREET
CLEARY STREET
BEAUMONT STREET
RAILWAY STREET
BULLOCK ROAD
RAI CREEK
Figure 12-1
Surface water and flooding study area
Legend
Watercourse
Railway
Cadastre
Project site
Construction footprint
Hunter Estuary Wetland Ramsar site
Hunter River catchment
Throsby Creek catchment
Cessnock
Newcastle
0 100 200 300 400
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:35,000
Date: 16/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
\\corp.pbwan.net\ANZ\ProjectsAU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\PS217410_SurfaceWater_and_Flooding\PS217410_SurfaceWater_and_Flooding.aprx

12.2.2 Methodology

The surface water and flooding assessment involved:

- a flood and hydrology impact assessment, including:
  - a desktop review of existing flood studies and floodplain management plans to provide an understanding of the historic flooding and existing flood behaviour of the operational footprint and adjacent land and assist in the development and validation of the flood model. The sources include:
    - Hydraulic Model developed as part of the Throsby, Styx, Cottage Creek Flood Study (RHELM, 2023)
    - Elvis Lidar Data (Intergovernmental Committee in Surveying and Mapping, 2026)
    - existing flood studies and flood management plans listed under the Newcastle DCP (City of Newcastle, 2023)
    - tidal data (Bureau of Meteorology, 2025)
    - historic rainfall data (Bureau of Meteorology, 2015)
  - development of a set of hydraulic and hydrologic flood models of the catchments within the study area to model existing flood behaviour for the 10 per cent Annual Exceedance Probability (AEP), one per cent AEP, 0.5 per cent AEP, 0.2 per cent AEP and Probable Maximum Flood (PMF)
  - for construction, a qualitative assessment of proposed activities against the key flood characteristics for the 10 per cent and one per cent AEP
  - for operation, a quantitative assessment of the impacts on flood behaviour for the 10 per cent, five per cent, two per cent, one per cent, 0.5 per cent and 0.2 per cent AEP and PMF events. For the storage area within the southern precinct, this was assessed qualitatively given there would be no change in existing ground levels or drainage and storage of components would be short-term with changing configuration according to the components stored
  - an assessment of climate to assess the changes to flood risk to the project during operation because of climate change, adopting the 0.5 per cent and 0.2 per cent AEP events as representative of increase rainfall intensity of between 15 and 35 per cent
- a water quality impact assessment, including:
  - a desktop review of publicly available resources to gain an understanding of the existing environment and establish baseline conditions for stormwater
  - identify water quality criteria for receiving waters
  - a qualitative assessment for the potential impacts to water quality during construction
  - a quantitative assessment of the potential surface water pollutant loads for the operation using the MUSIC X software and model development
- identification of mitigation measures for the project to minimise and manage the potential impacts.

12.3 Existing environment

12.3.1 Catchments, tidal, climate and topography

The Hunter River catchment extends across an area of around 37,000 square kilometres, beginning at elevations of up to 1,500 metres AHD flowing for approximately 460 kilometres to the river mouth located at the central business district of Newcastle (NSW DPE, 2020). The project is located adjacent to the South Arm of the Hunter River, which joins with the North Arm approximately 0.5 kilometres downstream of the project. The river mouth is approximately four kilometres downstream from the project. The Hunter Estuary Wetlands Ramsar site is located on the North Arm of the Hunter River.

Throsby Creek, a tributary of the Hunter River, is located approximately one kilometre to the south of the project.

Existing stormwater drainage within the main logistics precinct consists of sheet flow or local swales directing flows into the perimeter channels. These perimeter channels discharge into external tidal stormwater channels that flow north, ultimately discharging to the Hunter River. The southern precinct is serviced by an existing local 750 millimetre trunk drainage system with existing miscellaneous drainage pits and discharges into a tidal stormwater channel that flows east into the Hunter River.

The two tidal stormwater channels to the east and north of the project form part of the trunk drainage system for the Port of Newcastle. Tidal data from Station 60310 at Newcastle indicates a mean sea level of 1.008 metres within these tidal stormwater channels (Bureau of Meteorology, 2025).

The terrain of the construction footprint is generally flat, with areas of mounding located outside the construction footprint that run along the western boundary of the project site. The project sits at a low point between the Port of Newcastle and the ridgeline of Industrial Drive.

The project has a climate reflective of the coastal nature of the area, with the highest monthly rainfall typically occurring between February and June, while Winter and Spring are typically the driest periods. The Newcastle Nobbys Signal Station indicates a mean maximum annual temperature of 21.8°C and a mean minimum annual temperature of 14.3°C. A weather station at Williamtown RAAF indicates a mean maximum annual temperature of 23.2°C and a mean minimum annual temperature of 12.5°C, respectively. Climate change predictions forecast a decrease of up to 5.8 per cent in annual rainfall across the construction and operational footprints by 2020–2039 and a decrease of up to 8.8 per cent by 2080-2099 (AdaptNSW, 2024).

12.3.2 Existing flood conditions

A range of flood events were simulated in the flood model to understand the behaviour of the construction and operational footprints under typical rainfall conditions. Figure 12-2 provides the existing extents and depths for the one per cent AEP flood event in the context of the construction footprint. Refer to flood mapping contained in Appendix A of Technical paper 8.

Events up to and including the one per cent AEP flood event

For all events up to and including the one per cent AEP, the main logistics precinct is flood free except for an overland flow path on the western side of the area that flows north towards the northern tidal stormwater channel. During the 10 per cent and one per cent AEP flood events, inundations of depths of up to 0.3 metres and 0.75 metres would occur, respectively. Velocity for all events are below one metre per second within the perimeter stormwater channels, with some isolated areas expected to experience up to 1.5 metres per second. Flood hazard for the main

logistics precinct is confined to the perimeter stormwater channels and western overland flow path. Flood hazard for these areas is categorised as H2 which is defined as being unsafe for small vehicles. The perimeter stormwater channels and western overland flow path are predicted to be part of the flood fringe area, rather than conveying majority of flood flows.

Steel Works Road has a less than 10 per cent AEP flood immunity. Flooding in this area is the result of overland flow ponding along the port road which cannot drain away due to high water levels in the northern tidal stormwater channel. Steel Works Road is inundated by depths greater than 0.2 metres and up to depths of 0.8 metres during the 10 per cent AEP event, and between 0.5 metres to 0.9 metres during a one per cent AEP flood event. Flood hazard along Steel Works Road varies between H1 to H3 which is defined as unsafe for all vehicles. As with the main logistics precinct, velocity for all events is below one metre per second within the perimeter stormwater channels, with some isolated areas expected to experience of up to 1.5 metres per second.

The area between Administration Drive, Selwyn Street and Roll Shop Road within the southern precinct experiences overland flooding from local intense rainfall events which then pond across the land and drain via the tidal stormwater drainage channel that flows east and discharge into the Hunter River. The area acts as a flood storage area as it stores significant volumes of flood waters. Other key observations of flood behaviour in the southern precinct and along Selwyn Street are:

- Administration Drive is predicted to be inundated by depths of 0.7 metres during a 10 per cent AEP flooding event
- Selwyn Street at Administration Drive is predicted to be inundated by depths of 0.8 metres during a 10 per cent AEP flooding event and one metre during a one per cent AEP flooding event
- Selwyn Street at David Baker Road is predicted to be inundated by depths of one metre during a 10 per cent AEP flooding event and 1.1 metres during a one per cent AEP flooding event
- the southern precinct and Selwyn Street are predicted to experience depths of up to 0.9 metres during the one per cent AEP flood event, but depths would vary due to the change in surface levels around the buildings
- flood velocities for all events are predicted to be below 0.5 metres per second due to ponding of flood waters
- the areas with deeper ponding of water are predicted to experience flood hazard up to H3, defined as unsafe for all vehicles, children and the elderly. The shallow areas are predicted to have a flood hazard of H1, defined as relatively safe for people and vehicles. The extent of the H3 flood hazard category increases between the 10 per cent AEP flood event through to the one per cent AEP flood event.



Figure 12-2
1% AEP Flood Depth and Contours

Legend

- Assumed Existing Culverts
- 1% AEP Contours (mAHD)
- Railway
- Road
- Construction footprint
- Cadastre

1% AEP Flood Depths (m)

- <= 0.1
- 0.1 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000 Date: 15/05/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

\\corp.pbwan.net\ANZ\Projects\AU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\PS217410_SurfaceWater_and_Flooding\PS217410_SurfaceWater_and_Flooding.aprx

Extreme events

For the main logistics precinct, the extent of inundation does not change significantly during a 0.5 per cent or 0.2 per cent AEP flood event. The western overland flow path is expected to be inundated by up to 0.9 metres. For the 0.2 per cent AEP flood event, the land at the entrance of the northern tidal stormwater channel near Steel Works Road would be inundated by up to 0.3 metres and up to 0.9 metres in the channel. Velocities in the western overland path and across the land south of Steel Works Road are predicted to be up to 1.5 metres per second. Flood hazard within these areas is categorised as H2, which is defined as unsafe for small vehicles for the overland flow path and deeper areas south of Steel Works Road.

Flood extent within the southern precinct would increase to the west towards Roll Shop Road with depths increasing to 0.9 metres and some areas predicted to be inundated up to 1.2 metres for the 0.5 per cent and 0.2 per cent AEP event. Flood velocities and hazard within the southern precinct would be consistent with existing conditions and would remain a flood storage area due to low velocities and high flood depths.

During a PMF event, the flood extent increases to cover the western overland flow path and land up to 150 metres south of Steel Works Road. Inundation adjacent to Steel Works Road would range between 0.1 and 1.2 metres during a PMF event. The velocity of water within the northern tidal stormwater channel would generally be less than 0.5 metres per second except for the western overland flow path with velocities up to 1.5 metres per second predicted. Much of the area is predicted to have a flood hazard of H3. The western overland flow path functions as a floodway with the remainder classified as flood storage.

Refer to Appendix A of Technical paper 8 for flood mapping.

Building flood immunity

Based on available survey and the predictions of the flood model, existing buildings and structures within the flood prone areas of the southern precinct have varying levels of flood immunity, specifically:

- the Quality Control Laboratory is not inundated for all events up to the PMF but is within the PMF flood extent
- the office building is inundated for the PMF event by up to 0.24 metres but is not inundated for all events up to and including the 0.2 per cent AEP flood event
- the IT building is estimated to be inundated in the one per cent AEP flood event and above, with less than 10 millimetres predicted for the one per cent AEP flood event but up to 1.2 metres for the PMF
- the BHP Administration Building is inundated during all events including the PMF at the basement level
- the bicycle shed is subject to inundation for all flood events with 0.2 metres predicted for the 10 per cent AEP flood event and 1.6 metres for the PMF.

12.3.3 Water quality

A review of available water quality data was completed. This included data collected by NSW DCCEEW's Hunter River Estuary water quality monitoring program in 2022-2023, publicly available data collected by the Port of Newcastle in accordance with its EPL at Mayfield 4 Berth (EPL 13181) (2014-2016, and 2024-2025) and data collected as part of post-remediation monitoring for the Intertrade CSMP in 2020-2021. In accordance with the EPL 13181, the Port of Newcastle Operations Limited are required to monitor stormwater discharge points from the Mayfield 4 Berth site. The EPL 13181 specifies pollutant monitoring requirements and limits for Nitrogen (total) TN), pH, oil and grease and total suspended solids. The data collected as part of these monitoring

requirements were assessed against the EPL's limits, and where possible, the available NSW Water Quality Objectives (NSW WQO). TSS, oil and grease NSW WQOs are not available.

Key observations are:

- in the summary of 2022–2023, the water quality in the Hunter River Estuary and the overall estuary health was graded as poor based on water clarity and algae abundance indicators
- water quality monitoring at Mayfield 4 Berth identified that discharges complied with the EPL in most instances, with very limited occasions when the EPL limits were exceeded for total nitrogen, pH and total suspended solids
- water quality data collected by Port of Newcastle are above the total nitrogen trigger value set in the NSW WQO for most of the time (noting the EPL limits are above the NSW WQO for this pollutant) but is largely below the NSW WQO trigger value for total suspended solids
- the post-remediation monitoring completed in 2020 and 2021 upstream and downstream of the project indicates that pH and dissolved oxygen are within the NSW WQO trigger value range. Per- and poly-fluoroalkyl substances (PFAS) are below the 95 per cent ecological protection values downstream of the project, but above the protection value upstream of the project near George Street.

12.4 Potential impacts – construction

12.4.1 Flooding and hydrology

Construction activities within flood-prone areas have the potential to temporarily affect local flood behaviour. Key risks arise from earthworks, tie-in works, stormwater modifications, and temporary stockpiling, especially where works occur within the one per cent AEP flood extent. Without appropriate management, these activities could alter overland flow paths, redistribute floodwaters, or temporarily obstruct drainage, resulting in minor and localised changes to flood behaviour.

However, much of the construction footprint is located outside flood-prone land, which reduces the likelihood of widespread impacts. The designated stockpiling area would be located outside flood extents, and any changes to flooding would be localised and temporary. These would be located to minimise impacts to flood behaviour beyond the construction footprint. Where works do occur within flood-affected areas, including channel realignments, access road construction, and stormwater infrastructure adjustments, impacts would be confined to the immediate works area and remain temporary in nature.

Mitigation measures would be implemented to manage these risks, including installing temporary diversions where required, and applying soil and water management measures in accordance with the Blue Book. Culverts would be installed early to minimise disruption to existing drainage conditions. With these measures in place, impacts to flood behaviour during construction are expected to be minor, localised, and temporary.

Impacts on hydrology from construction were assessed as negligible. No change to hydrology is anticipated as there would be minimal change in existing runoff potential given the existing surface is either impervious or highly impervious and would not change due to construction activities.

Impacts to construction activities during a flooding event would be limited to the small areas of the construction footprint within flood prone lands. Temporary stockpiling within these areas could be washed away or scoured by overland flows during a flood event, particularly near perimeter stormwater channels. The risk is deemed low due to low predicted flood velocities. While the extent of excavation would be limited, floodwater may fill excavations, require management and potentially lead to unstable embankments. Plant, equipment and stockpiles would be temporarily relocated during such an event. Selwyn Street and Steel Works Road are inundated in events as frequent as the 10 per cent AEP event and would be unsafe until flood water recedes.

During the peak construction period, up to 110 FTE workers are expected to be on-site, based in the construction compound area and moving through the construction footprint as the works progress. A one per cent AEP flood event within the main logistics precinct is predicted to create flood hazards varying from H1 to H3 which is defined as unsafe for all vehicles. However, both the main logistics precinct and southern precinct have overland escape route in accordance with the Flood risk management guideline EM01 – Support for emergency management planning. Provided a timely evacuation following the City of Newcastle flood alert service occurs, workers can safely evacuate by road before floodwaters cut access, or by foot via flood-free land to higher ground on Industrial Drive. Should evacuation not be possible then shelter in place is possible in the Roll Shop building which is flood free for all events up to and including the PMF event.

These site-specific risks would be managed through a flood emergency management procedure and/or processes as detailed within the CEMP that outlines practices and risk management strategies to mitigate site specific risks from flooding on construction activities. These flood management procedures and/or processes would manage risks to construction and are discussed further in Section 12.6.2.

12.4.2 Surface water quality

The construction of the project has the potential to degrade the water quality of surface water runoff from the construction footprint. Construction of the project may lead to increases in nutrients, chemicals, fuels, hydrocarbons, heavy metals, gross pollutants as well as potential contaminants of concern related to previous land uses entering the waterway. Potential impacts to surface water quality could result from the following construction activities (if not properly managed):

- the disturbance and exposure of soils during earthworks could impact the water quality of the receiving environment through sediment transport and erosion during high rainfall and weather events, and/or potential disturbance of contaminated materials and mobilisation of these materials downstream
- stockpiling, handling and screening of materials which may pose a risk to the existing water quality in receiving environments due to the increased likelihood of movement of sediment
- general construction works and activities at the construction compound, as these have the potential to result in the release of contaminant, oils, fuels, grease, chemicals and gross pollutants into watercourses, particularly during rainfall events where pollutants may be picked up in runoff from the project and enter the local perimeter stormwater channels before being transported downstream of the construction footprint.

It is anticipated that implementation of the standard mitigation measures, minimising soil loss during construction and reducing velocity of stormwater draining to the local perimeter stormwater channels during construction would reduce impacts to water quality. The WMS, the Intertrade CSMP and Ports Lands CSMP would appropriately manage any interaction with remediation infrastructure and the underlying BHP subgrade material during construction to manage any risk to water quality.

The existing water quality conditions indicate total suspended solids and total nitrogen are the indicators affecting the water quality in the Hunter River. Therefore, minimising soil loss and reducing velocity of stormwater draining to the local perimeter stormwater channels during construction would minimise impacts to the water quality environment of the Hunter River and achieve the NSW WQOs at the perimeter of the site.

12.5 Potential impacts – operation

12.5.1 Flooding and hydrology

Changes in flood behaviour and hydrology would occur as a result of changes in land use and perimeter drainage within the operational footprint.

Events up to and including the one per cent AEP flood event

Flood modelling predicts that the project would not increase flood levels at surrounding properties for events up to and including the one per cent AEP event and would not change flood velocities or flood hazard categorisation at surrounding properties during these flood events.

The main logistics precinct remains flood free, with overland flow paths directed to the modified perimeter channels. For the southern precinct, the new southern access (central) would be flood free for events up to and including the one percent AEP flood event except at the point of connection with Selwyn Street, and the operational amenities building not flood affected for all floods up to but not including the one per cent AEP flood event.

Flood behaviour within the southern precinct would change as result of the new southern access (central) and the operational amenities building with a maximum afflux of 0.64 metres in the 10 per cent AEP flood event and 0.6 metres in the one percent AEP flood event. However, changes in flood extent would be confined to the southern precinct. No change to flood velocities is predicted. The afflux as a result of the project would not change flood levels at the existing buildings within the southern precinct.

For the storage area within the southern precinct, changes to existing ground levels or drainage infrastructure are not proposed. While storage of components would locally reduce flood storage, the configuration of the storage would ensure overland flows through the southern precinct could be maintained and directed to the eastern tidal stormwater drainage channel. Localised impacts to flood levels could occur across Selwyn Street during a flood event as a result of storage in the southern precinct. However, this is anticipated to be insignificant compared to the existing flood depths of up to one metre across Selwyn Street at David Baker Road a 10 per cent AEP flood event.

Access to/from the project would be restricted when Steel Works Road and Selwyn Street are inundated. As identified in Section 12.6.2, these roads are flood prone for the 10 per cent AEP flood event and above.

There would be no change to regional or local hydrology associated with changes to the imperviousness of the operational footprint or adjustments to site drainage.

Extreme events

PMF

During the PMF event, the project would result in an increase of flood depth on Steel Works Road and across industrial and port land to the north by 0.035 metres. However, given the existing flood behaviour in these areas (including depths ranging from 0.2 metres to over 1.9 metres), the management of flood risk would remain consistent with existing management procedures. A marginal decrease in flood levels is predicted along Selwyn Street, noting this public road east of George Street would experience depths over 2.2 metres under existing conditions.

Within the operational footprint, the main logistics precinct would remain flood free except areas in the northern extent of the precinct with depths of up to 0.1 metres. In the southern precinct, areas east of Roll Shop Road would be inundated including the majority of the new southern access (central) with depths up to 1.9 metres. The maximum afflux within the operational footprint would be up to 0.21 metres and generally confined to the perimeter stormwater channels.

The project would not result in an increase in flood velocities or flood hazard during the PMF event, or flood levels at existing buildings within the southern precinct.

Climate change

The results for the 0.5 per cent and 0.2 per cent AEP flood events are used as proxies for the assessment of climate change. Climate change is expected to lead to an increase in flood producing rainfall intensities which would increase flood risks including:

- inundation areas east of Roll Shop Road within the southern precinct with maximum depths of up to 2.1 metres in the 0.2 per cent AEP flood event
- increase in flood extent across the car park with depths of up to 0.41 metres at the edge of the car park, with the amenities building flooded up to 0.01 metres.

Under climate change scenarios, the main logistics precinct and northern access would remain flood free. Afflux would be limited to the local perimeter stormwater channels of the main logistics precinct, and in areas north of the operational amenities building. Further, the project would not change the flood hazard within the operational footprint, nor would the project result in a change to the flood extent, flood depths or flood hazard for adjoining properties or roads.

Flood compatibility

The project is deemed to be compatible with the flood behaviour within the operational footprint as it does not change the flood depths, flood extent, and flood hazard. It would not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood. The areas of the southern precinct with a PMF flood hazard of H4 would require site specific flood emergency management procedures to manage the flood risk which consider flood warning levels, sources of flood warning information and evacuation routes as identified in the *City of Newcastle Flood Emergency Sub-Plan* (SES, 2022).

During the operation, up to 45 FTE workers are expected to be on-site and would be moving through the operational footprint as the works progress. For the main logistics precinct and southern precinct, escape from rising floodwater is possible by traversing overland to higher ground, which is possible via Steel Works Road to Industrial Drive (via Ingall Street) and Selwyn Street to Industrial Drive which involve distances of 700 metres and 500 metres respectively. Provided a timely evacuation following the City of Newcastle flood alert service occurs, workers can safely evacuate by road before floodwaters cut access, or by foot via flood-free land to higher ground on Industrial Drive. After roads are cut by floodwaters it is possible to traverse flood free land by foot or with an all terrain vehicle overland to higher ground on Industrial Drive. Should evacuation not be possible then shelter in place is possible in the Roll Shop building which is flood free for all events up to and including the PMF event.

During operation, a flood emergency management sub-plan to the OEMP would be developed to provide guidance on minimising the impacts of a flood event on project activities, and operation of the site with consideration of the flood risk across and beyond the project. The Flood emergency management sub-plan would consider the *City of Newcastle Flood Emergency Sub-Plan* (SES, 2022) and *Shelter in Place Guidelines for Flash Flooding* (NSW DPHI, 2025b). The Flood emergency sub-plan is discussed further in Section 12.6.2.

12.5.2 Surface water quality

There is potential for water quality impacts to occur during operational activities, including vehicle movements, material storage, and general litter and debris generated from operations and surrounding areas.

Changes to the surface treatment of the main logistics precinct have the potential to cause minor increases in runoff volumes compared to existing conditions. As the southern precinct is currently hardstand, the potential for increased scour and erosive runoff in this area would be negligible.

The project would include stormwater infrastructure to manage runoff from the site, directing flows to the northern and eastern tidal stormwater channels. The swale drains at the perimeter of the main logistics precinct would provide water quality treatment prior to discharge via several drainage outlets into the local drainage lines. When compared to existing conditions, the addition of the swale drains would lead to the following load reductions in discharges from the project (based on an annual pollutant export) for the following pollutants:

- total suspended solids, a 68 per cent reduction
- total phosphorous, a 39 per cent reduction
- total nitrogen, a 12 per cent reduction
- gross pollutants, an 89 per cent reduction.

While the proposed stormwater drainage treatment measures would not fully satisfy the targets of the Newcastle DCP (which does not apply to the project as LEP (and therefore the DCP) does not apply to the project by virtue of the Transport and Infrastructure SEPP), the mitigated discharge from the project would represent an improvement on existing conditions and would be consistent with long-term water quality objectives set out in the NSW WQOs.

Operation of the project is not anticipated to result in any impacts to the Ramsar wetland, which is upstream of the project, due to distance from the project and implementation of management measures.

12.6 Management of impacts

12.6.1 Environmental management

The approach to environmental management and mitigation of potential surface water and flooding impacts for the construction of the project would be carried out through the development of a project specific CEMP for the main construction works.

This would include a range of measures that would be specified in the CEMP. The CEMP would identify all reasonably foreseeable risks relating to soil erosion and water pollution during construction and describe how these risks would be managed. Erosion and sediment control plans (ESCPs) will be prepared and implemented in accordance with the Blue Book and other relevant guidelines, other relevant volumes and other relevant guidelines, noting that specific procedures for the handling and management of contaminated materials and capping materials will be detailed in the WMS and WMP (refer to Technical paper 6 – Contamination and soils (Consara, 2026)). The requirements of the WMS and WMP are detailed in Chapter 10 (Contamination and soils).

Flood emergency management and response protocols during construction would be detailed in the CEMP. For operations, a Flood emergency management sub-plan would be developed. Both would provide guidance on minimising the impacts of a flood event on project activities, and operation of the site with consideration of the flood risk across and beyond the project.

Operation of the project, including maintenance activities of the project would be managed through a project specific OEMP.

12.6.2 Mitigation measures

Site-specific mitigation measures have been proposed to minimise surface water impacts associated with the project and manage flood risk. Mitigation measures are presented in Table 12-1.

Mitigation measures in other technical papers that are relevant to the management of water quality include:

- Technical paper 1 – Preliminary Hazard Analysis
- Technical paper 6 – Contamination and soils.

Table 12-1 Proposed mitigation measures – surface water and flooding

Reference	Impact/issue	Mitigation measures	Timing
SWF1	Flood risks to people and property during major flood events.	Flood emergency management and response procedures will be prepared and implemented. The procedures will be detailed in the Construction Environmental Management Plan and operational Flood emergency management sub-plan as part of the Operational Environmental Management Plan (OEMP). The procedures will detail emergency preparedness and response in the event of a flood and could include moving equipment where likely to become buoyant to higher ground or raising equipment. For the southern precinct, this will also include procedures for how sufficient space between stored components will maintain existing overland flow paths. The sub-plan to the OEMP will be prepared in consultation with the Local Emergency Management committees and NSW SES. This sub-plan will consider sources of flood warning information, flood evacuation triggers, evacuation routes and checks to complete upon return to the project site as identified in the City of Newcastle Flood Emergency Sub-Plan (SES, 2022) and the SES Emergency Planning tool, (Welcome to the NSW SES Emergency Planning Tool (NSW SES, 2026).	Pre-construction Construction Operation
SWF2	Impacts to water quality due to storage	Measures to minimise off-site discharge during fire incidents will be detailed in the operational emergency management plan for the project. Temporary controls will be developed to isolate drainage infrastructure to prevent off-site discharge where practicable.	Operation

13 Groundwater

This chapter provides an assessment of the groundwater impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 9 – Groundwater (Technical paper 9). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

13.1 Legislative and policy context

The groundwater assessment was prepared with reference to the following legislation and policies:

- *Water Management Act 2000* (WM Act)
- *Contaminated Land Management Act 1997* (CLM Act)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Australian and New Zealand Guidelines (ANZG), 2018b)
- *Guidelines for Groundwater Quality Protection in Australia* (Australian Government, 2013)
- NSW Aquifer Interference Policy (AIP) (NSW Department of Primary Industries, 2012)
- NSW State Groundwater Dependent Ecosystems Policy (GDE Policy) (Department of Land and Water Conservation, 2002)
- Groundwater Assessment Toolbox for Major Projects in NSW (Groundwater Assessment Toolbox) (NSW DPE, 2022b)
- *Guidelines for Groundwater Documentation for SSD/SSI Projects* (NSW DPE, 2022c).

13.2 Assessment approach

13.2.1 Study area

The study area for the groundwater assessment comprises the groundwater underlying the construction footprint and is the area that may be directly impacted by the construction and operation activities. The study area was selected on the basis that groundwater at the project site has been contained through previous remediation works.

13.2.2 Methodology

The methodology for the groundwater assessment involved:

- a desktop review to identify and describe the existing groundwater environment, including groundwater depth and quality. This was informed by a review of publicly available groundwater, geological and environmental datasets and studies, including geological data from NSW Seamless Geology (Colquhoun, et al. 2021), the Intertrade CSMP, historical groundwater monitoring results, geotechnical investigations and groundwater dependent ecosystems mapping relevant to the study area

- a qualitative assessment of potential groundwater impacts during construction and operation. The assessment considered the likelihood of groundwater being encountered during construction or operation of the project, the sensitivity of the receiving environment, and the duration and scale of any potential interaction with groundwater. The approach followed the Groundwater Assessment Toolbox (NSW DPE, 2022b) and the minimal impact considerations of the NSW AIP
- identification of mitigation and management measures to further avoid or minimise any potential groundwater impacts, if required.

Aquifer Interference Policy minimal impact criteria

The assessment considered the requirements of the NSW AIP to determine whether the construction and operation of the project would constitute an aquifer interference activity and whether the potential impacts would meet the minimal impact criteria. This included consideration of potential changes to groundwater levels, flow paths and quality, and whether any interaction with groundwater would be temporary and limited in extent. The AIP minimal impact criteria are as summarised in Table 13-1.

Table 13-1 AIP minimal impact criteria summary

Impact criteria	Description of criteria
Groundwater quantity	• less than two metres drawdown at any neighbouring licensed bore • no lowering of groundwater levels that impact groundwater-dependent ecosystems • no change to baseflow conditions in connected streams • interference is temporary and ceases once works are completed • no cumulative impacts that exceed the above conditions
Groundwater quality	• activity does not cause contamination or mobilisation of existing contamination • no deterioration of groundwater beneficial uses • any discharge water meets environmental standards
Licensing considerations in the AIP	• any aquifer interference must be assessed, but low-risk, short-term, non-drawdown activities are generally compliant with minimal impact criteria • a licence is only needed if measurable “take” occurs or minimal impact criteria are exceeded

13.3 Existing environment

13.3.1 Hydrogeological site description

Groundwater recharge within the study area is limited due to the presence of surface water drainage infrastructure and remediation works, which have reduced infiltration to the underlying fill aquifer. Groundwater levels within the fill aquifer have reduced following implementation of capping, and the groundwater level response to rainfall events has also decreased.

Surface water runoff generally flows to the south and east through constructed drainage lines, discharging to a drain running parallel with Selwyn Street at its inlet located in the southeast corner of the project site and that ultimately discharges to the Hunter River South Channel, around 800 metres east of the groundwater study area. In areas of unsealed surfaces, including portions of the landscaped areas of the project site, some localised infiltration may occur, with excess runoff captured by the project site’s drainage network.

Previous investigations have identified a shallow unconfined aquifer within fill materials, with a deeper estuarine (sand) aquifer present beneath. Groundwater levels were recorded at three monitoring bores that were installed to monitor the effectiveness of the remediation infrastructure at the project site (MW09, MW10 and MW17/14). Groundwater levels were recorded across three rounds between September 2020 and October 2021 and found that groundwater levels range between around 2.5 and 3.9 metres below ground level (JBS&G Australia Pty Ltd, 2021a) (refer to Table 13-2). Monitoring bores MW09 and MW10 are located within capped areas of the project site and show limited response to rainfall, with only minor increases in groundwater levels (generally 0.05 to 0.10 metres), attributed to regional groundwater conditions rather than infiltration through the cap. Bore MW17/14 is located in an capped area, west of Roll Shop Road, but is near the landscaped mound and park areas within the project site which were not subject to low permeability capping during remediation works.

Table 13-2 Average depth to groundwater November 2021 (JBS&G Australia Pty Ltd, 2021a and JBS&G Australia Pty Ltd, 2021b)

Monitoring well ID	Average standing water level (metres below ground level)	Average groundwater elevation (metres AHD)
MW09	3.88	0.75
MW10	2.61	0.94
MW17/14	2.56	1.2

Geotechnical investigations undertaken in March 2026 intercepted wet lithology conditions at depths ranging from 0.5 to four metres below ground level, with the shallowest depths encountered in the southeast portion of the project site (WSP, 2026). The summary of depths where wet lithology was encountered during the geotechnical investigations are as detailed in Table 13-3.

Table 13-3 Summary of wet lithology encountered during geotechnical investigations (WSP, 2026)

Borehole ID	Groundwater level (meters below ground level)	Groundwater level (meters AHD)
BH301A	1.3	0.8
BH302A	2.7	1.2
BH304	4.0	1.0
BH305	3.5	0.5
BH306	2.2	-0.1
BH308	3.5	1.1
BH309	3.0	1.5
BH309A	4.0	1.0
BH310	0.5	1.0
BH311	2.4	1.1
BH313	2.3	0.8

13.3.2 Managed groundwater

Groundwater within the study area has been contaminated as a result of historical industrial activities and land reclamation associated with the former BHP Steelworks. The project site was remediated between 2016 and 2018 and is considered by the NSW EPA accredited Site Auditor to be suitable for commercial and industrial use, subject to implementation of the Intertrade CSMP and compliance with the ongoing maintenance order issued under section 28 of the CLM Act.

The Intertrade CSMP requires that groundwater on-site remains contained and that remediation infrastructure, including capping layers, is maintained. Groundwater extraction is also prohibited, and any works that may interact with the cap or subsurface environment would be required to be managed in accordance with the CSMP. Works are required be undertaken so as not to affect the levels or function of groundwater monitoring wells, with any damage or modification are to be rectified to the satisfaction of the Entity Responsible for Maintenance under the supervision of an experienced hydrogeologist, as detailed in section 7.3 of the Intertrade CSMP (HCCDC, 2018).

Groundwater monitoring was previously undertaken as part of site management, including monitoring events in 2020 and 2021. Monitoring included groundwater gauging, sampling and analysis for contaminants of concern. Key findings from monitoring (JBS&G Australia Pty Ltd, 2021a and JBS&G Australia Pty Ltd, 2021b) include:

- groundwater levels and response to rainfall show consistent trends. Minor fluctuations were observed and attributed to regional groundwater level changes following rainfall events (as opposed to surface water infiltration at the project site)
- no significant contamination indicators in surface water and groundwater samples
- stable groundwater contaminant concentrations
- copper and zinc were the only analytes exceeding Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) values at the 95 per cent protection level Per- and polyfluoroalkyl substances (PFAS) concentrations were higher in upgradient locations compared to on-site and downgradient locations, indicating the site is not a significant contributor to PFAS levels in Selwyn Drain (runs parallel with Selwyn Street, refer to Technical paper 9).

Following these monitoring events, groundwater contaminants were considered by the NSW EPA to be adequately managed, subject to ongoing maintenance of the cap and associated remediation infrastructure, isolation of surface water and groundwater systems, and prohibition of groundwater extraction. The maintenance order was amended on 6 March 2025 to remove the requirement for routine groundwater monitoring. The Intertrade CSMP remains in place to ensure the ongoing effectiveness of contamination management measures. Further details of existing contamination on-site are as detailed in Chapter 10 (Contamination and soils).

13.3.3 Groundwater receivers

The study area is within a moderately to highly disturbed environment. The nearest environmental receivers are Throsby Creek located around one kilometre to the south and the Hunter River located around 0.5 to one kilometre to the northeast of the study area. Groundwater has been contained as part of remediation works and as such groundwater users and other sensitive ecosystems surrounding the study area have not been considered further.

A high value groundwater dependent ecosystem was identified within the project site in the High Ecological Value Aquatic Ecosystems (HEVAE) database. However, the ecological assessment confirmed that the vegetation on which this classification was based is no longer present, and the project site does not contain a groundwater dependent ecosystem.

Due to the contaminated nature of the underlying groundwater, extraction for beneficial use is prohibited.

13.4 Potential impacts – construction

Construction impacts to groundwater are expected to be short-term, localised and low. Sub-surface works would be primarily limited to surface and near surface depths (generally less than or equal to one metre below ground level), with deeper works limited to specific activities where the previously identified groundwater table may be intercepted at depths between 2.5 and 3.9 metres below ground level.

Excavation for the southern access (central) is expected to extend to around one metre below ground level and is located within an area where wet lithology has been encountered at around 0.5 metres below ground level. Piling activities for culverts over stormwater channels would extend to greater depths (minimum of around 10 metres) and may intercept the groundwater table, however driven piling methods would be used in accordance with the Intertrade CSMP to avoid the need for dewatering. Where groundwater is intercepted, potential impacts may include minor and temporary changes to groundwater flow paths and localised changes to groundwater levels. These impacts would be confined to the immediate area of works and would not extend beyond the construction footprint.

There is potential for changes to groundwater quality due to infiltration of chemicals used during construction, including fuels and oils from incidental spills or leaks, and potential interaction with existing contaminated groundwater. The risks would be managed through the implementation of standard controls in the CEMP, or in the case of contaminated groundwater, through implementation of the Work Method Statement (WMS). The WMS would consider the contamination status, the risk of off-site migration and required disposal of any intercepted groundwater.

Given the limited extent of subsurface works, the use of driven piling methods and the implementation of standard environmental management measures, impacts to groundwater during construction are expected to be low and temporary.

13.5 Potential impacts – operation

Impacts to groundwater during operation are expected to be less than during construction and are considered to be negligible. Remediation infrastructure would be reinstated as part of construction, and the ongoing requirement to maintain this infrastructure would manage risks to groundwater flow paths, groundwater quality and groundwater levels.

Operational activities would not involve groundwater extraction or direct interaction with groundwater. Permanent subsurface structures may result in minor and localised changes to groundwater flow paths. These changes are expected to have negligible impacts.

There is potential for very minor changes to groundwater quality associated with permanent subsurface structures, which may slightly alter groundwater flow paths and redistribute existing contaminants. However, these changes are expected to be minimal and contained within the project site.

Any minor localised changes to groundwater levels resulting from construction activities would stabilise and changes to groundwater levels in the long term are not expected.

13.6 Aquifer interference

The activity is defined as a minimal impact activity under the NSW AIP as the groundwater would not be extracted for use, there would be no measurable drawdown of the aquifer and any contaminated groundwater encountered would be managed in accordance with the WMS. Further assessment under the NSW AIP is not required.

13.7 Management of impacts

13.7.1 Environmental management

Site-specific mitigation measures would be implemented to minimise potential impacts to groundwater during construction and operation. Given the nature of the project and proposed works, interaction with groundwater is expected to be limited. Management measures would be implemented in accordance with the Intertrade CSMP and Port Lands CSMP, including preparation of the WMS where works may disturb the remediation infrastructure or subsurface environment on land subject to the Intertrade CSMP (refer to section 10.6 for further detail). Standard environmental management measures, including spill response procedures, would also be implemented through the CEMP.

13.7.2 Mitigation measures

Mitigation measures that would be implemented to manage groundwater impacts and groundwater encounter are as listed in Table 13-4.

Table 13-4 Proposed mitigation measures – groundwater

Reference	Impact/issue	Mitigation measures	Timing
GW1	Impacts to groundwater	The Work Method Statement developed and implemented for the project will identify all reasonably foreseeable risks relating to encountering contaminated groundwater and describe how these risks will be addressed during construction.	Pre-construction Construction
GW2	Groundwater inflows into excavations	In the event that groundwater is encountered during excavations and there is a requirement to dewater, inflows will be collected, managed and disposed of in accordance with the Work Method Statement.	Construction

14 Air quality

This chapter provides an assessment of the potential air quality impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 10 – Air quality (Technical paper 10). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

14.1 Legislative and policy context

The air quality assessment was prepared with reference to the following legislation and policies:

- *National Environment Protection (Ambient Air Quality) Measure 2021* (Air NEPM)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2022a) (Approved Methods)
- Technical Framework: Assessment and management of odour from stationary sources in NSW (NSW Department of Environment and Conservation (DEC), 2006b)
- *Guidance on the assessment of dust from construction Version 2.2* (Institute of Air Quality Management (IAQM), 2024) (IAQM guidance)
- *Good Practice Guide for the Assessment and Management of Air Pollution from Road Transport Projects* (Clean Air Society of Australia and New Zealand (CASANZ), 2023) (CASANZ Guide)
- *Roadside Air Quality Screening Tool (RAQST) guideline* (Transport for NSW, 2023a).

14.2 Assessment approach

14.2.1 Study area

The study area for the air quality assessment is the construction footprint with a buffer of 100 metres (refer to Figure 14-1). The air quality study area is based on recommendations from the IAQM to identify the presence of sensitive receivers that could perceive a change in air quality conditions as a result of the construction or operation of the project.



Figure 14-1
Air quality study area

Legend

- Watercourse
- Railway
- Construction footprint
- 100 m buffer
- Newcastle Steelworks Memorial and Monument
- Main logistics precinct
- Southern precinct



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:12,500 Date: 23/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/

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14.2.2 Methodology

Existing conditions

The meteorological conditions of the study area were reviewed to understand what can influence the dispersion of emissions. The relevant meteorological parameters reviewed include wind speed, wind direction, temperature, relative humidity and rainfall. To characterise existing air quality in the study area, focus was given to pollutants relevant for the construction and operation of the project, being:

- dust associated pollutants including:
  - total suspended particulates (TSP)
  - particulate matter (PM_{10} and $PM_{2.5}$)
- carbon monoxide (CO)
- oxides of nitrogen (NO_x)
- volatile organic compounds (VOCs) such as benzene, polycyclic aromatic hydrocarbons (PAHs).

A review of the National Pollutant Inventory (NPI) Database was conducted to establish the presence of emitting sources within two kilometres of the project as well as the identification of the major roads.

Construction air quality impact assessment methodology

The construction air quality impact assessment involved a qualitative assessment of potential dust impacts associated with the project using a risk-based assessment framework in accordance with the IAQM guidance. The assessment framework has established the following steps:

- step 1: screen the requirement for a more detailed assessment
- step 2: assess the risk of dust impacts
  - step 2A: determine the potential for dust emission magnitude
  - step 2B: determine the sensitivity of the area
  - step 2C: assess the risk by combining the factors in step 2A and step 2B
- step 3: determine the site-specific mitigation
- step 4: examine the residual effects.

In addition, gaseous emissions generated from vehicles and fugitive sources during construction were qualitatively addressed. Potential odour impacts and VOCs emissions due to disturbance of contaminated soil were assessed based on the findings of Technical paper 6.

Operational air quality impact assessment methodology

On-site operational air quality impacts were assessed using a risk-based qualitative approach. The risk-based qualitative assessment involved identifying potential emissions sources based on proposed activities and analysing the likelihood and consequence of air quality emissions being generated. Based on the likelihood and consequence criteria, an initial risk rating was assigned using the risk rating matrix in accordance with the CASANZ Guide. As vehicle emissions were likely to be a key source, a simple ‘screening’ assessment using worst-case modelling assumptions was employed to quantitatively determine if detailed assessment would be required.

Off-site operational air quality impacts due to the additional traffic on the surrounding roads were assessed based on the CASANZ Guide. The CASANZ Guide provides criteria for determining the level of assessment required for the project, depending on the complexity and expected additional traffic due to the project, and was used to determine if a detailed assessment was required. As the project does not meet the criteria outlined in Table 4.2 of the CASANZ Guidelines, indicating that adverse off-site impacts during operation are not expected, a quantitative air quality impact assessment prepared is not required.

14.3 Existing environment

14.3.1 Climate and meteorology

Meteorological conditions are important for determining the direction and rate at which emissions from a source would disperse. Records from the Carrington Air Quality Monitoring Station (AQMS), located approximately one kilometre southeast of the study area, were reviewed to understand the meteorological conditions near the project.

The data indicates that the project experiences temperate summers, with an average maximum temperature around 25.4°C. Winter months are the coldest with an average mean daily maximum temperature of around 17.4°C. Months through the winter and spring are measured to be the driest, with the lowest average monthly rainfall recorded in Winter (around 36.6 millimetres) and average days with less than one millimetre of rain being 6.2 days.

During the morning, humidity is highest during autumn and winter followed by summer, and to a lesser extent during spring. During the afternoon, humidity is at its highest in summer, followed by autumn, spring and winter.

Overall, wind speeds are highest during summer (around 2.2 metres per second) and lowest during autumn (around 1.6 metres per second). The most frequent wind condition at Carrington AQMS blows from the west to northwest direction, followed by winds from the south and east direction, and to the lesser extent winds blowing from the southwest.

14.3.2 Ambient air quality

While the closest AQMS to the project is the Carrington AQMS, this station does not monitor ozone (O_3). The closest station to the project that has measurements of O_3 is the Newcastle AQMS. In order to fully characterise the air quality conditions in the area, both Carrington and Newcastle AQMSs were selected as representative of the air quality conditions for this assessment. Air quality data sourced from Carrington and Newcastle AQMSs are summarised in Table 14-1, alongside the air quality impact assessment criterion for each pollutant specified in the Approved Methods (NSW EPA, 2016).

The data collected from 2020 to 2024 indicates that:

- for particulate matter, the 24 hour maximum criterion (PM_{10} and $PM_{2.5}$) is exceeded at both locations. For both PM_{10} and $PM_{2.5}$, exceedances of the annual average criterion were observed in both Carrington and Newcastle between 2020 and 2024 and were attributed to bushfires in the region
- ozone (O_3) (maximum eight hour average) concentrations exceeded the criteria nine times.

Table 14-1 Summary of air quality data at Carrington and Newcastle AQMSs

Station	Pollutant	Averaging period*	Air quality impact assessment criteria	Concentration (µg/m³)**
Carrington	PM_{10}	Maximum 24 hour	50	**111**
		Annual	25	22
	$PM_{2.5}$	Maximum 24 hour	20	**73**
		Annual	7	6.7
	NO_2	1 hour	164	87
		Annual	31	16
Newcastle	PM_{10}	Maximum 24 hour	50	**116**
		Annual	25	20
	$PM_{2.5}$	Maximum 24 hour	25	**79**
		Annual	7	6.7
	NO_2	1 hour	164	73
		Annual	31	10
	O_3	8 hour	139	**150**

*maximum concentration for 24 hour, 1 hour and 8 hour and average concentration for annual.

**exceedance of the air quality assessment criteria are shown in bold.

A review of the NPI Database for 2023/2024 was performed to establish the presence of other emission sources within or in the vicinity of the study area. A range of industrial facilities reported to the NPI for the 2023/2024. Reporting pollutants include total VOCs, CO, nitrogen dioxide (NO_2), particulate matter, and sulfur dioxide (SO_2).

Alongside emissions from industries in the study area, emission sources include vehicles using the road network and railway lines servicing the ports. The road network comprises state and local roads including Industrial Drive, George Street, Ingall Street, Selwyn Street, and Quayside Close. Emissions from motor vehicles relevant to this assessment include particulate matter (TSP, PM_{10} and $PM_{2.5}$), NO_x (comprising NO_2 and NO), CO, SO_2, and VOCs.

14.3.3 Sensitive receivers

The study area encompasses parts of Mayfield and Mayfield East. Mayfield North is predominantly comprised of port infrastructure and associated industrial land uses. Mayfield East is predominantly comprised of low-density residential areas with commercial uses along Industrial Drive. An aged care facility is also located within the study area. Sensitive receivers within the study area are shown in Figure 14-2.



Figure 14-2
Location of air quality sensitive receivers

Legend

- Watercourse
- Railway
- Construction footprint
- 100 m buffer

Sensitive receivers

- Active Recreation
- Commercial
- Educational
- Industrial/Utilities
- Residential



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:10,000 Date: 21/04/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/

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14.4 Potential impacts – construction

14.4.1 Dust impacts

Dust impacts depend on the quantity and drift potential of the particles in the atmosphere. The wind direction, wind speed and rainfall, when a construction activity is taking place would influence whether there is likely to be dust impacts. Larger particles settle out closer to the source due to their larger mass. The deposition of the particles can cause nuisance and aesthetic impacts on the receiving environment. Finer particles (PM_{10} and $PM_{2.5}$) remain suspended in the air for longer and are therefore dispersed at greater distances from the source. The fine nature of these particles also has the potential for human health impacts if not adequately controlled. The following activities have the potential to generate dust during construction:

- earthworks including clearing and grubbing, stripping of topsoil, removal of crusher dust, excavation, haulage, stockpiling and removal of unsuitable material
- asphalting and sealing of storage areas
- construction of crossings over existing stormwater channels
- construction of internal access roads (including a new centralised access road and minor widening of Roll Shop Road to accommodate heavy vehicle swept paths), construction compound and carpark
- utility adjustments and provisions
- trackout by vehicles leaving the construction site.

There are no ecological sensitive receivers within 50 metres of the construction footprint or construction route, up to 250 metres from the site entrances. As such, no further assessment of impacts to ecological receivers has been undertaken as the level of risk from dust emissions during construction would be negligible.

Construction activities were identified as having an unmitigated medium dust emission magnitude for construction works and an unmitigated large dust emission magnitude for earthworks and trackout. The closest human sensitive receivers are less than 250 metres from the construction footprint and 50 metres from the route(s) used by construction vehicles. This includes 25 residential dwellings within 100 metres west of the project and an aged care facility located 100 metres to the west of the project. These areas surrounding the project have a medium sensitivity to dust soiling and human health impacts.

The dust emission magnitude for earthworks, construction and trackout assigned in Step 2A and sensitivity ratings of the area assigned in Step 2B were combined to define the risk of impacts. The risk assessment indicates that without mitigation, there would be a medium risk of dust impacts during earthworks, construction and trackout with respect to dust soiling and human health.

With the implementation of site-specific mitigation measures, the residual dust impacts would not be of significance and considered low risk (refer to Section 14.6).

14.4.2 Other emissions to air

Exhaust emissions would be generated during construction and would be associated with diesel fuel combustion from vehicle movements and the operation of generators (in the event construction compound cannot be connected to existing utilities), on-site plant and machinery. These emissions would be intermittent, transient and would not substantially influence local air quality. The rate of emissions and subsequent impacts to surrounding areas would depend on the number and power

output of the combustion engines, the quality of fuel used by the vehicles or plant, the condition of the engines and the intensity of use. Emissions from heavy vehicles and other necessary equipment used for the construction would also be intermittent and transient as their use would vary across the site location and during the construction period. Emissions would be adequately managed through the implementation of mitigation measures, and air quality impacts would be of no significance (refer to Section 14.6).

Construction activities, such as excavation and bulk earthworks resulting in disturbed soils and subsequent handling and stockpiling, have the potential to expose acid sulfate soils. Acid sulfate soils when disturbed have the potential to generate odours due to the presence of iron monosulfide and hydrogen sulfide. However, this is considered unlikely to occur at the project site due to the previous heavy disturbance of soils across the construction footprint, with any remaining subgrade exposure expected to be limited to works associated with crossing over existing drainage lines. Furthermore, the NSW acid sulfate soil risk mapping identifies that the project site and surrounding areas are not within Class 1, 2, 3 or 4. Given that the ground works related with the construction of the project would be primarily limited to surface and near surface depths, the likelihood of works reaching depths where estuarine sands and sediments below the BHP sub grade would be encountered is low. As such, the disturbance of estuarine sands and sediments would be minimal. Any volume that could potentially be excavated and brought to surface would unlikely be acid sulfate soils. As such, the impact of potential odours from the construction of the project would be negligible.

The project requires some disturbance of the capping layer and some disturbance of the BHP sub grade. The project site has been identified as having a low potential for VOCs to be present. A VOC report within the Intertrade CSMP identifies that the risk of VOCs is associated with areas closer to the Hunter River to the north and northeast of the project site. As such, the risk of gases being generated or accumulated underneath the BHP subgrade is considered from low to very low and the potential impact from VOCs release during construction of the project is negligible.

The disturbance of the BHP subgrade also poses the risk of off-site migration of exposed contaminants via dust particles when this material is exposed (if not properly managed). As the project has been designed to minimise the interaction with BHP subgrade material, any exposure or handling of contaminated soil would be limited to discrete areas within the construction footprint while the works are underway. This would limit the potential risk for the migration of exposed contaminants via dust particles. Potential risks associated with the exposure of BHP subgrade material would be further managed through site-specific controls within the WMS and WMP implemented in accordance with the CSMPs that apply to the construction footprint (refer to Technical paper 6 for further detail).

14.5 Potential impacts – operation

The following activities would be carried out during operation of the project:

- maintenance activities including regular inspection and repair of access roads, vehicle circulation paths, hardstand areas and other areas as appropriate, fire detection system inspection and maintenance (if required), regular inspection and maintenance of stormwater management systems, servicing and minor maintenance of loading and unloading equipment, other works required for compliance with the ongoing maintenance order for the project site, general building and landscaping maintenance within the project site
- heavy duty vehicle movement
- plant vehicle movement including heavy vehicles, crawler cranes, reach stackers and forklifts
- light vehicle movements
- lighting of the logistic precinct using diesel powered lighting.

14.5.1 On-site operations

During operation, emissions from plant, heavy and light vehicle movements would have the highest likelihood to impact air quality prior to mitigation. Maintenance activities and lighting of the logistics precinct would have a low risk of air quality impacts upon the implementation of mitigation measures, in accordance with the CASANZ Guide. As such, vehicle movements were assessed further using a modified RAQST screening tool to quantitatively determine if a detailed assessment is required. The RAQST was used to estimate the levels of NO_2, PM_{10}, and $PM_{2.5}$ for assumed on-site traffic movements during operation. Based on these parameters, the calculated levels of NO_2, PM_{10}, and $PM_{2.5}$ by the RAQST found that:

- the one hour and annual average NO_2 levels are below criteria at the closest sensitive human receiver. The calculated project contributions to the one hour average NO_2 would be two micrograms per cubic metre, while the annual average NO_2 levels were estimated to be 0.17 micrograms per cubic metre
- the 24 hour and annual average PM_{10} levels are below criteria at the closest sensitive human receiver. The calculated project contribution to the 24 hour average PM_{10} levels were 0.06 micrograms per cubic metre, while the annual contribution to PM_{10} levels was estimated to be 0.03 micrograms per cubic metre
- the 24 hour and annual average $PM_{2.5}$ levels are below criteria at the closest sensitive human receiver. The calculated project contribution to the 24 hour average $PM_{2.5}$ levels were 0.04 micrograms per cubic metre, while the annual contribution to $PM_{2.5}$ levels was estimated to be 0.02 micrograms per cubic metre.

The RAQST air quality estimated that the vehicles and plant movements within the operational footprint would not increase the background levels of the assessed pollutants beyond the air quality criteria for particulates and NO_2. Furthermore, the screening tool results stated that the project would comply with all air quality criteria and therefore the potential impact is negligible as defined by the RAQST.

Based on the assessment, a detailed or quantitative assessment is not required for the project.

14.5.2 Off-site operations

Once operational, the project is expected to generate the following average daily traffic movements:

- for visitor and staff vehicles travelling to/from site via Industrial Drive, 120 light vehicle movements per day
- for vehicles travelling to/from renewable energy projects via Industrial Drive, 50 heavy vehicles and 256 light vehicle movements per day
- for vehicles travelling to/from Mayfield 4 Berth via Steel Works Road or Selwyn Street, 62 heavy vehicles and 186 light vehicle movements per day.

A 24 hour count at the Industrial Drive/George Street intersection recorded over 30,000 vehicles per day on Industrial Drive (refer to Technical paper 2). Given the low volume of traffic generated by the project compared to existing traffic volumes on Industrial Drive, the air quality impact to nearby receivers from the additional expected traffic would be minimal.

14.6 Management of impacts

14.6.1 Environmental management

The approach to environmental management and mitigation of potential air quality impacts for the construction of the project would be carried out through the development of a project specific CEMP for the main construction works. This would include an Air quality management sub-plan, which would include:

- identification of sensitive human receivers within 100 metres of the construction footprint
- an updated assessment of the risk from construction activities based on the final construction methodology
- management measures to reduce potential impacts during construction (refer to Table 14-2)
- the need to review and update the air quality management measures at regular intervals
- regular site inspections to monitor compliance with air quality management measures.

Operation of the project, including maintenance activities would be managed through a project specific OEMP.

14.6.2 Mitigation measures

Measures that would be implemented to address potential impacts on air quality are listed in Table 14-2.

Table 14-2 Proposed mitigation measures – air quality

Reference	Impact/issue	Mitigation measures	Timing
AQ1	Dust emissions during construction	Construction air quality management measures will be detailed in the Air quality management sub-plan and implemented during construction to minimise particulate and gaseous emissions within the construction footprint as far as practicable. Mitigation measures will include (but not be limited to): • use of water sprays or dust suppression surfactants as required for dust suppression • adjusting the intensity of activities based on observed dust levels and weather forecasts • excess material is to be stored in stockpiles • minimising the amount of materials stockpiled and position stockpiles away from surrounding receivers • stockpiles in-situ for longer than 10 days require covering, seeding or placing sediment fencing near stockpiles • limiting vehicle movements to designated entry/exit routes and parking areas • covering loads • stabilising disturbed areas as soon as practicable	Construction

Reference	Impact/issue	Mitigation measures	Timing
		• minimising the extent of disturbance as far as practicable • conducting regular visual inspections of dust emissions and applying additional controls as required • stabilising site access points and/or using rumble grids as to minimise the tracking of material onto sealed roads. Mitigation measures during screening will include (but not be limited to): • performing as far as practicable from nearby sensitive receivers • fit hoppers with dust filters • all inspection points and hatches will be fully sealed.	
AQ2	Combustion emissions	Combustion emissions generated during construction within the construction footprint will be minimised through: • ensuring all vehicles and machinery are maintained in a proper and efficient manner • minimising the use of diesel- or petrol-powered generators by using mains electricity or battery-powered equipment where practicable • ensuring all vehicles switch off engines when stationary for extended periods, to prevent unnecessary idling of vehicles.	Construction
AQ3	Combustion emissions	Combustion emissions generated within the operational footprint by vehicles and plant during the operation of the project will be minimised through: • ensuring all vehicles and machinery are fitted with appropriate emission control equipment and maintained in a proper and efficient manner • ensuring all vehicles switch off engines when stationary, to prevent unnecessary idling of vehicles • ensuring maintenance of all vehicles and machinery in a proper and efficient manner.	Operation

15 Social

This chapter provides an assessment of the potential social impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 11 – Social impact assessment (Technical paper 11). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

15.1 Legislative and policy context

The social impact assessment (SIA) was undertaken in accordance with the SEARs and prepared with reference to the following legislation, policies, standards and guidelines:

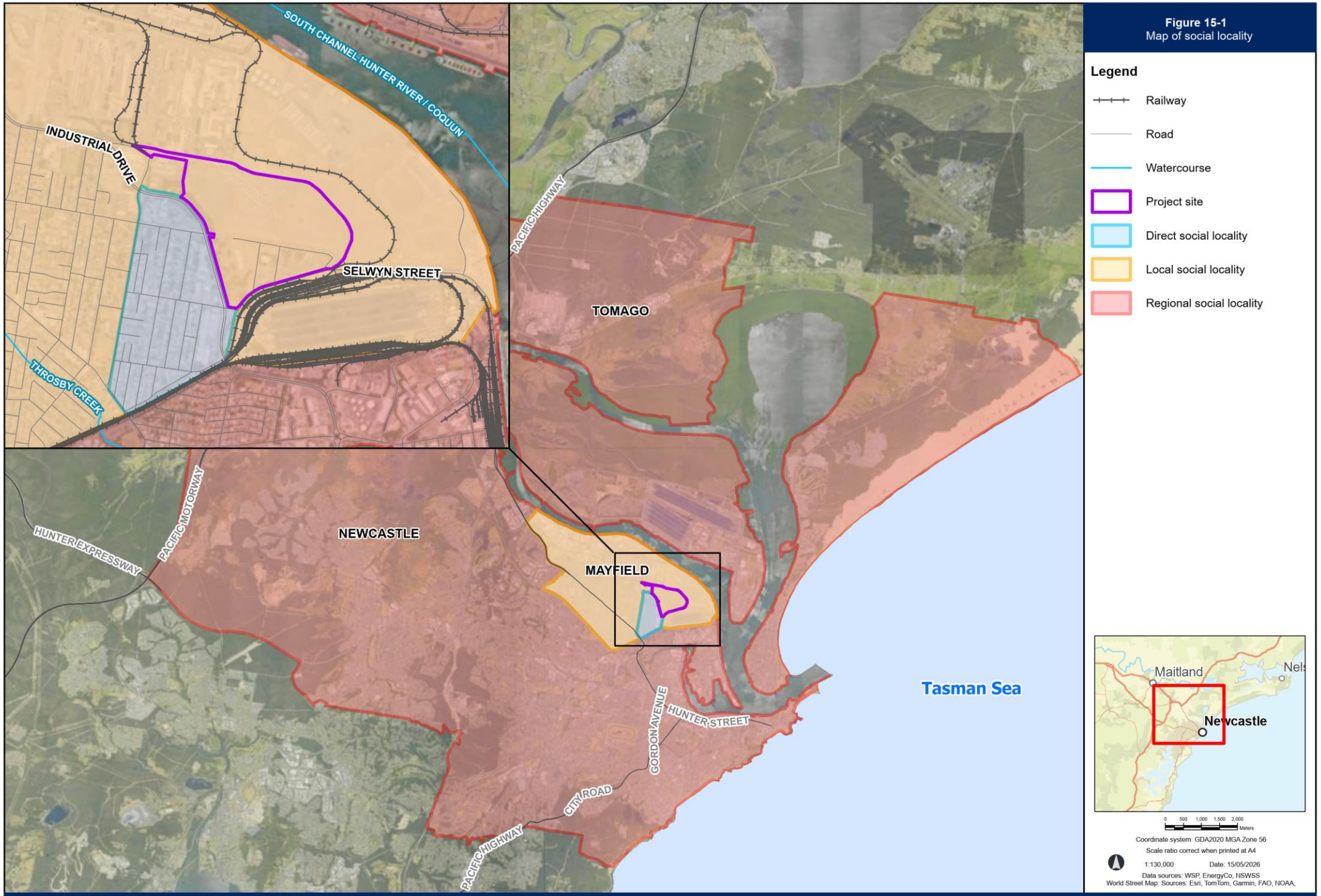
- *Technical Supplement Social Impact Assessment Guideline for State Significant Projects* (SIA Technical Supplement) (NSW DPHI, 2025a)
- *Practice Note: Engaging with Aboriginal Communities* (NSW DPIE, 2022)
- *Undertaking Engagement Guidelines for State Significant Projects* (NSW DPHI, 2026b)
- *Cumulative Impact Assessment Guidelines for State Significant Projects* (NSW DPHI, 2026c)
- *Social Impact Assessment Guideline for State Significant Projects* (SIA Guideline) (NSW DPHI, 2026e).

15.2 Assessment approach

15.2.1 Social locality (study area)

The SIA study area is referred to as the social locality. This includes areas expected to experience direct and indirect social impacts as a result of the project. The social locality for the SIA is shown in Figure 15-1 and comprises the following:

- Direct social locality: residents of Mayfield East, who are expected to experience the most direct and immediate social change due to their proximity to project activities.
- Local social locality: communities within the Mayfield area who may experience localised impacts encompassing the suburbs of Mayfield, Mayfield West, and Mayfield North.
- Regional social locality: broader areas where indirect impacts are expected, including employment, business opportunities, and changes to traffic movement. This includes the Newcastle Statistical Area Level 3 (SA3) (referred to as Newcastle) and the Tomago Urban Centre and Localities (UCL) (referred to as Tomago).


SOUTH CHANNEL HUNTER RIVER / COQUUN
INDUSTRIAL DRIVE
SELWYN STREET
THROSBY CREEK
PACIFIC HIGHWAY
TOMAGO
PACIFIC MOTORWAY
HUNTER EXPRESSWAY
NEWCASTLE
MAYFIELD
Tasman Sea
GORDON AVENUE
HUNTER STREET
CITY ROAD
PACIFIC HIGHWAY
Figure 15-1
Map of social locality
Legend
Railway
Road
Watercourse
Project site
Direct social locality
Local social locality
Regional social locality
Maitland
Newcastle
0 500 1,000 1,500 2,000
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:130,000
Date: 15/05/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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15.2.2 Methodology

Social impacts refer to the potential direct and indirect consequences, either positive or negative, that people experience when a new project brings change (NSW DPHI, 2026a). Potential social impacts are grouped into eight categories:

- community: composition, cohesion, character, how the community functions, resilience, and people's sense of place
- way of life: how people live, how they get around, how they work, how they play, and how they interact each day
- livelihoods: people's capacity to sustain themselves through employment or business
- accessibility: how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation
- health and wellbeing: physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health
- culture: both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, watercourses, places and buildings
- surroundings: ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity
- decision-making systems: the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

The SIA methodology has followed the SIA Guideline and SIA Technical Supplement. It represents a Phase 2 SIA which builds on the Phase 1 SIA, which identified the potential social impacts of the project and the recommended level of assessment required for the Phase 2 SIA. The Phase 2 SIA involves:

- characterisation of the existing social environment from information gathered by desktop research and feedback received during community and stakeholder engagement
- refinement of the social locality and relevant potential social impacts as described in the Phase 1 SIA by analysing engagement feedback and reviewing the social baseline, the proposed construction and operational activities of the project and the outcomes of other relevant impact assessments completed for the EIS
- analysis of the potential social impacts to determine the potential significance of each social impact based on their likelihood and magnitude in accordance with the SIA Technical Supplement
- development of appropriate mitigation and management responses to social impacts, and identification of residual social impacts following implementation of the identified social mitigation and management measures, and other mitigation measures identified in other relevant impact assessments completed for the project.

Engagement

To inform the SIA, engagement completed by EnergyCo for the project was reviewed alongside targeted community and stakeholder engagement completed by the SIA specialist.

Targeted SIA engagement was completed between November 2025 and January 2026. The SIA engagement consisted of 14 individual and group semi-structured interviews via video calls or phone calls with local residents and representatives from Newcastle City Council, NIHA, Port of Newcastle Community Liaison Group, EnergyCo Hunter Central Coast Regional Reference Group, a local aged care facility and the Awabakal LALC.

Further detail on the engagement completed for the project and issues raised is provided in Chapter 5 (Engagement), as well as Section 3.4 and Chapter 5 of Technical paper 11.

Evaluation of identified social impacts

The significance of each social impact was assessed based on its likelihood (Table 15-1) and magnitude (Table 15-2), in accordance with the SIA Technical Supplement (Table 15-3). The assessment also recognises that impacts may affect people differently depending on their circumstances and proximity to the project.

Table 15-1 Defining likelihood levels of social impacts

Likelihood level	Definition
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Source: Technical Supplement to SIA Guideline (NSW DPHI, 2025a)

Table 15-2 Defining magnitude levels for social impacts

Magnitude criteria	
Transformational	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20 per cent of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: Technical Supplement to SIA Guideline (NSW DPHI, 2025a)

Table 15-3 Social impact significance matrix

Likelihood level \ Magnitude	1 Minimal	2 Minor	3 Moderate	4 Major	5 Transformational
A Almost certain	Low	Medium	High	Very high	Very high
B Likely	Low	Medium	High	High	Very high
C Possible	Low	Low	Medium	High	High
D Unlikely	Negligible	Low	Low	Medium	High
E Very unlikely	Negligible	Negligible	Low	Medium	Medium

Source: Technical Supplement to SIA Guideline (NSW DPHI, 2025a)

15.3 Existing environment

15.3.1 Demographics

The regional social locality has a total population of 179,269 people, with the majority residing in Newcastle. The median age in Newcastle is 37 years, consistent with a younger working population. In contrast, Tomago has a smaller and older population, with a median age of 60 years, indicating a more established community profile.

The regional social locality has a higher proportion of First Nations residents (being 4.6 per cent in Newcastle, and 8.9 per cent in Tomago) compared to NSW (3.4 per cent). Cultural diversity is present but lower than the State average (29.5 per cent), with fewer households speaking a language other than English at home (being 12.1 per cent in Newcastle and 4.7 per cent in Tomago).

The median weekly household income for the regional social locality is $1,740, which is slightly lower than the NSW median of $1,829. The unemployment rate is 4.9 per cent, consistent with the State average. Socio-economic indicators show variation across the locality, with Newcastle demonstrating relatively higher levels of advantage compared to Tomago, which records higher levels of socio-economic disadvantage.

Health outcomes within the regional social locality indicate a higher prevalence of long-term health conditions compared to NSW. In Newcastle, 55.9 per cent of residents report having no long-term health conditions, which is lower than the State average of 61 per cent. In Tomago, this proportion is lower at 36.1 per cent, reflecting a greater prevalence of health conditions. The older population profile in Tomago, with a median age of 60 years, is likely to contribute to the higher incidence of long-term health conditions.

15.3.2 Surroundings

The regional social locality is located within the Hunter region of NSW, with Newcastle serving as a major centre for economic, cultural and industrial activities. The area has a strong industrial character, influenced by its history of heavy industry and ongoing port and logistics operations.

Land uses within the local and direct social locality include industrial areas associated with the Port of Newcastle and surrounding infrastructure, with nearby residential areas of the Mayfield area (Mayfield North, Mayfield, Mayfield West and Mayfield East). Other key land uses in the direct and local social locality include Mayfield East Public School, an aged care facility, and Delprat's Quarters (also known as Delprat's Cottage) which is used by the NIHA and the University of Newcastle.

The broader region includes coastal and natural features, including the Hunter Wetlands National Park. The park is located approximately three kilometres north of the project and forms part of the internationally recognised Hunter Estuary Wetlands, designated under the Ramsar Convention for its ecological significance.

15.3.3 Way of life and accessibility

The Mayfield area is transitioning from its industrial origins and includes a mix of residential, commercial and port-related activities. During SIA engagement, it was noted that the Mayfield area is experiencing demographic change, including the presence of long-term residents alongside newer residents undertaking redevelopment and renovation of existing dwellings.

Mayfield East has a population of 1,794 people, with 92.8 per cent of dwellings occupied. Across the Mayfield area, there are 13,547 residents and 5,619 occupied private dwellings. Approximately 355 social housing dwellings are located within the Mayfield area.

The Mayfield area includes local services such as schools, healthcare facilities and retail uses. This includes Mayfield East Public School and an aged care facility, as well as services located along Industrial Drive. Community members also identified a strong connection to the industrial heritage of the area, particularly the former BHP Steelworks site.

Roads within Mayfield that would be used by the project include Industrial Drive and surrounding local and port access roads. Industrial Drive connects to the Pacific Highway (Maitland Road) east of the project site. Connections for residential areas to Industrial Drive in the immediate vicinity of the project site are provided at the signalised intersections of Ingall Street and George Street, and non-signalised intersection with Crebert Street. Active and public transport infrastructure includes bicycle lanes along Industrial Drive and bus routes along Industrial Drive, George Street and Ingall Street.

Travel behaviour in the Mayfield area indicates a high reliance on private vehicles, with 53.7 per cent of residents travelling to work by car and 2.1 per cent using public transport.

15.3.4 Employment

The Port of Newcastle is a major seaport and the largest on the east coast of Australia by trade. It is a key regional employer, supporting over 9,000 jobs and contributing approximately $1.6 billion annually to the regional economy.

Newcastle's main export commodity is coal, with the Port of Newcastle being the largest coal exporting harbour in the world. However, over time with growth in digital technology, service industries, and advanced manufacturing, employment trends within the regional social locality show a transition from historically industry-based employment to a more diversified economic profile.

Newcastle has experienced a shift following the closure of the BHP Steelworks, with increased representation in professional, health, education and service industries. Professionals comprise 28.7 per cent of the workforce. Key industries in Newcastle include health care and social assistance (6.5 per cent and 4.2 per cent respectively) and higher education (2.5 per cent). In Tomago, employment is more concentrated in road freight transport and social assistance services (both 9.9 per cent), followed by accommodation (4.2 per cent).

15.3.5 Culture

The social locality is located within the traditional lands of the Awabakal and Worimi peoples. The Awabakal people are associated with the Newcastle area, including the harbour and coastal environments surrounding the project site. The Worimi people are the traditional custodians of land to the north of the Hunter River, with Country extending between the Hunter, Manning, Allyn and Paterson Rivers. The Hunter River and surrounding wetlands, including the Hunter Wetlands National Park, form part of Country for both groups and include estuarine and wetland environments of cultural significance. Further context on Aboriginal heritage is provided in Chapter 9 (Aboriginal heritage).

The heritage items associated with the former BHP Steelworks remain within and surrounding the project site (refer to Chapter 8 (Non-Aboriginal heritage)). The State heritage listed BHP Administration Precinct within the project site includes the Muster Point Memorial and the Newcastle Steelworks Memorial and Monument, which commemorate the workers and operations of the steelworks. These elements contribute to the historical identity of the area and are recognised as having cultural value.

During SIA engagement, stakeholders identified a strong and ongoing connection to the former BHP Steelworks site. The former BHP Steelworks site was described as an important part of the community's identity, reflecting its industrial history and contribution to employment and regional development. Stakeholders highlighted the importance of protecting both tangible and intangible heritage values associated with the project site. Stakeholders, particularly the NIHA, consider these assets important to preserving and interpreting the site's industrial history and have expressed interest in their ongoing use, access and management.

15.4 Potential impacts – construction

Social impacts during construction have been assessed according to the social impact significance matrix defined in Table 15-3. The potential positive and negative social impacts prior to and following mitigation are described in Table 15-4. Measures to mitigate negative impacts or to enhance positive impacts are discussed in Section 15.6.

Table 15-4 Social impacts – construction

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Accessibility	**Changes to the way people move and work within the local area due to increased traffic** Stakeholders identified increased construction traffic and impacts to accessibility for residents, workers and businesses as a key concern, including access to local services and community infrastructure (e.g. Mayfield East Public School). These concerns were expressed in the context of existing industrial traffic associated with the Port of Newcastle. Changes to accessibility are expected to be temporary and largely confined to the immediate social localities. Minor impacts on the road network performance during construction would not materially affect the broader road network performance (refer to Chapter 7 (Traffic and access) for further detail). However, minor changes in traffic flow may be more noticeable to some stakeholders in the direct social locality given their sensitivity to change and high reliance on private vehicles.	Direct social locality	Low	Negligible
		Local social locality	Negligible	Negligible
		Regional social locality	Negligible	Negligible

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Surroundings	**Amenity impacts to surrounding residents and organisations due to construction activities** Construction activities would temporarily affect local amenity within the direct and local social localities. Construction could influence the amenity of receivers in proximity to the project, particularly residents as well as educational and community facilities in Mayfield and Mayfield East. The immediate localities are characterised by existing industrial and transport-related noise, including noticeable noise at night. Stakeholder engagement indicates that most stakeholders recognise the existing context of the locality and reported limited concern regarding additional construction noise. However, some concern was expressed about extended construction hours and potential disturbance to nearby residences. Overall, amenity impacts would be temporary, variable across construction stages, and largely confined to the immediate vicinity of the project. While most stakeholders consider impacts to be consistent with the existing industrial context, targeted management measures and clear communication with stakeholders and community would be important to minimise disruption to nearby residents, community facilities and cultural uses.	Delprat's Quarters	Low	Low
		Residents west of the site, primarily along Crebert Street and surrounding streets between Industrial Drive and Kitchener Parade	High	Medium
		Direct social locality	Low	Low
		Local social locality	Negligible	Negligible

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Livelihoods	**Local employment and procurement opportunities** Construction workforce is expected to be sourced from the regional social locality, consistent with typical construction labour patterns. Project expenditure and supply chain engagement would provide some local economic activity. Stakeholders expressed: • strong expectations that the project would deliver tangible local benefits • challenges for local businesses in identifying opportunities and positioning within the supply chain, and the need for clear, ongoing engagement and communication • mixed views on the energy transition concerning job displacement from traditional industries and opportunities for diversification • interest in targeted employment pathways for First Nations participation. The project is expected to deliver modest, short-term economic benefits to local workers and businesses based on the capital investment and expected construction workforce. The project has a minimum 1.5 per cent Aboriginal participation requirement, consistent with the NSW Aboriginal Procurement Policy.	Regional social locality (considering non-Aboriginal and Aboriginal businesses)	Low (positive)	Low (positive)

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Decision making	**Increased need to develop early, ongoing and meaningful engagement with local communities to manage amenity and traffic impacts** Stakeholder engagement identified a strong expectation for early, ongoing and meaningful engagement with community members, local organisations and First Nations stakeholders. Stakeholder engagement identified consultation fatigue given the number of major projects in the region as well as concerns about the effectiveness of communication and participation, and achievement of visible outcomes for First Nations stakeholders. Stakeholders supported the use of structured engagement mechanisms, noting the preference for accessible information supported by a localised communications strategy using multiple engagement channels and a single point of contact in addition to the Hunter–Central Coast Regional Reference Group. First Nations stakeholders emphasised the importance of early involvement in planning and culturally appropriate engagement. Existing engagement forums including the First Nations Working Group will be utilised to provide updates and feedback on project engagement prior to and during construction. Communities immediately surrounding the project and local businesses are likely to have higher expectations and sensitivity compared to the local and regional locality.	Direct social locality	Medium	Low
		Local social locality	Low	Low
		Regional social locality	Low	Low

1. Refer to Section 15.6.2

15.5 Potential impacts – operation

Social impacts during operation have been assessed according to the social impact significance matrix defined in Table 15-3. The potential positive and negative social impacts prior to and following mitigation are described in Table 15-5. Measures to mitigate negative impacts or to enhance positive impacts are discussed in Section 15.6.

Table 15-5 Social impacts – operation

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Accessibility	**Accessibility challenges for residents resulting from increased traffic** Stakeholders raised concerns that additional traffic, particularly OSOM movements, could increase congestion, reduce travel reliability and affect road safety along key corridors including Industrial Drive and the Maitland Road/Pacific Highway. However, operational traffic increases would be low relative to existing network volumes, with key intersections expected to continue operating within capacity. OSOM movements would be infrequent, occur when permitted by the National Heavy Vehicle Regulator and at night (generally between 9:00 pm and 3:00 am, with returning OSOM movements occurring up until sunrise) and be managed through traffic management plans to minimise disruption, as detailed in Chapter 7 (Traffic and access).	Direct social locality	Low	Low
		Local social locality	Low	Negligible
		Regional social locality	Negligible	Negligible
Surroundings	**Increased safety and security presence in the surrounding area during operation** During discussions with City of Newcastle Council, EnergyCo acknowledged ongoing vandalism issues at the site and outlined existing and proposed security measures to address these risks. The operation of the project is expected to result in an increased safety and security presence within and around the project site, reflecting the scale of operations, heritage sensitivities, and the need to manage unauthorised access. Operational security measures, including perimeter fencing and controlled access are expected to reduce the likelihood of unauthorised access and opportunities for trespass. Given security measures are expected to be largely confined to the project site and immediate surroundings, they are unlikely to result in noticeable changes to safety perceptions or daily experience at a broader scale.	Direct social locality	Low (positive)	Low (positive)
		Local and regional social localities	Negligible	Negligible

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Surroundings	**Noise impacts to residents and other stakeholders due to project infrastructure and operations** Operational noise generated within the site or as a result of increased traffic movements and loading and unloading activities, particularly at night, has the potential to affect the amenity of nearby residents and other key stakeholders. Most stakeholders expressed the view that the project is not expected to substantially change existing conditions, although isolated concerns were raised about night-time traffic noise at a residence located on Crebert Street, Mayfield East. Operational noise impacts are expected to be localised, intermittent and generally low in magnitude, with the most predicted exceedances classified as minor and based on conservative worst-case assumptions. This generally low risk is reflective of both the industrial context of the area and the nature of the proposed operations. For some Crebert Street residents and nearby areas within NCA2 operational noise impacts area assessed as medium unmitigated. For road traffic noise at night, the project is not expected to result in a noticeable change (refer to Chapter 11 (Noise and vibration) for further detail).	Crebert Street residents and some nearby residential area within NCA 2	Medium	Low
		Direct social locality	Low	Negligible
		Local social locality	Negligible	Negligible

Social impact category	Impact	Extent (Social locality)	Impact before mitigation	Impact after mitigation[1]
Culture	**Community discomfort about the BHP Steelworks legacy and future use of heritage items** The former BHP Steelworks site and associated heritage items within the project site holds strong cultural, historical and social significance for the Mayfield community and wider Newcastle area. Stakeholder engagement identified concerns regarding the future use, accessibility and interpretation of heritage items, particularly the Roll Shop building and the BHP Administration Building. NIHA expressed a preference for adaptive reuse and ongoing community access, including opportunities for heritage interpretation and public engagement. Additionally, EnergyCo agreed to support the temporary storage of maritime heritage items at the project site for the Newcastle Maritime Heritage Working Party on behalf of Newcastle Maritime Museum Society Incorporated. Public access to the Newcastle Steelworks Memorial and Monument park, including the associated public car parking area, would be maintained during operation. Apart from the Newcastle Steelworks Memorial and Monument Park, access to buildings associated with the former BHP Steelworks is not currently provided. As such, the project would not reduce access to these areas. Impacts to heritage items within the project site would be negligible to low, noting the re-use of the Roll Shop building would result in a minor neutral or positive impact through its continued use (refer to Chapter 8 (Non-Aboriginal heritage) for further detail). However, uncertainty concerning the future management of heritage assets and potential changes to their use may remain. While the issue concerns places and items that NIHA values highly, the impact is concentrated within a relatively small stakeholder group and is expected to be manageable through ongoing engagement, clarification of future arrangements and partnership opportunities. EnergyCo is engaging in ongoing discussions with NIHA about ways to commemorate industrial heritage and protect relics. This engagement is beyond the scope of this project (refer to Chapter 5 (Engagement).	NIHA Direct, local and regional social locality	Low Negligible	Low Negligible

1. Refer to Section 15.6.2

15.6 Management of impacts

15.6.1 Environmental management

The implementation of the CEMP will manage the social impacts associated with the project during construction. The CEMP will include management objectives to minimise potential noise and vibration, air quality, traffic and access impacts on sensitive receivers, which may lead to social impacts. The CEMP will also outline a complaints management system that will be implemented during construction to handle and respond to project related matters.

Operation of the project, including maintenance activities of the project would be managed through a project specific OEMP.

Monitoring and evaluation of social impacts and management measures will be undertaken throughout the project lifecycle to ensure that mitigation measures are effective and remain appropriate over time. Where relevant, monitoring and management of construction-related impacts will be incorporated within the CEMP, and in the OEMP for operational impacts.

Information gathered through monitoring will be used to inform ongoing engagement, reporting, and refinement of management measures to ensure social impacts are effectively managed across both construction and operation.

15.6.2 Mitigation measures

Site-specific mitigation measures have been proposed to minimise social impacts associated with the project. Mitigation measures are presented in Table 15-6. Further, mitigation measures for traffic and access, noise and vibration and non-Aboriginal heritage will also contribute towards addressing the potential social impacts of the project.

Table 15-6 Proposed mitigation measures – social

Reference	Impact/issue	Mitigation measures	Timing
SI1	Amenity impacts during construction	A Community and stakeholder engagement plan will be prepared and implemented to ensure: • early notification to residents of the direct social locality a fortnight prior to the commencement of construction. Notifications will describe the nature and duration of works, expected noise levels, and provide contact details for the project engagement team • appointment of dedicated community engagement officers responsible for proactive, accessible communication with affected stakeholders, including tailored approaches such as door-knocking, text messages, newsletters and phone calls • development of a Complaints management system for managing enquiries and complaints, ensuring timely responses and regular updates to the community on how issues are being investigated and addressed.	Pre-construction and construction

Reference	Impact/issue	Mitigation measures	Timing
SI2	Amenity and accessibility impacts to direct social locality due to project infrastructure and operations	A stakeholder engagement and communication program will be implemented as part of the project's OEMP. The program will include, at a minimum: • a 24 hour contact line and email address to support ongoing stakeholder communication • a complaints handing procedure, including record of complaints received, the nature of the issues raised, the response provided, and any corrective action taken (where required) • timely notifications of OSOM movements, as required.	Operation
SI3	Local employment and procurement opportunities	Implementation of the following government policy settings within the regional social locality (considering non-Aboriginal and Aboriginal businesses), including: • the NSW Government Procurement Policy • NSW Government's Aboriginal Procurement Policy. Compliance with these policies will be embedded within the project's contractual arrangements.	Construction
SI4	Local employment and procurement opportunities	Existing engagement forums including the Hunter–Central Coast Regional Reference Group and First Nations Working Group will be utilised to provide updates and feedback on project engagement. A scheduled session with local businesses will be facilitated to provide a project update during the contract procurement period.	Pre-construction and construction
SI5	Monitoring and management of social impacts (amenity and traffic during construction and operations)	A program of monitoring and evaluation will be implemented throughout the project lifecycle to track social impacts and the effectiveness of mitigation measures. Monitoring requirements and performance indicators will be embedded within the Construction Environmental Management Plan and Operational Environmental Management Plan. Outcomes of monitoring will inform ongoing stakeholder engagement, reporting, and adaptive management to ensure social impacts are effectively managed over time.	Construction and operation

16 Landscape and visual

This chapter provides an assessment of the potential landscape and visual impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. It summarises the assessment provided in Technical paper 12 – Landscape character and visual impact (IRIS, 2026) (Technical paper 12), which includes the arboriculture impact assessment completed by Tree Survey Pty Ltd (Appendix A of Technical paper 12). The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

16.1 Legislative and policy context

The assessment was prepared with reference to the following policies, standards, and guidelines:

- Transport and Infrastructure SEPP
- *Port of Newcastle Development Plan 2023–2028* (Port of Newcastle, 2023)
- *Port of Newcastle, Port Master Plan 2040* (Port of Newcastle, 2018)
- *Hunter Regional Plan 2041* (NSW DPE, 2022a)
- *Greater Newcastle Metropolitan Plan 2036* (NSW DPE, 2018)
- Planning Newcastle 2040: Global City, Local Character – Local Strategic Planning Statement (City of Newcastle, 2025)
- *Newcastle Employment Lands Strategy* (SGS, 2019)
- *EIA-N04 Guidelines for Landscape Character and Visual Impact Assessment* (Transport for NSW, 2023b)
- *The Guidance Note for Landscape and Visual Assessment* (Australian Institute of Landscape Architects Queensland, 2018)
- *Guidelines for Landscape and Visual Impact Assessment, Third Edition (*UK Landscape Institute and Institute of Environmental Management & Assessment, 2013)
- Guideline for Landscape Character and Visual Impact Assessment Environmental Impact Assessment Practice Note EIA-N04 (Transport for NSW, 2023b)
- *AS4282 Control of the obtrusive effects of outdoor lighting* (AS4282) (Standards Australia, 2023)
- *Visual Representation of Development projects: Technical Guidance Note 06/19* (UK Landscape Institute, 2019)
- *AS4970-2025 Protection of Trees on Development Sites* (AS4970) (Standards Australia, 2025)
- *Significance of a Tree, Assessment Rating System (STARS*) (Institute of Australian Consulting Arboriculturists, 2010)
- Newcastle DCP (Newcastle City Council, 2023).

16.2 Assessment approach

16.2.1 Study area

The landscape and visual study area is the construction footprint with a buffer of about two kilometres (refer to Figure 16-1). The landscape and visual study captures those areas with the greatest potential for landscape character or visual amenity impact by the project.

The arboricultural impact footprint reflects areas where impacts could occur to trees within or adjacent to the construction footprint based on the level of ground disturbance within the construction footprint (refer to Figure 1 of Appendix A of Technical paper 12). It has excluded areas that have been cleared by Property NSW to comply with the requirements of the Intertrade CSMP.

16.2.2 Methodology

Landscape character and visual impact assessment

The landscape character and visual impact assessment included:

- division of the study area into broad landscape character zones that reflect the features of the built, natural and cultural environment, and identification of significant public viewpoints supported by a visibility analysis that considers elevation, buildings and existing vegetation
- a site inspection of the study area
- determination of the sensitivity of each representative viewpoint and landscape character zone
- assessment of the impact during construction and operation for each assessed viewpoint, and assessment of the impacts on each landscape character zone during operation
- photomontages of project operations from the selected viewpoints in accordance with Visual Representation of Development projects: Technical Guidance Note 06/19 (UK Landscape Institute, 2019)
- identification of mitigation and management measures.

Potential impacts on landscape character and visual amenity have been determined by assigning an impact level according to the matrix based on the existing landscape sensitivity to change, and the magnitude of change that is likely to occur. The sensitivity of the landscape is based on the value placed on a landscape character zone and its susceptibility to change while visual sensitivity considers the nature of the view, the type of viewer, the scenic quality of the view and the importance of the view to the community.

AS4282 identifies environmental zones which are useful for categorising night-time landscape settings. These zones are typical night-time settings and reflect the predominant light level of the landscape.

The landscape magnitude of change refers to the changes to the landscape character that would occur as a result of the project. The visual magnitude of change describes the extent of change and compatibility of the changes to the view that are predicted due to the project during construction and operation.

The assessment of landscape character and visual impacts during construction and operation of the project has been carried out in accordance with the Guideline for Landscape Character and Visual Impact Assessment Environmental Impact Assessment Practice Note EIA-N04 (Transport for NSW, 2023b). The guideline primarily focuses on long term changes to landscape character as a result of a project's operation.

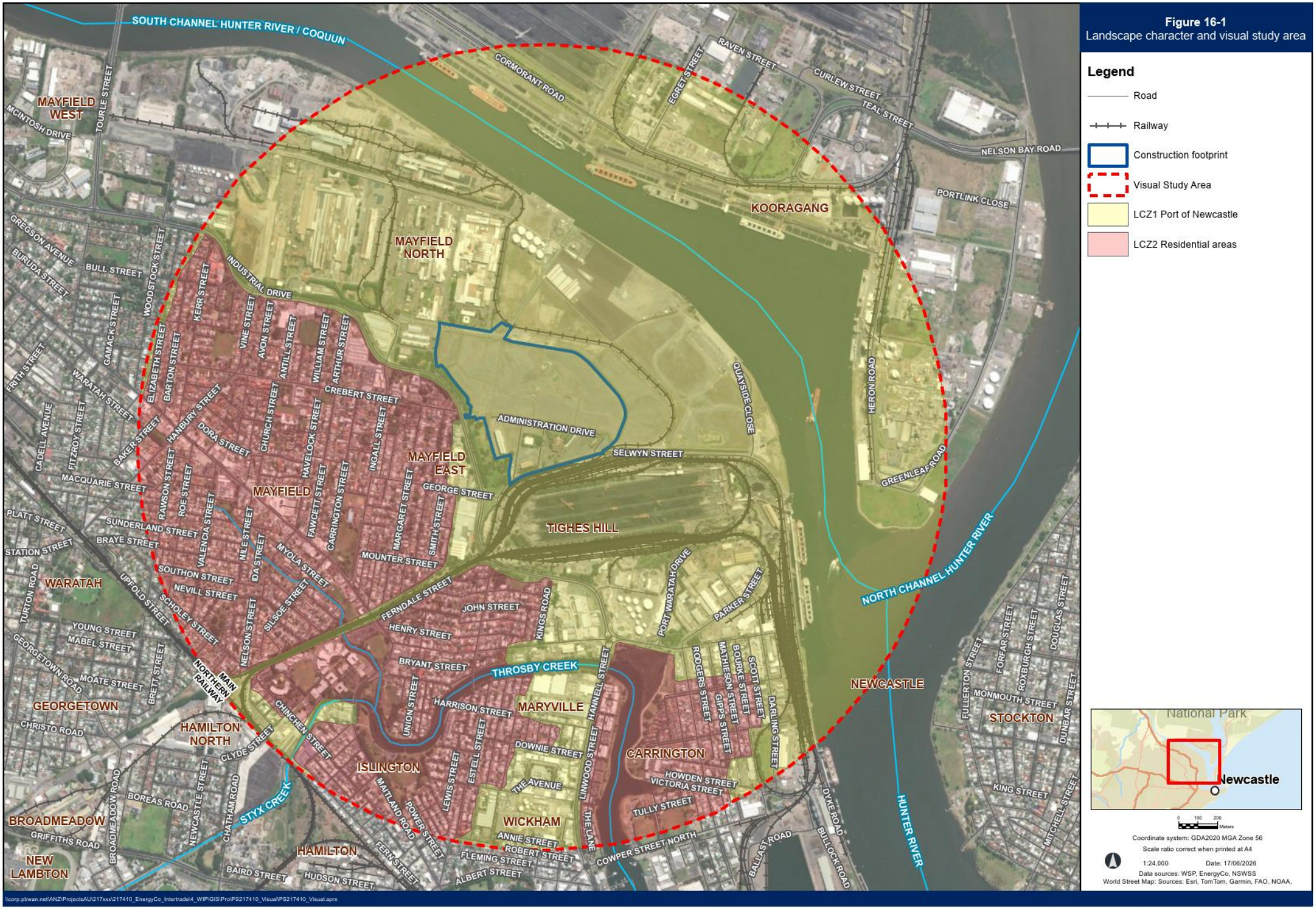


Figure 16-1
Landscape character and visual study area

Legend

- Road
- Railway
- Construction footprint
- Visual Study Area
- LCZ1 Port of Newcastle
- LCZ2 Residential areas

Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:24,000 Date: 17/06/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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Arboricultural impact assessment

The arboricultural impact assessment involved:

- survey of trees (defined by the Newcastle DCP as a long-lived woody perennial plant greater than three metres in height (or will be at maturity) with one or relatively few main stems or trunks) within the arboricultural impact footprint
- visual tree assessment in accordance with a stage one visual tree assessment (Mattheck & Broloer, 1994)
- determining the retention value of trees in accordance with STARS using a scale of high, medium and low significance within the landscape based on a combination of environmental, cultural, physical and social values
- identifying tree retention and removal according to a nil, minor, moderate and major scale based on percentage of encroachment within the notional root zone (the optimal amount of area for tree protection). Only trees subject to major encroachment greater than 20 per cent are identified for removal.

Section 5.29 of the Transport and Infrastructure SEPP relies on the Newcastle DCP for the definition of the trees or vegetation that are identified for protection and when approval is required to remove trees or vegetation within the project site. Trees and vegetation that fall within these specifications are protected unless listed as an exempt species. Trees that do not meet the prescribed dimensions have generally not been included in the assessment.

16.3 Existing environment

The project is located on the southern side of the Hunter River South Channel within the Port of Newcastle. It is bounded to the west by Industrial Drive, the north, east and south by freight rail and the northwest by industrial uses. The project site has historically been used for heavy industry and the surrounding area has continued to be occupied by industrial and port uses. The surrounding industrial and port uses currently operate 24 hours, seven days a week. The operational footprint is divided into two precincts. The main logistics precinct comprises a large area of open hardstand while the southern precinct comprises the State heritage listed BHP Steelworks Administration Precinct, large movable heritage items, carparking, access roads and other vacant buildings.

Surrounding land uses are predominantly associated with port operations and industrial activities. The nearest residential properties are located around 45 metres west of the construction footprint and 75 metres west of the operational footprint.

The arboricultural impact assessment identified a total of 405 trees within the arboricultural impact footprint, noting additional trees located beyond the impact footprint but within the project site occur along the Industrial Drive frontage and the park containing the Newcastle Steelworks Memorial and Monument.

16.3.1 Landscape character zones

The study area was divided into two landscape character zones, including landscape character zone 1 – Port of Newcastle and landscape character zone 2 – residential. Each landscape character zone is described further below.

Landscape character zone 1 – Port of Newcastle

Landscape character zone 1 includes the project, the Port of Newcastle, Hunter River, land-based industrial land uses associated with the harbour and Industrial Drive. The landscape character zone is highly modified and is currently used for industrial and port operations. It is relatively flat within proximity to Hunter River, with some mounding and higher elevation closer to Industrial Drive. The land is generally cleared of tall vegetation with the exception of trees along Industrial Drive, Mayfield East, and within the Mayfield North industrial area.

The landscape character zone is characterised by large container ships unloading and loading along the Hunter River, large-scale warehouses, silos and material stockpiles, manufacturing plants, stack and plumes, movement of large machinery cranes and transport and port operations. The landscape character zones also includes buildings associated with historical industrial operations, the gated Newcastle Steelwork Memorial and Monument, and Industrial Drive. Refer to Figure 16-2 for images of this landscape character zone.

The landscape character zone is considered to have a very low sensitivity to change, both during the day and at night.



top-left: cranes unloading container ships along the Hunter River and vacant project site in foreground, top-right: Industrial Drive looking south with the project site to the left behind dense vegetation, bottom-right: warehouse in Mayfield North Industrial Area, bottom-left: Kooragang Island industrial area

Figure 16-2 Landscape character zone 1

Landscape character zone 2 – residential

Landscape character zone 2 comprises the suburbs of Mayfield East, Mayfield, Mayfield West, Tighes Hill, Maryville and Carrington. It consists of undulating landforms with some steep hills. The landscape character zone is characterised by narrow residential streets with mostly single-storey, residential dwellings, aged care homes and schools. It also includes some light industry and commercial buildings, multi-storey buildings, heritage homes, churches and gardens. The residential streets are generally tree-lined, two-lane local roads, carrying light residential traffic at lower speeds. Some of the streets offer elevated views over adjoining suburbs and more distant ridgelines. The Mayfield East residential area is strongly associated with the development of the former BHP Steelworks and Newcastle Port industrial area. Refer to Figure 16-3 for images of this landscape character zone.

The landscape character zone is considered to currently have low sensitivity to change, both during the day and at night.



top-left: residential street with single storey cottages, top-right: dense tree-lined streets, bottom-right: sports club and motel accommodation on Industrial Drive, bottom-left: elevated residential street with view to industrial and port uses

Figure 16-3 Landscape character zone 2

16.3.2 Viewpoints

Six representative viewpoints were selected for the visual impact assessment and are described in Table 16-1.

Table 16-1 Representative viewpoints

Viewpoint		Sensitivity to change
1 - View north from Industrial Drive The viewpoint is located around 390 m from the construction and operational footprints. The view comprises a generally flat landform with a freight rail yard in the foreground. The project site is visible beyond the freight rail yard. Visual amenity from the road is not particularly valued by the wider community and does not include any protected landscape or visual features.		Low
2 - View east from Industrial Drive This viewpoint is located around 650 m from the construction and operational footprints and is representative of the view from Industrial Drive and nearby receivers. The view comprises a flat landform. The operational footprint is partially obscured by large-scale industrial buildings and commercial premises along Bull Street. Large buildings on Kooragang Island are also visible in the far background. The view does not include any protected landscapes or visual features.		Low
3 - View from Crebert Street This viewpoint is located around 120 m from the operational footprint and is the closest residential street to the project. The viewpoint is slightly elevated. Traffic moving along Industrial Drive and residential properties dominate the foreground with trees along Industrial Drive providing a visual screen between the viewpoint and most of the existing industrial area. There is a direct view into the vacant hardstand through a gap in these trees and Kooragang Island in the distance.		Low
4 - View from Bull Street The viewpoint is located around 1.4 km from the construction and operational footprints and sits within an elevated residential area. The viewpoint primarily comprises residences and trees along Bull Street. The vacant hardstand of the project site and operations within the Kooragang Island industrial area are visible in the distance.		Low

Viewpoint		Sensitivity to change
5 – View from Delprat's Quarters Delprat's Quarters is located at 133A Ingall Street, which is adjacent to the construction and operational footprints. While the cottage is privately owned and managed, it is periodically accessible to the public during open days and for university uses. The garden surrounding the cottage is an active research site. The viewpoint is slightly elevated and has a direct view of the vacant hardstand of the project site and Kooragang Island through a gap in the garden trees.		Low
6 – View from Selwyn Street, Mayfield Selwyn Street provides access to the project site and to neighbouring industrial properties. The street is not widely accessed by the public and primary services heavy vehicles accessing industrial and port areas. The existing view includes mature trees and security fencing along the property boundary, the heritage BHP Administration Building, open lawns, hardstand area, and industrial areas associated with the Port of Newcastle.		Very low

16.4 Potential impacts – construction

16.4.1 Impacts to viewpoints

Impacts on the representative viewpoints during construction would range from negligible to low. The low impacts would occur along Industrial Drive to the north where vegetation removal for the construction of the southern access (central) through the southern precinct would potentially open a new view of the construction footprint. Impacts to the view from Crebert Street and from Selwyn Street would be attributed to general construction works within the construction footprint. Large equipment and vehicles would be visible during site establishment and construction works. The proposed construction compounds are unlikely to be visible. Impacts to the view from Selwyn Street would also be due to roadworks along Selwyn Street associated with the tie-in works for the southern access (central) and any related utility adjustments.

Impacts to the views east from Industrial Drive, Bull Street and Delprat's Quarters are considered to be negligible, influenced by their low sensitivity to change and the very low magnitude of change during construction. A small portion of the construction footprint would be visible from these viewpoints. While construction vehicles accessing the site would be visible from Bull Street, these movements would be brief. The construction compound on Roll Shop Road would not be visible.

Impacts to the representative viewpoints in the study area during construction are outlined in Table 16-2.

Table 16-2 Impact on viewpoints during construction

No.	Viewpoint	Magnitude of change	Visual impact
1	View north from Industrial Drive	Low	Low
2	View east from Industrial Drive	Very low	Negligible
3	View from Crebert Street	Low	Low
4	View from Bull Street	Very low	Negligible
5	View from Delprat's Quarters (Delprat's Cottage)	Very low	Negligible
6	View from Selwyn Street, Mayfield	Moderate	Low

16.4.2 Impacts to trees

A total of 405 trees were assessed within or adjoining the construction boundary with 81 trees identified for removal during construction. The 81 trees require removal as they would be subject to major encroachment of greater than 20 per cent within the notional root zone. The significance of trees or groups of trees were assessed using a retention value system in accordance with the Institute of Australian Consulting Arboriculturists' (IACA) Significance of a Tree, Assessment Rating Systems (STARS). The system uses a scale of high, medium, and low significance in the landscape. Further information including the STARS assessment criteria is provided in Appendix A of Technical paper 12.

The assessment identified 81 trees for removal, where 12 have high retention value, 10 have medium retention value and 59 have low retention value (refer to Table 16-3).

Of the 81 trees identified for removal, 21 are located near the Crebert Street/Industrial Drive intersection, two adjoin the western boundary of the main logistics precinct and the remainder are located primarily within or adjacent to the new southern access (central). Following application of mitigation measures including the need to micro site utility connection works near the Crebert Street/Industrial Drive intersection and further refinement of the detailed design and/or construction methodology, the number of trees requiring removal is expected to reduce to less than 60 trees.

The remaining trees identified for removal during construction are primarily located within the construction footprint for the southern access (central). Further detail regarding the number, location, species, condition and visual significance of trees to be removed and retained by the project is provided in Appendix A of Technical paper 12.

Table 16-3 Trees to be retained and removed according to their retention value

Retention value	Retained	Removed	Total
Low	216	59	275
Medium	71	10	81
High	37	12	49
Total	324	81	405

16.5 Potential impacts – operation

16.5.1 Landscape character impacts

Landscape character zone 1 – Port of Newcastle

The landscape character impact on landscape character zone 1 would be negligible.

The proposed tree removal within the construction footprint along Selwyn Street would be the most noticeable change within landscape character zone 1, altering the character of Selwyn Street. However, Selwyn Street is generally only accessed by vehicles servicing the adjoining industrial area and rail corridor, and the impact would only be experienced in a small portion of the wider industrial area.

The project would operate 24 hours, seven days a week and would be lit at night with both fixed and portable lighting towers. Reach stackers with a reach of up to 16 metres would have lighting and be in use at night. The lighting generated during operation of the project would be similar to adjoining uses within the Port of Newcastle, such as the rail yard, and would be somewhat contained by trees along the western boundary of the project site. While regular movement of large renewable energy components to and from the project site via OSOM vehicles along Industrial Drive would occur, such activities are relatively common along Industrial Drive and would be temporary.

Overall, the project infrastructure and activities during the day and at night would be consistent with the existing character of the landscape character zone, and compatible with the intended uses and visual characteristics of the area. As such, impacts on landscape character zone 1 would be negligible.

Landscape character zone 2 – residential

The landscape character impact on landscape character zone 2 would be low.

Impacts would occur where cranes up to 50 metres and reach stackers up to 16 metres would introduce additional structures moving around the site during operation. While the project operations during the day would be noticeable, the change would be relatively minor in the context of the existing, adjacent industrial area, and would be largely consistent with the character of the landscape character zone.

The appearance of industrial lighting at night would increase in the residential area near Industrial Drive, where the project is closest to the adjacent residential areas in the vicinity of Industrial Drive. While there would be additional lighting along Industrial Drive, associated with operational truck movements, it would be somewhat consistent with the lighting seen on this heavily trafficked roadway. Overall, a small portion of the landscape character zone would be affected by the project at night.

16.5.2 Visual impacts

The project would have visual impacts on the representative viewpoints ranging from negligible to low during operation. The project would not be visually prominent and would be generally consistent with the industrial characteristics of the existing view from Industrial Drive looking in both directions.

Impacts to the views from Crebert Street are expected to be low. The most prominent features visible from this viewpoint would be the stored renewable energy components between the gap in the trees and the cranes up to 50 metres tall above foreground trees. Although largely screened by existing vegetation, the project would increase the amount of industrial activity visible, particularly when mobile cranes are operating close to Industrial Drive.

While a small portion of the project would be visible from Bull Street and Delprat's Quarters, impacts to these viewpoints would be negligible. The most prominent feature would be the large equipment stored on the hardstand and cranes and reach stackers moving across the hardstand. However, the view would be generally consistent with the existing views of the industrial area.

Impacts to views from Selwyn Steet are expected to be negligible. The most prominent changes would be the opening-up of the view due to the removal of trees and the new access road with heavy vehicle activity. The main logistics precinct activity would be set back from Selwyn Street and visible in the background of the view.

Impacts to the representative viewpoints in the study area during operation are outlined in Table 16-4. Photomontages for Viewpoint 3 and Viewpoint 4 are provided in Figure 16-4 and Figure 16-5. The viewpoints selected for photomontage represent locations where the project would be most visible and views from residential areas which have higher visual sensitivity than the adjacent industrial and commercial areas.

Table 16-4 Impacts on viewpoints during operation

No.	Viewpoint	Magnitude of change	Visual impact
1	View north from Industrial Drive	Low	Low
2	View east from Industrial Drive	Very low	Negligible
3	View from Crebert Street	Low	Low
4	View from Bull Street	Very low	Negligible
5	View from Delprat's Quarters	Very low	Negligible
6	View from Selwyn Street, Mayfield	Low	Negligible



Figure 16-4 Photomontage of viewpoint 3 – view east from Crebert Street at the intersection of Kitchener Parade



Figure 16-5 Photomontage of viewpoint 4 – view from Bull Street at the intersection of Barton Street

16.6 Management of impacts

16.6.1 Environmental management

The approach to environmental management and mitigation of potential landscape character and visual impacts for the construction of the project would be carried out through the development of a project specific CEMP for the main construction works.

Operation of the project, including maintenance activities of the project would be managed through a project specific OEMP.

16.6.2 Mitigation measures

Measures that would be implemented to address potential impacts on landscape character and visual impacts are listed in Table 16-5.

Table 16-5 Proposed mitigation measures – landscape and visual

Reference	Impact/issue	Mitigation measures	Timing
LV1	Lighting	All temporary and permanent lighting on the project site will be designed and operated in accordance with AS4282:2023 control of the obtrusive effects of outdoor lighting to reduce potential lighting impacts	Construction and operation
LV2	Screening	Utility works required in the vicinity of Crebert Street/Industrial Drive intersection within the construction footprint will be carried out in consultation with a qualified arborist to avoid the removal of trees.	Pre-construction
LV3	Light spill and screening	In the event of the removal of existing trees in the vicinity of Industrial Drive and Crebert Street that are currently relied upon for screening, a landscape plan will be prepared and implemented to fill any gaps in vegetation along the western boundary of the project site. This landscape plan will include fast growing native species that will provide screening where views to the site from residential areas (e.g. from Crebert Street) have emerged. When established, this screening vegetation will reduce the visibility of the project from these areas over time.	Construction and operation
LV4	Tree impacts	All trees proposed to be removed that are assessed as having a 'high priority for retention' must be inspected by a suitably qualified arborist to identify opportunities to refine the detailed design and/or construction methodology to minimise impacts and avoid their removal where practicable.	Pre-construction
LV5	Tree impacts	A Tree Protection Plan (TPP) and Tree Protection Specification (TPS) will be prepared by an arborist with a minimum AQF Level 5 qualification in Arboriculture. The TPP and TPS will be prepared and implemented prior to any works taking place on-site.	Pre-construction

17 Land use and property

This chapter provides an assessment of the potential land use and property impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

17.1 Legislative and policy context

The potential land use and property impacts resulting from the project have been assessed having regard to the following key legislation and policies:

- EP&A Act
- EP&A Regulation
- CMSC Act
- *Energy and Utilities Administration Act 1987*
- Transport and Infrastructure SEPP
- Newcastle LEP, noting the LEP does not apply to the land subject to Chapter 5 of the Transport and Infrastructure SEPP (including the project site, Steel Works Road and Selwyn Street (east of George Street)
- Defence Regulation 2016
- Defence (RAAF Base Williamtown Defence Aviation Area) Declaration 2024
- *National Airports Safeguarding Framework, Guideline C (Managing Wildlife Strike Risk)* (National Airports Safeguarding Advisory Group, 2012) (Guideline C (Managing Wildlife Strike Risk)).

This is not intended to be an exhaustive list. Additional legislation applicable to land use and property matters is referenced throughout other chapters.

17.2 Assessment approach

17.2.1 Study area

The study area for this assessment consists of the project site and the area within three kilometres of the project site.

17.2.2 Methodology

The methodology for assessing the potential land use and property impacts of the project involved:

- reviewing the legislation and policy context, publicly available land use mapping and previous reports, and relevant technical papers developed to support the preparation of the EIS
- assessing the potential changes to land use and impacts to property from construction and operation of the project

- assessing the potential impacts associated with the construction and operation of the project with regards to aviation land use controls for the RAAF Base Williamtown and Williamtown (Newcastle) Airport
- identifying mitigation and management measures to avoid, minimise and manage the potential changes to land use and property impacts identified as part of this assessment.

17.3 Existing environment

The project is within the Newcastle LGA on land zoned SP1 – Special Activities under the Transport and Infrastructure SEPP. The project site is adjacent to the Port of Newcastle lease area. A small area within the port lease area to the east of Steel Works Road and areas along Selwyn Street would be temporarily occupied during construction.

Following completion of remediation in 2018, the project site has been disused. The project site is currently owned by the NSW Government and contains a wastewater treatment plant and substation, both of which would be removed under a separate planning approval and in accordance with the Intertrade CSMP prior to commencement of construction of the project.

17.3.1 Land zoning and land uses

The zones within the land use and property study area include:

- SP1 Special Activities
- R2 Low Density Residential
- R3 Medium Density Residential
- MU1 Mixed Use
- E2 Commercial Centre
- RE1 Public Recreation
- C1 National Parks and Nature Reserves (three kilometres north of the project site).

Key land uses based on the DPIE NSW Land use dataset (version 1.5) within the land use and property study area are summarised in Table 17-1 and are shown in Figure 17-1. Key infrastructure within and surrounding the project site is shown in Figure 17-2.

Table 17-1 Key land uses within the land use and property study area

Land use	Relevance to project site
Port	The project site is adjacent to the Port of Newcastle lease area. Except for tie in works to Steel Works Road and an area to the east of Steel Works Road, the construction footprint is outside the port lease area. The area to the east of Steel Works Road would be used during tie in works for the unloading, storage and placement of plant, equipment and material required for construction works on Steel Works Road. The Port of Newcastle comprises shipping and port operations. The nearest berth to the project site is Mayfield 4 Berth, a common user berth that would be suitable for delivery of renewable energy components. Other key port users such as Stolthaven Fuel Terminal with substantial infrastructure are listed in Chapter 2 (Strategic context).

Land use	Relevance to project site
Newcastle Steelworks Memorial and Monument	The Newcastle Steelworks Memorial and Monument is located within the southwest portion of the project site, and outside the construction footprint. Public access, including carparking, is provided daily from 9:00 am and closed daily at 5:00 pm. The memorial and monument are within a secured fenced area that is accessible from a gate at the dedicated carparking area off Roll Shop Road.
Transport infrastructure	The construction footprint is bounded by rail infrastructure to the north, east and south, that is used for transporting coal and other goods to and from Port of Newcastle. The rail line crosses Selwyn Street and the operational access road. The operational access road is a continuation of the right of carriageway burdening Lot 332 DP1176879, being a shared facility under the Mayfield Industrial Estate Association Shared Facilities Register and known as 'Steel Works Road', into the Port of Newcastle lease area at the northwestern boundary of Lot 332 DP1176879. The rail line from south of Selwyn Street to the north of the project site is owned and maintained by Infrabuild. Pacific National is the rail operator for this section of the freight rail line. The operational footprint is also bounded by Steel Works Road and Selwyn Street, both of which are accessed from Industrial Drive (west of the project site).
Utilities (electrical and resource infrastructure)	Existing transmission infrastructure within the study area includes: • substations: – Waratah West substation – Waratah (Ausgrid) substation – Broadmeadow substation – Maryland substation – Tomago substation • 132 kV transmission lines from: – Mayfield north to Waratah West substation – Tomago 132 substation to Waratah West substation – Tomago 132 substation to Tomago substation – Waratah West substation to Broadmeadow substation – Waratah (Ausgrid) substation to Maryland substation – Broadmeadow substation to Argenton substation • 330 kV transmission lines from: – Tomago substation to Waratah West substation – Tomago substation to Newcastle substation (via Waratah West substation) • street lighting. The project site and construction footprint contains a substation used by the former BHP Steelworks that would be removed and a new substation would be constructed to the east of Administration Drive (south). The new substation would be clear of the southern access (central) footprint and would avoid any interaction with internal operational movements. The removal of the exiting substation and construction of the new substation would take place under a separate planning approval to the project prior to commencement of construction (refer to Chapter 22 (Cumulative impacts)). A gas main runs along the southern side of Selwyn Street, adjacent to the construction footprint and is not being impacted.

Land use	Relevance to project site
Water and wastewater infrastructure	The project site and surrounds contain various water and wastewater infrastructure, including water, sewer and drainage utilities. A wastewater treatment plant located in the project site and construction footprint is being decommissioned and would be removed under a separate planning approval prior to commencement of construction (refer to Chapter 22 (Cumulative impacts)). The associated pump station and infrastructure within the project site would also be relocated within the construction footprint prior to construction of the project to optimise operational efficiency.
Rivers and waterways	The Hunter River South Channel is located around 600 metres northeast of the project site at its nearest point. The Hunter River comprises a diverse range of important water users including (and not limited to): the Hunter Water Corporation, local councils, mining and industry, agricultural users and recreational users.
Residential	Residential areas of Mayfield East and Mayfield are located on the western side of Industrial Drive. These are supported by a commercial core on the Pacific Highway (Maitland Road) in the centre of Mayfield. Approximately two kilometres to the southeast and east of the project site are the residential areas of Stockton. The Newcastle CBD is located around two kilometres southeast of the project site.
Protected environments	The Hunter Estuary Wetlands (Ramsar wetland) is located around three kilometres north of the project site on the opposite side of the Hunter River South Channel.

Land use conflict due to hazardous or potentially hazardous developments in the surrounding area is discussed further in Chapter 6 (Hazards and risk).

17.3.2 Crown land

The project site does not contain any Crown land within the meaning of the definition under *Crown Lands Management Act 2016*. The nearest area of Crown land is located around 180 metres west of the project site on the corner of Ingall Street and Crebert Street (Mayfield East Public School).

17.3.3 Mining

There are no mining titles or licences within the project site, with the nearest exploration licence being around 2.8 kilometres east of the project site off Stockton Beach.

The operational footprint and project site is not mapped within a mine subsidence district. However, within the construction footprint, Selwyn Street, and the broader study area south of the project site is mapped within the Newcastle mine subsidence district. This mine subsidence district is defined by historic underground coal mining that has occurred south of the project site.

Mine subsidence and associated potential impacts are assessed in Chapter 6 (Hazards and risk).

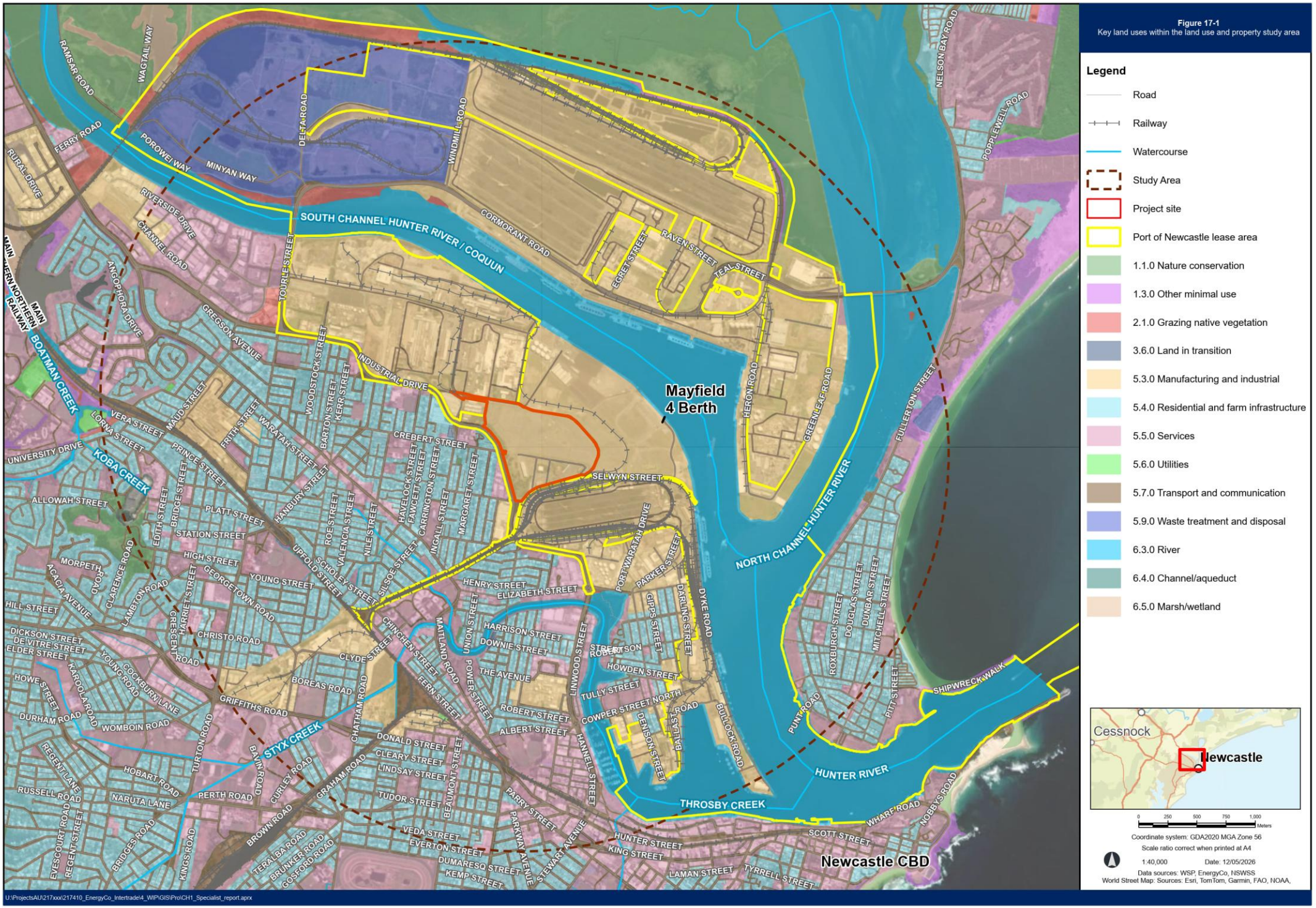

Figure 17-1
Key land uses within the land use and property study area
Legend
Road
Railway
Watercourse
Study Area
Project site
Port of Newcastle lease area
1.1.0 Nature conservation
1.3.0 Other minimal use
2.1.0 Grazing native vegetation
3.6.0 Land in transition
5.3.0 Manufacturing and industrial
5.4.0 Residential and farm infrastructure
5.5.0 Services
5.6.0 Utilities
5.7.0 Transport and communication
5.9.0 Waste treatment and disposal
6.3.0 River
6.4.0 Channel/aqueduct
6.5.0 Marsh/wetland
Mayfield
4 Berth
Newcastle CBD
SOUTH CHANNEL HUNTER RIVER / COQUUN
NORTH CHANNEL HUNTER RIVER
HUNTER RIVER
THROSBY CREEK
STYX CREEK
KOBA CREEK
BOATMAN CREEK
MAIN NORTHERN RAILWAY
Cessnock
Newcastle
0 250 500 750 1,000 Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:40,000 Date: 12/05/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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Figure 17-2
Key infrastructure within and surrounding the project site

17.3.4 Utilities

In addition to the electrical and resource infrastructure identified within the study area in Table 17-1, utilities within the construction footprint include Telstra and other private communications. Majority of the communication utilities identified are fibre optic cables, with the remainder being pipe, conduits or pits.

17.3.5 Aviation

RAAF Base Williamtown and Williamtown (Newcastle) Airport is a joint-user airport located around 12 kilometres northeast of the project site.

The National Airports Safeguarding Framework is a national land use planning framework for areas around airports that aims to:

- improve community amenity by minimising aircraft noise-sensitive developments near airports
- improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

The project site is within the Declared Defence Aviation Area for RAAF Base Williamtown and is subject to Part 11A of the (Commonwealth) Defence Regulation 2016, which provides a legal framework for controlling activities which may be dangerous to aviation. The regulation applies to activities, structures and objects within the Declared Defence Aviation Area. For this project, the relevant items include mobile cranes.

The project site is within the RAAF Base Williamtown Wildlife Hazard Area – Area C (eight kilometres to 13 kilometres), to which the *National Airports Safeguarding Framework, Guideline C* (Managing Wildlife Strike Risk) is applicable. The project site has existing open-air drainage channels, which is considered an 'attractant' under item 26 of Guideline C (Managing Wildlife Strike Risk) and should already be under a monitoring status by the airport operator under item 42 of Guideline C (Managing Wildlife Strike Risk).

17.4 Potential impacts – construction

The construction footprint is generally contained within the project site, which is owned by the NSW Government, except for tie in works on Selwyn Street and the operational access road, an additional area west of Steel Works Road associated with the tie in works, and utility adjustments.

The additional area adjacent to Steel Works Road is vacant land and would be temporarily leased from the Port of Newcastle. Upon completion of works, the area would be rehabilitated. The proposed site access connections could cause disruptions or delays to the port related movements on Selwyn Street and Steel Works Road during construction (refer to Chapter 7 (Traffic and access)). Amenity based impacts concerning noise impacts are addressed in Chapter 11 (Noise and vibration) and air quality impacts are addressed in Chapter 14 (Air quality).

There are no land use impacts expected on existing rail infrastructure during construction of the project. Potential impact on rail infrastructure is considered in Chapter 7 (Traffic and access) and potential noise and vibration impacts on project construction from the existing rail operations is considered in Chapter 11 (Noise and vibration).

Public access to and carparking for the Newcastle Steelworks Memorial and Monument would be maintained during construction of the project.

Adjustments to existing utilities within the construction footprint would be required where new infrastructure would interface with existing utilities. This would include protection or relocation works to utilities including communications, wastewater, gas lines and electrical transmission infrastructure, street lighting, temporary connection of water and wastewater utilities to the construction compound, and the permanent connections to new infrastructure (such as the operational amenities building).

The project design would continue to consider the location of, and potential impacts to, services and utilities, however construction of the project would likely require the permanent adjustment and/or protection of other utilities. Consultation with relevant service providers and the MIEA where applicable would be undertaken prior to construction to minimise disruption to services.

The Declared Defence Aviation Area for Williamtown Airport in which the project site is located has a development height limit of 90 metres. The expected maximum crane height for construction is well below this height limit (around 21 metres).

17.5 Potential impacts – operation

The project is consistent with port operations and storage activities associated with the Port of Newcastle and the objectives of the SP1 – Special Activities zone. It would utilise currently vacant land to provide for special land uses that are not provided for in other zones and would improve availability of sufficient port side storage required to support the supply chain of materials and equipment to be used on energy transmission, generation and firming projects.

The project aligns with the land use recommendations within the 2017 LUSS, which recommends that light to medium industry should occur at the project site. Likewise, the project site is considered by the Site Auditor to be in a satisfactory condition for commercial and industrial uses, and will ultimately be subject to a LEMP, prepared to be consistent with, but that will replace, the Intertrade CSMP. Further discussion is provided in Chapter 6 (Hazards and risk) and Chapter 10 (Contamination and soils).

The project would not directly interface with existing rail infrastructure or involve vibration intensive activity that could pose a risk to rail infrastructure adjacent to the project site. OSOM movements across the two level crossings would also be managed in accordance with an agreement that would be entered into with Infrabuild. This would include communication protocols to provide advance notification and, where practicable, coordination of OSOM movements. This is further discussed further in Chapter 7 (Traffic and access).

Movements to/from Mayfield 4 Berth would also be coordinated with the Port of Newcastle to minimise disruption to its operation. As these movements would be infrequent (around three heavy vehicle movements per hour, of which two would be transporting OSOM loads), any impact on other industrial or transport-related land uses that use Selwyn Street for access would be minimal. Any impact would be further minimised by the preferential use of the new northern access during the day to travel to/from Mayfield 4 Berth. However, this would be dependent on completion of the additional works by the Port of Newcastle to facilitate this access and until this time, movements would solely occur via Quayside Close and Selwyn Street.

Heavy vehicles with OSOM loads travelling to/from renewable energy projects would result in minimal impacts to other road users, with departing heavy vehicles with OSOM loads occurring in the evening and night-time periods when traffic volumes are low. This would minimise disruption to other land uses along Selwyn Street and Industrial Drive.

Public access to and carparking for the Newcastle Steelworks Memorial and Monument would be maintained during operation of the project.

The expected maximum crane height for operation of the project is below the 90 metre development height limit for the Williamtown Airport Declared Defence Aviation Area, with the largest structure during operation being cranes that are around 50 metres in height.

Relevant activities with the potential to have impacts on aviation within proximity to the project site have been determined in accordance with Attachment 1 of Guideline C (Managing Wildlife Strike Risk). Attachment 1 of Guideline C (Managing Wildlife Strike Risk) provides a Wildlife Hazard Management Action Table, outlining wildlife attraction risk for various land use types and the associated actions for existing, new and changed development. While these land use types do not necessarily align with NSW State land zoning mapping, they provide a guide to wildlife hazard management surrounding airports. The closest relevant activities to the project include:

- car park or warehouse (non-food storage): that are defined as a 'very low' attraction risk for wildlife, and for Area C, no further actions are required in accordance with item 37 of Guideline C (Managing Wildlife Strike Risk)
- water infrastructure (drains, channels and basins): that has a 'high' attraction risk for Area C, with a 'monitor' status for any new and changed development and land uses required under item 36 of Guideline C (Managing Wildlife Strike Risk). As the channels within the project site are designed to drain and not retain water for long periods of time, the risk of attracting wildlife is considered to be lower than Attachment 1 of Guideline C (Managing Wildlife Strike Risk) indicates.

The operation of the project would be consistent with industrial and logistic-based activities within the Port of Newcastle. The project is not expected to have any impacts on aviation during operation. Details of the project (as constructed) would be provided to Defence prior to the commencement of operation to include it as a site in Defence's monitoring program (refer to Section 17.6.2).

17.6 Management of impacts

17.6.1 Environmental management

Land use and property impacts would be managed in accordance with the CEMP. This would set out land use and property objectives to minimise impacts to land use and property, by detailing site boundaries, no go zones, key land use and property within and adjacent to the construction footprint, and consultation with port users to minimise impacts associated with the construction of the project such as access.

17.6.2 Mitigation measures

The mitigation measures that would be implemented to avoid or minimise potential impacts to land use and property are listed in Table 17-2. Mitigation measures in other chapters that are relevant to the management of construction and operation impacts to land use and property include:

- Chapter 6 (Hazards and risk), specifically measures that address the impacts from mine subsidence during construction and operation
- Chapter 7 (Traffic and access), specifically measures that address the impacts to traffic associated with port operations during construction and operation.

Table 17-2 Proposed mitigation measures – land use and property

Reference	Impact/issue	Mitigation measures	Timing
LU1	Land use impacts	The design will continue to be refined to minimise potential impacts on existing land uses and properties as far as practicable.	Detailed design
LU2	Impacts to utilities and services	The location of all services and utilities within the construction footprint will be confirmed during detailed design, and any required protection or relocation works will be designed in consultation with utility providers, easement beneficiaries and the Mayfield Industrial Estate Association, where applicable.	Detailed design
LU3	Impacts to port operations	To minimise disruption to port activities that use Selwyn Street and Steel Works Road, Port of Newcastle and other port and industrial users will be consulted on construction program prior to and during construction activities. This will include consultation relating to: • the timing and location of construction works, especially where there are some restrictions on vehicle or construction equipment movements • the timing and location of construction works which have the potential to impact port operations, such as tie in works on Selwyn Street and Steel Works Road.	Pre-construction Construction
LU4	Defence aviation	The details of the project (as constructed) will be provided by EnergyCo to the Department of Defence prior to the commencement of operations at the project site for the airport operator to include it as a site within their monitoring program.	Prior to operation

18 Biodiversity

This chapter provides an assessment of the potential biodiversity impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. This chapter is informed by the *BDAR Waiver Request – Newcastle Logistics Precinct* (Eco Logical Australia Pty Ltd, 2025) and the *Addendum to BDAR Waiver Request – Newcastle Logistics Precinct* (Eco Logical Australia Pty Ltd, 2026).

18.1 Legislative and policy context

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with the following legislation and key policies:

- EPBC Act
- *Biodiversity Conservation Act 2016* (NSW) (BC Act)
- *Biosecurity Act 2015* (NSW)
- *Fisheries Management Act 1994* (NSW) (FM Act)
- Biodiversity Assessment Method (BAM) (NSW DPIE, 2020a)
- *NSW Survey Guide for Threatened Frogs* (NSW DPIE, 2020b)
- *EPBC Act Survey Guidelines for Australia threatened frogs* (Department of the Environment, Water, Heritage and the Arts (Commonwealth DEWHA), 2010).

Section 7.9 of the BC Act requires that an application for SSI be accompanied by a BDAR, unless the Planning Agency Head and Environmental Agency Head determine that the project is not likely to have any significant impact on biodiversity values. This is referred to as a BDAR waiver.

Under clause 7.9(2) of the BC Act, it was determined that the project is not likely to have any significant impact on biodiversity values and, therefore, a BDAR is not required. This waiver determination was issued on 2 July 2026 by the DPHI and on 10 June 2026 and 1 July 2026 by DCCEEW Conservation Programs, Heritage and Regulation (CPHR).

As stated in Chapter 4 (Statutory context), a referral under the EPBC Act is not required, as the project would not significantly impact any MNES.

18.2 Assessment approach

18.2.1 Study area

The study area for the biodiversity assessment is the construction footprint. A 10 kilometre buffer of the construction footprint was used to undertake the Protected Matters Search, and a five kilometre buffer was used to undertake a BioNet Atlas Database 'Sightings Search'.

18.2.2 Methodology

To inform the BDAR waiver request and subsequent addendum, an ecological assessment was completed for the project (Eco Logical Australia Pty Ltd, 2025 and Eco Logical Australia Pty Ltd, 2026).

The ecology assessment involved:

- a desktop assessment, including a review of literature and the following databases:
  - NSW State Vegetation Type Map (SVTM)
  - NSW Government Biodiversity Values Map
  - High Ecological Value Aquatic Ecosystems (HEVAE)
  - BioNet Atlas Database species sightings records – five kilometres radius
  - NSW BioNet Threatened Biodiversity Data Collection
  - High Environmental Value for Hunter Regional Growth Planning area
  - BioNet Threatened Species to Plant Community Types Association data spreadsheet
  - Protected Matters Search Tool
- field survey of the project site and construction footprint completed in early 2025 and supplemented by a site visit in January 2026 to determine the presence or potential for threatened ecological communities, threatened species (and their habitats) or migratory species (and their habitats) to be present
- an assessment of potential impacts, informed by an assessment of occurrence, and supported by significance assessment (where relevant) and an assessment of prescribed impacts as defined by the BC Act
- identification of mitigation measures to minimise any potential impacts on threatened species.

Field work

Vegetation and habitat assessment and mapping was completed on 3 February and 17 February 2025 to determine the presence, condition and extent of vegetation within the study area. Two BAM vegetation integrity plots were undertaken to complete vegetation validation on-site. Data collected in each floristic plot included a list of plant species present, as well as their stratum, cover, abundance, growth form group and high threat weed status. Data collected within the functional plot included litter cover, presence of stem size classes at 1.3 metres above ground height, the number of large trees, the number of hollow bearing trees present, tree regeneration, and the total length of fallen logs.

A habitat assessment for the *Litoria aurea* (Green and Golden Bell Frog) was undertaken on 22 January 2025. Nocturnal aural visual targeted surveys were conducted on 22 January, 30 January, 3 February and 5 February 2025. The survey dates allowed for a minimum 14 day difference between the first and last surveys in accordance with the BAM Guidelines. The surveys were conducted in accordance with the *NSW Survey Guide for Threatened Frogs* (NSW DPIE, 2020b) an the *EPBC Act Survey Guidelines for Australia threatened frogs* (Commonwealth DEWHA, 2010). The targeted surveys used a call playback method for two to five minutes followed by a visual survey of the water banks to look for active frogs. The surveys were undertaken in areas of potential breeding sites.

An assessment of microbat habitat on the Roll Shop building was undertaken on 3 March 2025 and 12 March 2025. The inspection included a foot traverse targeting dark areas, looking for bats or signs of bats including urine stains, droppings, remains and bat fly castings. A handheld torch was shone into potential roosting locations including holes, cracks and crevices. A handheld ultrasonic bat call detector (Wildlife Acoustics EchoMeter 3) was carried during the inspection, as well as a thermal imagining camera (FLIR T530) which was used to check dark areas.

In support of the addendum to the BDAR waiver request, an additional site visit was conducted on 30 January 2025 to confirm that the adjustments to the construction footprint would not have a significant impact on biodiversity values.

18.3 Existing environment

Overall, the study area is a brownfield site and is considered to contain no significant biodiversity values. Further discussion is provided below.

18.3.1 Flora

The study area is located within the Sydney Basin Interim Biogeographical Region of Australia (IBRA) region, specifically the Hunter IBRA subregion.

The study area is heavily disturbed from its former use as the BHP Steelworks site and roads. There is a small area of isolated vegetation bordering Industrial Drive located outside the construction footprint and small clusters of vegetation within the construction footprint.

State vegetation type mapping indicates that PCT 4020 Coastal Creekflat Layered Grass-Sedge Swamp Forest is present within the study area. This PCT is associated with the Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions Threatened Ecological Community, which is listed as endangered under the BC Act. Ground truthing during surveys identified that the vegetation mapped as PCT 4020 has been planted and contains a mix of native, non-indigenous and exotic tree species which does not conform to a naturally occurring PCT.

Based on the vegetation integrity plot data collected, PCT 4006 Northern Paperbark-Swamp Mahogany Saw-hedge Forest is the 'best fit' PCT and has been used to identify flora species considered to have potential associated habitat within the study area. Further information is available in the BDAR waiver (Ecological, 2025).

A total of 11 flora species were identified for consideration in the habitat assessment and likelihood of occurrence assessment. Six species were recorded in NSW BioNet as occurring within five kilometres of the study area (refer to Figure 5 in the BDAR waiver (Eco Logical Australia Pty Ltd, 2025)). An additional five threatened flora species recorded were associated with PCT 4006. The assessment concluded that none of these species were likely to occur within the study area. No threatened flora species were recorded within the study area during field surveys.

Casuarina glauca (Swamp oak) was recorded in sparse quantities within the site remediation infrastructure where Virgin Excavated Natural Material (VENM) capping is present. However, this is not representative of the Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and Southeast Corner Bioregions which is listed as an endangered ecological community under the BC Act.

The majority of established woody vegetation in the study area consisted of exotic trees in garden beds and landscaped lawns around buildings. Plant species identified in this zone include *Platanus orientalis* (Oriental Plane), *Nerium oleander* (Oleander), *Jacaranda mimosifolia* (Blue Jacaranda), and some planted native species including *Melaleuca viminalis* (Weeping Bottlebrush), and *Melaleuca quinquenervia* (Broad-leaved Paperbark). Naturalised exotic species were also present including *Acacia saligna* and *Chrysanthemoides monilifera subsp. Rotundata* (Bitou Bush).

The Biodiversity Values Map and the HEVAE mapping did not identify any biodiversity features within the study area. HEVAE groundwater dependant ecosystems mapping indicated several patches of *Sporobolus virginicus* (Sand Couch Saltmarsh) within the study area. However, no Sand Couch Saltmarsh was observed during site assessments, including within areas that were mapped as Sand Couch Saltmarsh by NSW DCCEEW.

18.3.2 Fauna

A total of 91 fauna species were identified for consideration in the habitat assessment and likelihood of occurrence assessment. Sixty-nine (69) were recorded in NSW BioNet as occurring within five kilometres of the study area (refer to Figure 6 of the BDAR waiver (Ecological, 2025)). An additional 22 threatened fauna species were associated with PCT 4006. Given there is minimal native vegetation present within the study area, there is little potential habitat for any threatened fauna species. Hollows and stick nests were not observed within the trees located within the study area. Only highly mobile threatened species such as avifauna and microbats were regarded as having potential to occur in the proposed study area.

There is suitable foraging habitat within the study area for the *Pteropus poliocephalus* (Grey-headed Flying-Fox), a threatened partially migratory species listed as vulnerable under the BC Act and EPBC Act.

Three potential Green and Golden Bell Frog breeding sites were identified on-site, including a decommissioned water treatment plant, a drainage pit associated with the plant and ponding under a substation. As no Green and Golden Bell Frogs were observed or located during surveys, the species is considered to be absent from the study area. Suitable potential breeding sites were not identified within 200 metres of the study area, meaning it is unlikely the species would migrate into the study area to use as non-breeding habitat.

Targeted surveys of the bicycle shed (located east of the BHP Administration Building) and Roll Shop building determined that the structures were unlikely to provide suitable microbat habitat. Bats were not observed or heard during the aural visual inspection and there were no signs of bats such as urine stains, dropping, remains, and bat fly castings detected within the structure. However, due to the large size of the Roll Shop building and inaccessible spaces, presence of microbats cannot be ruled out entirely. One exotic species of bird, *Columba livia* (Rock Dove) was observed to be roosting within the Roll Shop building.

18.3.3 Key fish habitat

Key fish habitat within the biodiversity study area includes the Hunter River that is located around 600 metres east of the study area.

18.3.4 Wetlands

Nationally important wetlands within 10 kilometres of the biodiversity study area include:

- Hunter Estuary Wetland – located around three kilometres north
- Hexham Swamp – located around six kilometres west
- Lake Macquarie – located around 10 kilometres southwest.

The Hunter Estuary Wetlands comprises Kooragang Nature Reserve and Shortlands Wetlands Centres, located around three kilometres north and five kilometres west of the biodiversity study area (Ramsar Convention Secretariat, 2012).

The Resilience and Hazards SEPP provides an integrated policy for coastal assets. The Coastal Wetlands and Littoral Rainforest Area Map, under the Resilience and Hazards SEPP, provides two categories the 'Coastal Use Area' and 'Coastal Environment Area' (which includes the Coastal Use Area and a 100 metre buffer). Land mapped as Coastal Wetlands is located around one kilometre south of the biodiversity study area.

18.4 Potential impacts – construction

The project would not directly impact native vegetation communities as none were present within the construction footprint. The removal of planted, regrowth and exotic vegetation within the study area is required during construction. This would result in minor permanent decrease in potential foraging resources for threatened species. However, given the low quality and small extent of the potential foraging resources, it is unlikely that threatened fauna species would rely on the habitat resources within the study area for critical foraging and roosting resources, or habitat connectivity. Therefore, a significant impact on these threatened fauna species is unlikely.

The existing Roll Shop building is not proposed for demolition and would be repurposed and used for all-weather storage during operation. Construction activities associated with the repurposing of the Roll Shop building include removal of hazardous waste materials from the internal structure, repair to any damage caused by past vandalism, and increases to the size of the roller door(s) to accommodate plant and equipment. Potential impacts associated with these works include direct disturbance to micro habitats, indirect disturbance through impacts such as noise, vibration, lighting, microclimate and air quality. Works undertaken during construction to repurpose the Roll Shop building may also result in the loss or modification of potential roosting habitat where structure are removed or roosts within them are no longer accessible. To reduce impacts an unexpected finds protocol would be employed and would be activated in instance of threatened microbat activity being detected prior to works being undertaken.

Given that the project does not require construction works within key fish habitat, impacts to such habitat would be limited to rainfall events causing runoff from the construction footprint. Construction activities, including soil disturbance, stockpiling, handling and screening of materials, have the potential to generate sediment and contaminants that may be transported via perimeter stormwater channels to downstream environments. However, the implementation of standard mitigation measures outlined in Chapter 10 (Contamination and soils) and Chapter 12 (Surface water and flooding), including erosion and sediment controls to minimise soil loss and reduce stormwater velocities, would limit any degradation of water quality. Accordingly, impacts to water quality and key fish habitat are expected to be insignificant in the context of existing conditions. Given the project is located within an established industrial area of Mayfield North, adjacent to Industrial Drive, the construction footprint is already subject to high levels of traffic, noise and artificial lighting. Accordingly, any temporary increases in traffic, noise and light spill associated with construction are insignificant compared to existing levels and unlikely to have impacts on threatened species.

A significant impact assessment was undertaken for the Grey-Headed Flying-Fox due to the presence of foraging habitat within the construction footprint. While the project requires removal of potential foraging habitat, there is unlikely to be significant impacts to the Grey-headed Flying-Fox given the minimal amount of clearing required and the low quality of the habitat.

18.5 Potential impacts – operation

The project would change the level of activity within the operational footprint with activity occurring 24 hours, seven days a week, including the movement of heavy and light vehicles and use of plant and equipment, such as cranes. However, given the proximity to Industrial Drive which is frequently subject to high levels of traffic and noise, increased traffic, noise and light spill would be insignificant compared to existing levels.

The operational footprint is located within proximity to Kooragang and Carrington wharves, which frequently have bulk carrier ships moving around 40 metres above water level, operate existing cranes in the coal loading facilities and house large silos. The risk of bird and bat striking a crane in the operational footprint would not be a significant increase over any existing risk of strike in the locality. It is anticipated that birds and bats would be able to adjust to the changes without any impact of the health or condition of individual animals or their populations.

Impacts to key fish habitat during operation would be limited to minor changes in water quality associated with potential runoff from the main logistics precinct. However, the incorporation of swale drains along the perimeter of the precinct would provide water quality treatment prior to discharge into tidal stormwater channels that ultimately discharge to the Hunter River. Given that the mitigated discharge from the project is expected to represent an improvement relative to existing conditions, any impacts to water quality would be insignificant in the context of current baseline levels.

18.6 Management of impacts

18.6.1 Environmental management

The approach to environmental management and mitigation of potential biodiversity impacts for the construction of the project would be carried out through the development of a project specific CEMP for the main construction works.

Operation of the project, including maintenance activities of the project would be managed through a project specific OEMP.

18.6.2 Mitigation measures

Measures that would be implemented to address potential impacts on biodiversity are listed in Table 18-1.

Table 18-1 Proposed mitigation measures – biodiversity

Reference	Impact/issue	Mitigation measures	Timing
B1	Unexpected threatened species finds protocol	An unexpected threatened species finds protocol will be prepared and implemented during construction. If a threatened species is identified within the construction footprint, works in the affected area will cease and appropriate management actions will be implemented in accordance with the protocol, including notification to relevant authorities and obtaining any required approvals prior to recommencing works.	Construction
B2	Impacts to microbats	A pre-construction microbat survey and habitat assessment will be undertaken by a suitably qualified ecologist prior to works on or within the Roll Shop building. Where microbats are identified and likely to be impacted by the works, a microbat management plan will be prepared by a suitably qualified microbat specialist and implemented for the duration of relevant works. The plan will include appropriate mitigation measures, such as timing and staging of construction activity, noise minimisation, exclusion measures, site inductions, and monitoring protocols.	Pre-construction Construction

19 Climate change

This chapter provides an assessment of the potential climate change and greenhouse gas (GHG) impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

19.1 Legislative and policy context

19.1.1 Climate Risk Ready NSW Guide

The *Climate Risk Ready NSW Guide* (NSW DPIE, 2021a) helps NSW Government organisations to better understand their exposure to climate change risks and opportunities, and to develop plans to address them. The guide supports NSW Government organisations to successfully adapt to climate change and seize potential opportunities.

The guide outlines a four-step climate risk management process following ISO 31000 standards:

- establish the context
- identify, analyse and evaluate climate risks
- treat the risks
- monitor and review.

The guide focuses on physical climate risks from the direct impacts from rising aggregate global temperatures, while also covering transition risks and opportunities from moving to a low-carbon economy, and liability risks from climate-related compensation claims.

The project climate risk assessment (see Section 19.2) was undertaken in accordance with the guide.

Since the completion of the project's climate change risk assessment, the Climate Risk Ready NSW Guide (DPIE, 2021a) was replaced by the *Climate Risk Ready NSW Guide* (NSW DCCEEW, 2026). Consistent with NSW DCCEEW's guidance, the Climate Risk Ready NSW Guide (NSW DCCEEW, 2026) will be considered when the climate change risk register is subject to future reviews (see Section 19.2.5).

19.1.2 Climate Change and Natural Hazards State Environmental Planning Policy Explanation of Intended Effect

The *Climate Change and Natural Hazards State Environmental Planning Policy Explanation of Intended Effect* (NSW DPHI, 2026c) (Explanation of Intended Effect) was publicly exhibited between February and March 2026. It provides the explanation of the intended effect of a proposed new SEPP relating to climate change and natural hazards that will replace the Resilience and Hazards SEPP. The policy has not yet taken effect. The proposed climate change matters for consideration outlined in the Explanation of Intended Effect include:

- consider climate risk and natural hazards, taking into account projected changes as a result of climate change
- minimise risk to development from climate risk and changing natural hazard exposure as a result of climate change

- consider if the development is appropriately designed, constructed and operated to be resilient to the future impacts of climate change
- use the appropriate prescribed climate scenarios for the relevant development assessment decision, as directed by the draft *Climate Change Scenario Guidelines* (NSW DPHI, 2026d).

While SEPPs do not apply to SSI projects, the Explanation of Intended Effect has been referenced for completeness, and to demonstrate alignment with emerging policy direction.

The project climate change risk assessment (see Section 19.2) generally addresses the above proposed climate change matters for consideration. The Shared Socioeconomic Pathway (SSP) used for the project climate risk assessment also aligns with the recommended SSP for SSI projects in the draft *Climate Change Scenario Guidelines* (NSW DPHI, 2026d).

19.1.3 Net Zero Plan Stage 1: 2020–2030

The NSW Net Zero Plan Stage 1: 2020–2030 (NSW DPIE, 2020d) sets out how NSW will reach net zero emissions by 2050. The plan is estimated to generate over 2,400 jobs and attract $11.6 billion in investment, mostly in regional areas, while saving households $40 a year on their electricity bills.

The plan focuses on four areas:

- rolling out proven clean technologies
- helping people and businesses make sustainable choices
- investing in future innovation
- government leading by example.

The plan is expected to deliver a 35 per cent reduction in NSW emissions by 2030 on 2005 levels. The plan positions NSW to benefit from the global shift to clean energy, while maintaining a strong economy, improving the quality of life for the people of NSW and protecting the environment.

The project supports the plan's priority to roll out clean technologies by enabling the delivery of renewable energy zones.

19.1.4 NSW Guide for Large Emitters

The NSW Guide for Large Emitters (NSW EPA, 2025) sets GHG assessment requirements for major industrial projects seeking planning approval. It supports NSW's climate targets of 50 per cent emission cuts by 2030, 70 per cent by 2035, and net zero by 2050.

The guide applies to projects needing NSW planning approval under the EP&A Act, that involve a scheduled activity and will emit 25,000 tonnes or more of carbon dioxide equivalent in any operational year. The guide has been prepared to help planning consent authorities be informed about the climate change impacts of projects, and to support NSW in meeting its legislated GHG reduction targets.

The guide establishes a GHG emissions mitigation hierarchy that must be considered during the assessment to demonstrate how the proponent has made genuine efforts to first avoid and then reduce emissions. The guide also establishes an iterative eight step process to prepare a GHG assessment that must be followed by proponents. The NSW EPA can take a more flexible approach to applying the guide for projects that support NSW to decarbonise, support renewable energy development, and/or contribute to broader global emissions reductions.

The project GHG assessment (see Section 19.3) is consistent with the guide.

19.2 Climate change risk assessment

19.2.1 Assessment approach

A climate change risk assessment was undertaken for the project that aligns with the *Climate Risk Ready NSW Guide* (NSW DPIE, 2021a) and ISO 31000:2018 Risk Management – Guidelines. The Climate Risk Ready NSW process is summarised in Figure 19-1.

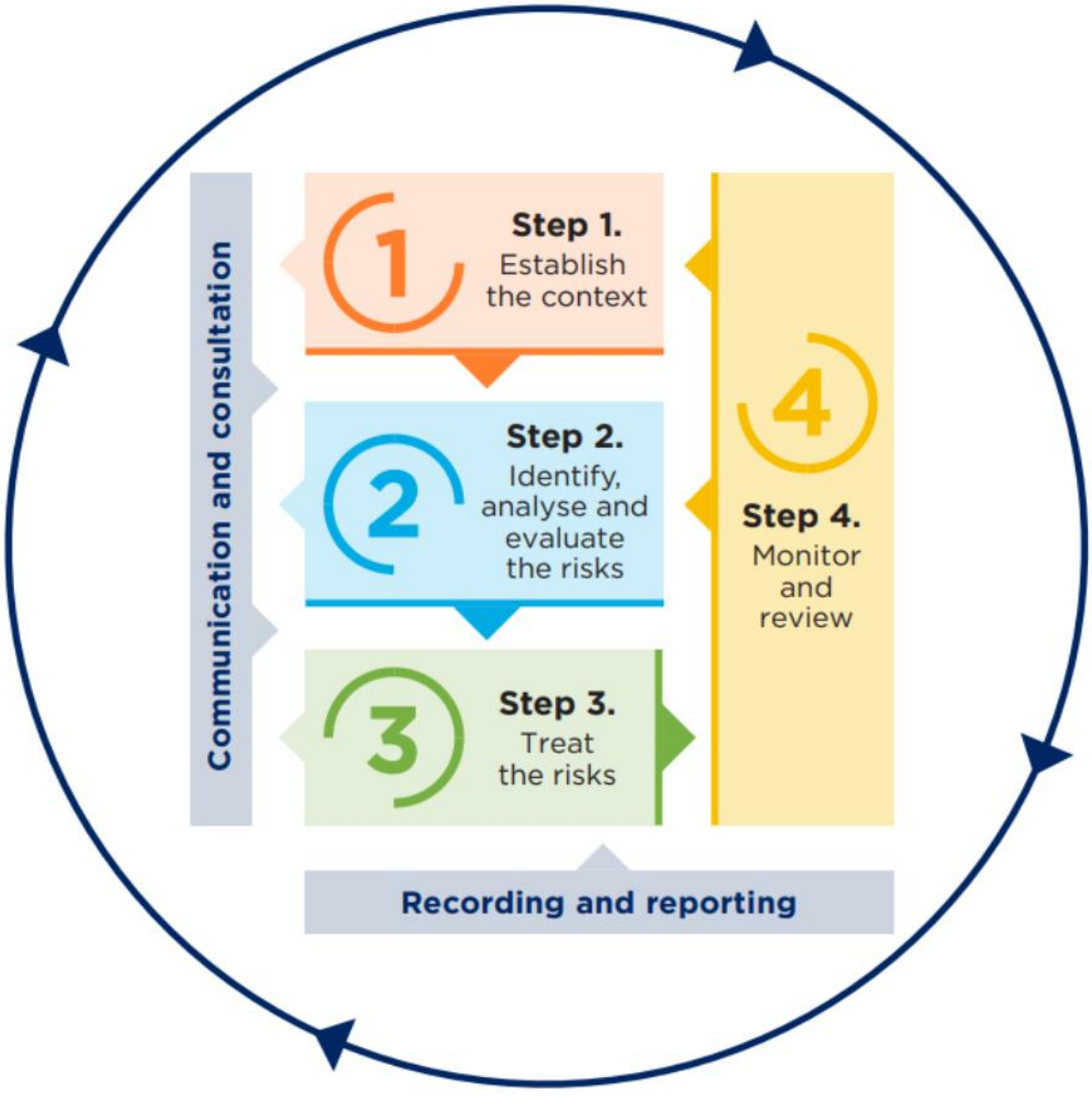


Figure 19-1 Outline of the Climate Risk Ready process aligned to ISO 31000 (source: DPIE, 2021)

Shared Socioeconomic Pathways (SSPs) are the most recent emissions scenarios adopted in the IPCC's Sixth Assessment Report. The SSPs describe how GHG emissions and socioeconomic factors – such as population, economic growth, education, urbanisation and land use – may change in the future. Global carbon dioxide emissions are modelled for a low-emissions scenario and a high-emissions scenario.

The high-emissions scenario (SSP3-7.0) assumes no additional global climate policies, leading to a doubling of CO_2 emissions by 2100 and projecting a global mean surface air temperature increase of 2.8–4.6°C by 2100 (Lee et al, 2021).

As recommended in the *Climate Risk Ready NSW Guide* (NSW DPIE, 2021a), the NSW and Australian Regional Climate Modelling (NARCliM) 2.0 projections were used as the basis for the risk assessment. NARCliM adopts the same emission scenarios as those used by the Intergovernmental Panel on Climate Change (IPCC) in their comprehensive assessment reports on climate change.

In accordance with the *Climate Risk Ready NSW Guide* (NSW DPIE, 2021a), the NARCliM high emissions scenario was used for the risk assessment, which aligns with the IPCC's SSP 3-7.0. Project climate risks were assessed at two timescales, 2050 and 2090, to align with the NARCliM projections.

A climate change risk assessment workshop was held with key project stakeholders on 4 September 2025 to identify, analyse, evaluate and treat the climate risks. The Adapt NSW Climate Risk Assessment Tool was used to guide risk identification, analysis, evaluation and treatment. The identified priority climate risks and treatments (adaptation actions) are outlined in Section 19.2.4.

19.2.2 Existing environment

The *NARCliM Hunter Climate Change Snapshot* (NSW DCCEEW, 2025) provides the baseline climate data for the Hunter region (see Table 19-1). The baseline climate data is derived from the annual average values for the 1990-2009 period. The future climate change projections outlined in Section 1 are relative to the baseline data in Table 19-1.

Table 19-1 The Hunter region's annual climate averages for the 1990 to 2009 period

Baseline data type	Temperature	Hot days (≥35°C)	Cold nights (<2°C)	Rainfall	Severe fire weather days
Observed	16.6°C	8.7	22.9	917 mm	1.1

Local historical climate data was derived from the Bureau of Meteorology's Climate Data Online Portal (accessed 2 July 2026) for the Newcastle Nobbys Signal Station (station number 061055) that is approximately four kilometres from the project site. A summary of the local historical climate data for the 1991–2020 period is provided in Table 19-2.

Table 19-2 Historical climate data for the Newcastle Nobbys Signal Station

Baseline data type	Mean temperature	Mean number of hot days (≥35°C)	Mean number of cold days (≤2°C)	Average yearly rainfall	Severe fire weather days
Observed	18.7°C[1]	3.7	0	1034.5 mm	Not available

1. Mean temperature was calculated by adding the mean annual maximum temperature to the mean annual minimum temperature and dividing by 2

19.2.3 Climate change projections

Table 19-3 summarises the NARCliM and IPCC projected climate changes (based on SSP3-7.0) for the Hunter region under the high-emissions scenario. The projections outlined in Table 19-3 were used to analyse and evaluate the climate risks across the 2050 and 2090 time periods.

Table 19-3 Projected climate change for the Hunter region under a high-emissions scenario

Climate parameter	1990–2009 baseline	2050 (high-emissions scenario	2090 (2100 for sea level rise)
Projected average annual temperature	16.6°C	18.5°C	20.2°C
Projected average annual number of hot days	8.7 days	19.5 days	32.6 days
Projected average annual number of cold nights	22.9 days	12.1 days	6.2 days
Projected average annual rainfall	917 mm	~780 mm	~836 mm
Projected average number of severe fire weather days	1.1 days	2.3 days	3.4 days
Sea level rise	Currently rising 3.7 mm/year since 1991	Rise by 18–31 cm relative to a baseline period of 1995–2014	Rise by 55–96 cm relative to a baseline period of 1995–2014

19.2.4 Priority climate change risks and treatments

Priority climate change risks and treatments (adaptation actions) identified for the project are listed in Table 19-4. The priority risks and treatments were identified using the assessment approach outlined in Section 19.2.1, based on the climate projections outlined in Section 1.

Table 19-4 Climate risks and treatments

Risk description	Pre-treatment risk rating (2050)	Proposed treatments (adaptation actions)	Residual risk rating	Timing
Potential inundation of the project site due to increase in sea level rise, leading to impacts to staff access and therefore, supply chains and timely delivery of the REZs	Low	Monitoring of extreme events to mitigate potential impacts to king tide/inundation. Prepare emergency management plan	Low	Operation
Potential inundation of the project site due to increase in sea level rise, leading to damage of heritage items	Medium	Install drainage system for access road. Maintain heritage items in accordance with EnergyCo's obligations under the Heritage Act with respect to protection against damage due to potential increase in sea level rise	Low	Planning/ Construction/ Operation
Potential rise in groundwater level due to increase in sea level rise, leading to contamination migration	Low	Site to be managed in accordance with the Long Term Environmental Management Plan, which will be revised in response to changes in sea level rise	Low	Operation
Potential inundation of the project site due to increase in sea level rise, leading to contamination migration	Low	Site to be managed in accordance with LEMP, which will be revised in response to changes in flood frequency/intensity	Low	Operation
Potential inundation of the project site due to increase in intense rainfall events, leading to contamination migration	Medium	Site to be managed in accordance with LEMP, which will be revised in response to changes in sea level rise	Low	Operation
Potential inundation of the project site due to increase in intense rainfall events, leading to impacts to staff access and therefore, supply chains and timely delivery of the REZs	Medium	Planning, monitoring and emergency management, design considerations to mitigate risks and support access to project site (flexible to support increased risk of extreme weather events)	Low	Operation

Risk description	Pre-treatment risk rating (2050)	Proposed treatments (adaptation actions)	Residual risk rating	Timing
Potential inundation of the project site due to increase in intense rainfall events, leading to damage of heritage items	High	Maintain heritage items in accordance with EnergyCo's obligations under the Heritage Act with respect to achieving and maintaining minimum standard to protect against a potential increase in intense rainfall events	Medium	Planning/ Construction/ Operation
Increased incidence of water ingress through the roof or vertical elements of the Roll Shop due to an increase of rainfall, leading to building and equipment damage	Low	Maintain heritage item in accordance with EnergyCo's obligations under the Heritage Act with respect to water ingress and protection against building and equipment damage	Low	Planning/ Construction/ Operation
Increased incidence of water ingress through the roof or vertical elements of the demountable buildings due to an increase of rainfall, leading to building and equipment damage	Low	Replacement or repair of demountable buildings as required	Low	Operation
Increased incidence of water ingress through the roof or vertical elements of heritage listed buildings due to an increase of rainfall, leading to damage of heritage items	High	Maintain heritage items in accordance with EnergyCo's obligations under the Heritage Act with respect to water ingress and protection against building and equipment damage	Medium	Planning/ Construction/ Operation
Increase in frequency of hot days damages pavement, including cracking, rutting and softening, leading to impacts to project site access and timely deliveries to the REZs	Medium	Monitor pavement and undertake spot repairs as required	Low	Operation
Increase in frequency of hot days resulting in heat stress for operational site staff, impacting health and safety	High	Monitor and plan for hot days. Prepare extreme weather plan for safety of staff	Medium	Construction/ Operation

Risk description	Pre-treatment risk rating (2050)	Proposed treatments (adaptation actions)	Residual risk rating	Timing
Increase frequency/intensity of bushfires resulting in damage to buildings and equipment damage and therefore, leading to impact to the timely deliveries to the REZs	Low	Maintain vegetated areas to minimise fuel load. Ensure emergency access to project site is maintained	Low	Operation
Increase in frequency/intensity of bushfires, resulting in air quality and dust impacts operational site staff's health and safety	Medium	Maintain vegetated areas to minimise fuel load. Ensure emergency access to project site is maintained	Low	Construction/ Operation
Risk of damage to physical equipment stored on-site (including battery energy storage systems (BESS)) due to exposure to extreme heat for long periods of time	Medium	Orient BESS containers in an east-west direction (so that the smallest surface area is exposed to the movement of the sun during prolonged periods of hot weather)	Low	Operation
Risks of exposure of hazardous materials may impact operational site staff's health and safety	Low	Adhere to relevant work, health and safety standards and NSW EPA requirements	Low	Operation
Potential inundation of the project site due to increase in intense rainfall events, leading to impacts to fauna habitats	Medium	Design for the project site considers intense rainfall events to ensure appropriate drainage is installed. Monitor for extreme events	Low	Detailed Design
Potential inundation of the project site due to increase in sea level rise, leading to increase in potential for salt damp rise, which may exacerbate fractures in the heritage building's masonry	High	Maintain heritage items in accordance with EnergyCo's obligations under the Heritage Act with respect to protection against damage due to potential increase in sea level rise that may include chemical / physical damp proofing of structures and appropriate drainage	Medium	Detailed Design/ Construction/ Operation
Emergency responders are unable to access project site in flood or extreme events, leading to impacts to staff health and project site damage	High	Project site access is considered during detailed design to ensure project site access for emergency services is provided and maintained	Medium	Detailed Design/ Construction/ Operation

19.2.5 Monitoring and review

A climate risk register will be maintained during the life of the project, with risks to be reviewed every five years, as a minimum. The effectiveness of adaptation actions will be reviewed annually.

19.3 Greenhouse gas emissions

This section summarises the GHG assessment provided in Technical paper 10 – Air quality.

19.3.1 Assessment approach

The GHG assessment was prepared using guidance from:

- the NSW Guide for Large Emitters (NSW EPA, 2025)
- the *Australian National Greenhouse Accounts Factors: For individuals and organisations estimating greenhouse gas emissions* (Commonwealth DCCEEW, 2024a)
- *Australia's emissions projections 2024* (Commonwealth DCCEEW, 2024b)
- the Intergovernmental panel on Climate Change (IPCC)'s *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC, 2006), and the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC, 2019)
- ISO 14064-1:2018, Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
- ISO 14064-2:2019, Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal *enhancements*
- the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)* (World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), 2015)
- the *Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard* (WRI and WBCSD, 2013a)
- the *Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions (version 1.0)* (WRI and WBCSD, 2013b)
- the National Australian Built Environment Rating System Tool
- the Transport for NSW Carbon Estimate and Reporting Tool (v2.1)
- the NSW DPHI Sustainable Buildings Embodied emissions tool
- the Transport for NSW Roadside Air Quality Screening tool (Transport for NSW, 2023a).

The assessment identified Scope 1, Scope 2 and Scope 3 emissions for the project. The *Greenhouse Gas Protocol* (WRI and WBCSD, 2015) classifies the three emissions scopes as:

- Scope 1 emissions are direct GHG emissions generated by the project. These are emissions produced by sources that are owned or controlled by the proponent
- Scope 2 emissions are GHG emissions released into the atmosphere from the consumption of energy generated off-site
- Scope 3 are other indirect GHG emissions. These emissions are produced by sources that are not owned or controlled by the proponent but are the result of the proponent's activities. This includes emissions associated with the extraction, production and transport of purchased construction materials.

The assessment methodology used to identify and manage the project's GHG emissions comprised the following:

- identification of potential construction and operational GHG emissions sources
- identification of project construction and operational activity data for each emissions source (including consumption rates and activity levels)
- application of relevant emissions factors to the listed emissions sources to estimate the GHG emissions in t CO2-e
- identification of mitigation measures to minimise potential GHG emissions.

The identified construction and operational GHG emissions sources are provided in Table 19-5 below.

Table 19-5 Construction and operational GHG emission sources

Scope	Emission sources
Construction	
Scope 1	Emissions from diesel combustion from mobile and stationary plant
	Emissions from diesel combustion from heavy vehicles transporting materials and equipment to/from site
	Emissions from all fuel combustion from light vehicles within project footprint
Scope 2	Electricity generated off-site to power construction plant, equipment and site offices
Scope 3	Emissions associated with production of fuels consumed
	Embodied emissions associated with construction materials utilised
	Emissions associated with workers commuting (fuel combustion from private vehicles)
	Electricity generated off-site to power construction plant, equipment and site offices
Operation	
Scope 1	Emissions from diesel combustion from light vehicles, forklifts, etc within project footprint
Scope 2	Electricity generated off-site to power construction plant, fixed lighting, security lighting and cameras, equipment and site offices
Scope 3	Emissions associated with production of fuels consumed
	Emissions from diesel combustion associated with heavy vehicles transporting renewable energy components to/from site
	Emissions associated with workers commuting (fuel combustion from private vehicles)
	Electricity generated off-site to power operational facilities, equipment and lighting

The following emissions sources were excluded from the GHG assessment:

- emissions associated with the decommissioning of project infrastructure, due to uncertainty regarding the project end-of-life phase
- emissions from land/vegetation clearing, as they were considered immaterial
- emissions associated with project maintenance, due to the large uncertainty in activity data.

19.3.2 Potential impacts – construction

The total estimated GHG emissions (from Scope 1, Scope 2 and Scope 3 sources) during construction of the project is 31,833 tCO_2-e (see Table 19-6). Scope 1 emissions from diesel consumption are the largest source of GHG emissions during construction (approximately 66 per cent). Scope 3 emissions are the second largest source of construction emissions (approximately 33 per cent), primarily due to the use of pavement. Scope 2 emissions account for less than one per cent of total construction emissions.

Table 19-6 Estimated GHG emissions during construction

Scope	Emission sources	GHG emissions during construction period (tCO_2-e)
Scope 1	Diesel consumption from construction light vehicles, mobile and stationary plant and transport of materials	21,073
	SUBTOTAL	**21,073**
Scope 2	Purchased electricity consumption	73
	SUBTOTAL	**73**
Scope 3	Extraction and production of diesel consumed	5,178
	Purchased electricity consumption	3
	Employee commuting	190
	Extraction and production of purchased materials – steel	270
	Extraction and production of purchased materials – reinforcement steel	42
	Extraction and production of purchased materials – concrete	328
	Extraction and production of purchased materials – asphalt	57
	Extraction and production of purchased materials – pavement	4,619
	SUBTOTAL	**10,687**
	TOTAL	**31,833**

19.3.3 Potential impacts – operation

The estimated GHG emissions from Scope 1, Scope 2 and Scope 3 sources during operation of the project are outlined in Table 19-7. Scope 3 emissions are the largest source of operational emissions (approximately 60 per cent), mostly due to diesel consumption from vehicles transporting off-site. On-site diesel consumption (Scope 1) is the second largest source of operational emissions (approximately 33 per cent), with Scope 2 emissions accounting for less than seven per cent of total operational emissions.

Table 19-7 Estimated annual GHG emissions during operation

Scope	Emission sources	Annual GHG emissions (tCO_2-e/annum)
Scope 1	Diesel consumption from daymakers, light vehicles and other vehicles (e.g. forklifts)	7,784
	SUBTOTAL	**7,784**
Scope 2	Purchased electricity consumption – buildings	71
	Purchased electricity consumption – lighting	1,505
	SUBTOTAL	**1,576**
Scope 3	Diesel consumption due to vehicles transporting off-site	11,874
	Purchased electricity consumption	66
	Employee commuting	53
	Extraction and production of fuel consumed	1,913
	SUBTOTAL	**13,906**
	TOTAL	**23,266**

The project's estimated total Scope 1 and 2 operational emissions is 9,360 tCO2-e per year (see Table 19-7), which is well below the SEARs and NSW Guide for Large Emitters (NSW EPA, 2025) threshold of 25,000 tCO_2-e in any financial year. As such, no further assessment is required in accordance with the NSW Guide for Large Emitters (NSW EPA, 2025).

Operation of the project would contribute to a reduction in NSW GHG emissions by facilitating the delivery of renewable energy projects and supporting the decarbonisation of the electricity grid.

19.4 Management of impacts

19.4.1 Mitigation measures

Site-specific mitigation measures have been proposed to minimise climate change and GHG impacts associated with the project. Mitigation measures are presented in Table 19-8.

Mitigation measures in other chapters and/or technical papers that are relevant to the management of climate change and GHG impacts include:

- Chapter 6 (Hazards and risk) specifically measures which address bushfire risk
- Chapter 12 (Surface water and flooding) specifically measures which address flood behaviour with consideration of future climate change
- Chapter 14 (Air quality).

Table 19-8 Proposed mitigation measures – climate change

Reference	Impact/issue	Mitigation measures	Timing
GHG1	GHG emissions	Opportunities to minimise GHG emissions during construction and operation will be investigated during detailed design, including, but not limited to: • reusing existing material and excess spoil on-site as part of pavement solution • using low carbon concrete and steel in civil infrastructure • using recycled aggregates in place of virgin materials • giving preference to environmentally labelled products and materials, such as those with Environmental Product Declarations • implementing product stewardship schemes to take back, reuse or recycle materials/products used during construction to minimise waste and associated emissions.	Detailed design
CC1	Climate change risks	The climate change risk register will be reviewed during detailed design and maintained for the life of the project. Risks will be reviewed every five years, as a minimum. The effectiveness of adaptation actions will be reviewed annually.	Detailed design Construction Operations
CC2	Climate change risks	Climate change risk treatments (from Table 19-4) will be confirmed and incorporated into detailed design, construction and operations.	Detailed design Construction Operations

20 Sustainability

This chapter outlines the project's sustainability management framework. The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

20.1 Legislative and policy context

20.1.1 EnergyCo Environment and Sustainability Plan

EnergyCo is developing an Environment and Sustainability Plan to ensure its functions are carried out in an environmentally and socially responsible way. The plan identifies five pillars that EnergyCo will focus on to drive sustainable outcomes:

- Environment and Biodiversity
- Community Investment and Employment
- Aboriginal Outcomes
- Water, Waste and Energy Efficiency
- Climate Resilience.

Objectives (the desired outcomes) and actions (steps to achieve the objectives) have been defined for each of the five pillars in the plan. EnergyCo's progress in implementing the plan will be reported in an annual sustainability report.

The proposed project sustainability management framework (see Section 20.2) and initiatives (see Section 20.3) align with the objectives and actions of the Environment and Sustainability Plan.

20.1.2 Decarbonising Infrastructure Delivery Policy

The *Decarbonising Infrastructure Delivery Policy* (Infrastructure NSW, 2024) supports the delivery of NSW Government's net zero targets; 50 per cent emissions cut by 2030, 70 per cent by 2035, and net zero by 2050 under the *Climate Change (Net Zero Future) Act 2023*. It sets expectations for NSW Government agencies to manage upfront carbon emissions in public infrastructure by making carbon a key consideration in early project stages. The policy standardises measurement and reporting, promotes early decision-making, and requires carbon management to be embedded into the project's planning and investment decisions. The policy aligns with recognised international standards and procedures for carbon measurement.

The policy lists mandatory actions that infrastructure delivery agencies must undertake at three key project stages:

- Stage 4 - Business case
- Stage 5 - Planning approval, design, and procurement
- Stage 6 - Construction and practical completion.

As outlined in sections 20.3 and 20.4, a Carbon Management Plan will be developed for the project consistent with the policy.

20.1.3 Net Zero Plan Stage 1: 2020-2030

The *NSW Net Zero Plan Stage 1: 2020–2030* (NSW DPIE, 2020d) sets out the NSW Government's strategy for reducing GHG emissions across the state while supporting economic growth and job creation. The plan forms the first phase of NSW's pathway to achieving net zero emissions by 2050 and includes a combination of NSW Government initiatives, private sector investment facilitation, and targeted partnerships with the Australian Government.

The plan identifies four priority actions focused on accelerating the uptake of low-emissions technologies, empowering consumers and businesses to make sustainable choices, investing in emissions reduction innovation, and ensuring the NSW Government leads by example. Collectively, the measures set out in the plan are intended to support a reduction in NSW emissions of approximately 36 per cent by 2030.

20.1.4 NSW Waste and Sustainable Materials Strategy 2041

The *NSW Waste and Sustainable Materials Strategy 2041: Stage 1* (NSW DPIE, 2021b) outlines the actions the NSW Government will take over a 6-year period (2021 to 2027) to transition to a circular economy. The strategy is a key policy update under the NSW *Waste Avoidance and Resource Recovery Act 2001*. The strategy aligns with the National Waste Policy Action Plan and expands the focus beyond waste reduction to include environmental benefits, economic opportunities, and emissions performance across the lifecycle of materials.

The strategy has three focus areas:

- meeting future infrastructure and service needs
- reducing carbon emissions through better waste and materials management
- protecting the environment and human health from waste pollution.

Initiatives identified in the strategy to reduce carbon emissions include the NSW Government promoting circular design and using its purchasing power to stimulate circular economy innovation and demand for recycled content.

20.1.5 Net Zero Government Operations Policy

The *NSW Net Zero Government Operations Policy* (NSW DCCEEW, 2024) provides a strategic framework for government agencies to lead by example in reducing GHG emissions and enhancing sustainability. It mandates agencies with 100 or more staff to implement 24 targeted actions aimed at improving operational efficiency, lowering energy and maintenance costs, and contributing to broader environmental and health outcomes.

Agencies must monitor and report progress using a 2018–19 baseline, with guidelines to support consistent emissions accounting. The policy reinforces a whole-of-government approach to achieving net zero emissions by 2050 that complements other government initiatives such as the NSW Electric Vehicle Strategy and the Waste and Sustainable Materials Strategy 2041.

The requirements of the policy are proposed to be embedded into project procurements (see Section 20.3).

20.1.6 NSW Government Procurement Policy Framework

The *NSW Government Procurement Policy Framework* (2024) defines the objectives and requirements that apply to NSW Government agency procurements (including construction procurements). The framework includes mandatory sustainable procurement requirements that aim to support economic participation, improve social outcomes and minimise impacts on the environment.

The requirements of the framework are proposed to be embedded into project procurements (see Section 20.3).

20.1.7 NSW Aboriginal Procurement Policy

The *NSW Aboriginal Procurement Policy* (NSW Treasury, 2021) aims to support employment and business opportunities for Aboriginal and Torres Strait Islander peoples. The policy defines mandatory requirements that apply to all NSW Government agency procurements (including construction procurements).

The requirements of the policy are proposed to be embedded into project procurements (see Section 20.3).

20.1.8 NSW Renewable Energy Sector Board's Plan

The *NSW Renewable Energy Sector Board's Plan* (OECC, 2022b) recommends actions for the NSW Government to ensure local workers, communities, and industries share in the economic benefits of the transition to renewable energy. The plan identifies minimum local content requirements for merit assessments/procurement of generation, storage and network projects delivered under the Roadmap. Minimum requirements (and some stretch goals) are recommended for supply chain inputs, employment/skills, First Nations participation, fair and ethical practice, and environmentally sustainable procurement.

The requirements of the plan are proposed to be embedded into project procurements (see Section 20.3).

20.2 Sustainability management framework

A project specific Sustainability Management Plan will be developed during detailed design and implemented for the duration of construction and operation. The plan will provide the management framework for implementing sustainability commitments in this chapter and will interface with the CEMP and OEMP as relevant. At a minimum, the plan will:

- confirm sustainability objectives, targets and actions for the project
- identify roles and responsibilities for overall sustainability management
- define a data capture and management framework for tracking achievement of objectives, targets and actions
- assess and implement feasible and relevant sustainability initiatives outlined in Section 20.3 below for the relevant project phase
- establish auditing, reporting and continuous improvement processes for the life of the project.

The plan will also outline how the project will meet or exceed the energy efficiency requirements of the National Construction Code, *NSW Government Resource Efficiency Policy* (OEH, 2019) and *Net Zero Government Operations Policy* (NSW DCCEEW, 2024). These building and performance standards are considered suitable for the project given its nature and scale.

20.3 Sustainability initiatives

Key sustainability objectives and potential initiatives to satisfy those objectives for the project are outlined in Table 20-1. Initiatives will be tested and refined with the contractor and operator, once appointed, to ensure project objectives outlined in this section are met. The objectives and refined set of initiatives will be incorporated in the project specific Sustainability Management Plan (see Section 20.2).

Table 20-1 Project sustainability objectives and potential sustainability initiatives

Sustainability objective(s)	Potential sustainability initiatives
Pursue no net loss of biodiversity	• Identify and implement measures to mitigate microbat impacts.
Maintain high environmental performance standards	• Identify and implement measures to mitigate migration of contamination and soil impacts during construction • Identify and implement measures to mitigate noise emissions during construction and operations • Identify and implement measures to minimise adverse impacts to local air quality during construction.
Protect and respect NSW's Indigenous and non-Indigenous heritage assets	• Investigate BHP Steelworks heritage interpretation options within the Newcastle Steelworks Memorial and Monument park • Develop a photographic archival recording of heritage items prior to construction • Have all construction and project personnel working on the site undertake heritage awareness training.
Create opportunities for NSW workers and small to medium enterprises (SMEs) Support equitable access for local Aboriginal businesses and employees Promote supply chain integrity and sustainability Deliver local community and landholder benefits	• Embed the requirements of the NSW Government Procurement Policy Framework (2024), NSW Aboriginal Procurement Policy (NSW Treasury, 2021) and the NSW Renewable Energy Sector Board's Plan (OECC, 2022b) into project procurements • Host sessions with local businesses to provide information on employment opportunities and procurement processes • Monitor and manage social performance as part of the CEMP and OEMP • Develop a community and stakeholder engagement plan to promote proactive and accessible communication.

Sustainability objective(s)	Potential sustainability initiatives
Reduce potable water use Advance circular economy outcomes Reduce the project carbon footprint	• Embed energy, water and waste requirements from the NSW Government Procurement Policy Framework (2024) and *NSW Net Zero Government Operations Policy* (NSW DCCEEW, 2024) into project procurements • Ensure compliance with the energy efficiency requirements of the National Construction Code, and alignment with the requirements of the *NSW Government Resource Efficiency Policy* (OEH, 2019) and *Net Zero Government Operations Policy* (NSW DCCEEW, 2024) • Investigate opportunities to minimise construction and operational water demand. Opportunities may include the capture and use of rainwater on-site, water reuse/ recycling opportunities, and the use of water efficient construction techniques • Set targets for the recovery, recycling and re-use of construction waste • Prioritise the reuse of materials onsite including suitable excavated materials and green waste • Develop (during detailed design) and implement a project Carbon Management Plan, that aligns with the *Decarbonising Infrastructure Delivery Policy* (Infrastructure NSW, 2024) and associated guidance and templates • Investigate opportunities to minimise greenhouse gas emissions including: – the installation of solar photovoltaic and energy efficient lighting, including solar powered lighting towers – using low carbon concrete and steel – using recycled aggregates – giving preference to environmentally labelled products and materials – implementing product stewardship schemes to take back, reuse or recycle materials/products.
Enhance climate and community resilience	• Develop flood emergency management and response procedures • Maintain a climate risk register • Identify and implement adaptation actions.

20.4 Management of impacts

20.4.1 Mitigation measures

Site-specific mitigation measures have been proposed to minimise sustainability impacts associated with the project. Mitigation measures are presented in Table 20-2.

Table 20-2 Proposed mitigation measures – sustainability

Reference	Impact/issue	Mitigation measures	Timing
SUS1	Sustainability management	A project specific Sustainability Management Plan will be developed during detailed design and implemented for construction and operation. At a minimum, the plan will include and address those requirements outlined in Section 20.3.	Pre construction Construction Operation

21 Waste

This chapter provides an assessment of the potential waste impacts of the project during construction and operation, and identifies mitigation measures to be adopted to avoid, minimise and manage these impacts. The SEARs as they relate to this assessment, and where in the EIS these have been addressed, are detailed in Appendix A (SEARs checklist).

21.1 Legislative and policy context

Waste management and recycling are regulated in NSW through various legislative instruments, including the POEO Act, Protection of the Environment Operations (Waste) Regulation 2014 (the Waste Regulation), Protection of the Environment Operations (General) Regulation 2022, and *Waste Avoidance and Resource Recovery Act 2001* (WARR Act), as described in Appendix C (Statutory compliance).

A key object of the WARR Act is to ensure that resource management options are considered against a waste management hierarchy in the following order:

1. avoidance and reduction of waste (avoidance of unnecessary resource consumption)
2. re-use of waste (resource recovery)
3. recycling, processing, or reprocessing waste (resource recovery)
4. recovery of energy (resource recovery)
5. disposal.

The assessment was also undertaken with reference to the following policy and strategy:

- *NSW Government Resource Efficiency Policy* (Office of Environment and Heritage [OEH], 2019)
- *NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021–2027* (NSW DPIE, 2021b).

The POEO Act, Waste Regulation and supporting guidelines, including the *Waste Classification Guidelines* (EPA, 2014) (Waste Classification Guidelines), provide classifications and descriptions that apply to waste in NSW. In particular, the Waste Classification Guidelines provide direction on the classification of waste, specifying requirements for the handling, management, transportation and disposal of each waste category as defined in clause 49 of Schedule 1 of the POEO Act. If a waste is not pre-classified, it may need to be tested to determine its classification prior to off-site disposal.

The Waste Regulation also sets distance limitations on where certain waste must be managed based on the point of origin of that waste (referred to as the principle of proximity). For waste generated within NSW, this requires any waste to be managed at facilities that can lawfully accept the disposal of that waste and that are either located within 150 kilometres from the point of origin of that waste, or at the closest or second closest facility if none are located within 150 kilometres. Restricted solid waste must also be transported to the closest facility that can lawfully accept the disposal of waste. However, pursuant to section 71(6) of the Waste Regulation, the NSW EPA may grant an exemption in relation to these requirements for the transportation of category 1 trackable waste or category 2 trackable waste. Further exemptions can be made by the NSW EPA under section 91 of the Waste Regulation.

21.2 Assessment approach

21.2.1 Study area

The study area for this assessment consists of the Newcastle LGA that the project is located within.

21.2.2 Methodology

The assessment of potential impacts associated with waste generation during construction and operation of the project involved:

- reviewing the regulatory framework for waste management, as relevant to the project
- identifying, estimating and classifying potential waste generating activities generated during construction and operation
- identifying opportunities to reduce waste generation through construction planning, continued development of the project design and beneficial re-use
- identifying potential impacts associated with waste and resource use as a result of the project
- identifying waste management measures for construction and operation.

The waste types and quantities of waste detailed in this assessment are indicative and have been identified for the purpose of determining potential waste impacts and waste management options. Typical management measures, in line with NSW regulatory frameworks, have been proposed to appropriately manage potential waste and resource use impacts.

21.3 Existing environment

Existing waste sources in the Newcastle LGA primarily include domestic, commercial and industrial waste.

Several waste management and recycling facilities operated by the City of Newcastle and private operators are located near the project and accept a wide range of wastes, including construction waste, domestic waste and recyclable materials. Table 21-1 identifies existing waste management facilities within the Newcastle LGA, and the waste types able to be received by these facilities. Hazardous waste, such as contaminated soils, within the Newcastle LGA is collected by licenced service operators and disposed of at appropriately licenced facilities located in Greater Sydney.

Newcastle is serviced by a sewerage system managed by Hunter Water, with wastewater treatment plants located in Mayfield West, Shortland, Edgeworth, Burwood and Belmont.

Table 21-1 Waste management facilities within the study area

Facility name	Operator	Wastes accepted according to waste classification	Approximate distance from project (by road)
Summerhill Waste Management Centre	City of Newcastle	• General solid wastes (putrescible and non-putrescible) • Special wastes (such as asbestos)	14 km west of the project site
Benedict Recycling Centre – Newcastle (Mayfield West)	Benedict Industries	• General solid wastes (non- putrescible)	5 km northwest of the project site
Newcastle Recycling Solutions	Newcastle Recycling Solutions	• General solid wastes (non- putrescible)	4 km northwest of the project site

21.4 Potential impacts – construction

Potential impacts during construction relate to generation and management of waste and associated potential impacts if waste is not managed appropriately. If improperly managed, waste generated during construction has the potential to contaminate soils, pollute water and generate leachate, odours and dust. This could result in associated environmental, health and safety risks.

The key waste streams expected to be generated during construction are:

- clearing and grubbing of vegetation
- general earthworks and excavation activities (refer to Chapter 3 (Project description) for further details).

The estimated potential construction waste streams and quantities generated by the project, based on the current design and indicative construction methodology, are outlined in Table 21-2. Most of the expected waste streams that require off-site disposal are anticipated to be classified as general solid waste (non-putrescible). In addition to this, small amounts of general domestic waste would be generated associated with the construction workforce at the construction compound.

Table 21-2 Indicative construction waste volumes

Construction activity	Waste stream	Potential classification of waste stream	Indicative volume
Clearing and grubbing	Green waste, including timber, shrubs, grasses, leaves and weeds	• general solid waste (non-putrescible)	Around 12 tonnes of weeds and biosecurity impacted vegetation. Around 319 m^3 (removed trees).

Construction activity	Waste stream	Potential classification of waste stream	Indicative volume
General earthworks and excavation activities	Excess excavated material that is unsuitable for re-use Groundwater inflow into excavations	• general solid waste (non-putrescible), hazardous waste or restricted solid or liquid waste subject to classification	Around 3,197 m^3 (solid waste) Small volumes of groundwater[1].
Construction of project infrastructure	Steel and other metals	• general solid waste (non-putrescible)	Nil – Steel would be sent to a recycling facility.
	Concrete and gravel	• general solid waste (non-putrescible)	Nil – concrete and gravel would be crushed and re-used on-site as fill.
Construction of site access	Asphalt, road base, concrete and gravel	• general solid waste (non-putrescible)	Around 2,920 m^3.
Maintenance of construction plant, vehicles and equipment	Vehicle/plant maintenance: • empty oil and other containers/drums • lubricants, waste oils, fuels, coolant, radiator fluid, hydraulic fluid • drained oil filters • electrical waste, including batteries and cables • tyres	• general solid waste (non-putrescible) • hazardous waste (such as containers holding oil, grease, and lubricants if residues have not been removed by washing) • liquid waste (such as oils) • special waste (such as tyres)	Nil – all vehicle and plant maintenance materials would be removed from the project site by maintenance contractors.
Transportation of materials required for construction	Transportation and packaging waste, including plastic, paper, cardboard, pallets, fumigated timber cable drums	• general solid waste (non-putrescible)	Around two skip bins per week (up to 30 m^3 per skip bin).
Dust suppression, washdown of plant and equipment and staff amenities	Wastewater, including concrete washouts and sewage prior to connection to the sewer main	• liquid waste	Around one pump out (8,750 litres) of sewage per week during the time that the construction amenities are in place prior to connection to the sewer main.

1. Volume cannot be stated as any groundwater interception is limited to where excavations occur near Selwyn Street. If groundwater is intercepted, any inflow would be short-term and in small volumes due to the limited excavations in this area.

The potential impacts associated with aspects of waste generation and improper management during construction are outlined in Table 21-3.

Table 21-3 Potential impacts associated with improper management of construction waste

Aspect of waste management	Potential impacts
Generation of waste, including excavation and handling	• environmental impacts associated with generation and handling of construction waste on-site, including: – dust from excavation, handling and movement of waste – erosion and sedimentation due to runoff from exposed surfaces during stockpiling and handling of excavated materials – sediment laden/contaminated runoff or contaminated groundwater inflows that could impact receiving environments – human health risks to construction workers due to handling of contaminated and hazardous materials, such as asbestos – excavation of potentially contaminated soils underlying BHP subgrade or in areas of potential contamination concern • energy and water consumption associated with the manufacturing of packaging.
Storage and segregation of waste	• cross contamination of wastes and soils due to improper segregation and storage • contamination of soils, groundwater and surface water from wastewater spills dependent on location of spill noting remediation capping and impervious surfaces in the southern precinct would limit this risk • human health and safety risks due to storage of contaminated soils and hazardous materials, such as asbestos • waste build up from irregular or disrupted collections • littering.
Waste transportation	• dust from loading waste onto vehicles and movement of waste on the road network • road traffic noise from waste collection vehicles, earthworks, pavement works and movement of excess excavated materials • traffic generated by movement of waste to re-use/disposal facilities • odours from loading waste onto vehicles and movement of waste collection vehicles to disposal or recycling facilities • mud tracking on road from waste collection vehicles.
Non-classified or incorrectly classified waste transport and disposal	• regulatory non-compliance • contamination of recycling facilities/landfills • contamination of soils, groundwater and/or surface water.
Unlicenced waste contractors transporting waste	• regulatory non-compliance • potential illegal dumping of waste • potential for disposal at unlawful unlicenced receival sites.
Waste recycling or disposal	• waste management facilities not able to accept waste due to limited capacity • traffic generated by haulage of waste to larger waste management facilities further away from the project.

Further potential environmental impacts associated with the handling, on-site storage and transportation of waste are considered in the following chapters:

- Chapter 7 (Traffic and access), for impacts associated with heavy vehicle movements, including transport of waste
- Chapter 10 (Contamination and soils), Chapter 12 (Surface water and flooding), and Chapter 13 (Groundwater) for impacts associated with sediment, leachate generation and handling and storage of material on the project site
- Chapter 11 (Noise and vibration), for noise impacts associated with the use of construction equipment for excavation and stockpiling, and heavy vehicle movements
- Chapter 13 (Groundwater), for groundwater impacts associated with the potential interception and management of contaminated groundwater inflows
- Chapter 14 (Air quality), for air quality impacts including vehicle emissions and dust, associated with the excavation and handling and transport of material.

The project has been designed, as far as practicable, to minimise the generation of waste through developing a project design which minimises excavation, promotes adaptive re-use of existing buildings over demolition and a construction methodology that maximises the re-use of materials.

Minor volumes of excess material consisting of BHP subgrade material and crusher dust would be generated by earthworks across the project site. Where practicable, BHP subgrade material would be re-used and placed within the main logistics precinct in accordance with a WMS and Intertrade CSMP, and crusher dust re-used on-site as fill.

To facilitate waste avoidance and reduction planning and allow for considered and responsible management of unavoidable waste, the different types of waste and materials that may be generated by the project need to be identified early in detailed design and construction planning.

Estimated construction waste quantities, including indicative volumes of excavated material, re-use and quantities of excess excavated materials, would be confirmed during detailed design and incorporated into the CEMP for the project. Waste classifications and re-use/recycling/disposal locations would also be confirmed at that stage.

Stockpiling of waste would be minimised. The majority of potential waste would be generated during earthworks within the main logistics precinct, with the target to re-use material as much as practicable. Material for re-use or disposal off-site would be segregated and stockpiled at the Bar Mill slab within the main logistics precinct and would have an indicative maximum volume of 26,000 m^3.

With the implementation of construction waste management procedures and mitigation measures provided in Section 21.6, any residual impacts would be minimal.

21.5 Potential impacts – operation

Potential impacts associated with operational waste generation and management would be consistent with those identified for the construction phase (refer to Table 21-3). However, these impacts are expected to be minor due to the fewer waste streams and significantly smaller waste volumes generated during standard operational maintenance activities.

Waste generated during operation of the project is anticipated to be minimal and would mainly relate to the following operation and maintenance activities:

- periodic maintenance activities that would have the potential to generate waste such as any vehicle and plant maintenance conducted on-site that can result in empty oil and other containers/drums, lubricants, waste oils, fuels, coolant, radiator fluid, hydraulic fluid, drained oil filters, electrical waste, including batteries and cables and tyres
- general domestic waste generated by project personnel
- vegetation management activities within the operational footprint.

The potential waste streams during operation are shown in Table 21-4.

Table 21-4 Potential waste streams during operation

Waste stream	Potential classification of waste stream
Sewerage and grey water	• liquid waste
Domestic waste	• general solid waste (non-putrescible) and general solid waste (putrescible)
Rubbish and debris	• general solid waste (non-putrescible)
Green waste from vegetation maintenance	• general solid waste (non-putrescible)
Packaging waste, including plastic, paper and cardboard	• general solid waste (non-putrescible)
Vehicle/plant maintenance	• hazardous waste (such as containers holding lubricants if residues have not been removed by washing and batteries) • special waste (such as tyres) • liquid waste (oil)

With the implementation of operational waste management procedures and mitigation measures provided in Section 21.6, any residual impacts would be minimal.

21.6 Management of impacts

21.6.1 Environmental management

The approach to waste management would be guided by the waste management hierarchy, as set out in the WARR Act, with a focus on avoidance and re-use before consideration is given to recycling and disposal. Detailed design and construction planning would continue, where practicable, to reduce material energy and fuel inputs, and incorporate sustainable procurement elements. All wastes generated from the project would be managed in accordance with the waste provisions contained within the POEO Act, and other relevant legislative and policy requirements, as defined by the instruments, strategies, policies and guidelines listed in Section 21.1.

Waste management facilities that accept waste and recyclable materials within the Newcastle LGA that the project is located within, are outlined in Section 21.3. The recycling and disposal facilities for each waste type would be determined based on availability/capacity, waste licenced to be accepted and confirmed waste classifications. Arrangements would be made with waste management facilities, prior to the delivery of waste and recyclables to any facility, to ensure that the waste types and quantities can be accepted. Where the primary waste facilities outlined in Table 21-1 are unavailable or at capacity, suitable alternative facilities would be identified as required.

Waste management during construction

Waste generated during construction of the project would be managed in accordance with the Construction waste management sub-plan, that would form part of the CEMP. The Construction waste management sub-plan would define the processes, responsibilities and management measures that would be implemented during construction to manage waste. The Construction waste management sub-plan would be prepared consistent with the *NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021–2027* (NSW DPIE, 2021) and apply the circular economy principles to waste management.

The Construction waste management sub-plan would include (but not be limited to):

- how construction waste would be managed in accordance with the waste management hierarchy of the WARR Act
- targets for the recovery, recycling and re-use of construction waste
- procedures for the handling, storage, classification, management and disposal of waste
- waste tracking and compliance management
- waste management facilities to be used by the project.

There is the potential for unexpected volumes of waste to be generated, including potentially contaminated material. During construction planning, suitable areas would be identified (within the construction footprint if practicable) to allow for contingency management of unexpected waste, including contaminated materials. Any previously unidentified contaminated material would be managed in accordance with the unexpected finds procedure and WMS.

Throughout construction, waste would be segregated to minimise contamination and increase waste diversion from landfill. The approach to managing the different types of construction waste in accordance with the waste management hierarchy would be outlined in the Construction waste management sub-plan and is provided in Table 21-5.

Table 21-5 Management of construction waste

Waste type	Hierarchy	Management of waste
Green waste	Avoid	Clearing would be minimised as far as practicable.
	Reduce	Areas to be cleared would be demarcated, to reduce incidental clearing.
	Re-use	As far as practicable, weed-free green waste would be chipped, mulched and stockpiled for re-use within the construction footprint.
	Dispose	Where green waste cannot be re-used, it would be collected by an authorised contractor and recycled off-site at an appropriately licenced facility. Weeds that present a biosecurity risk would be handled and disposed of in accordance with relevant guidelines or requirements.
Excavated materials	Reduce	Detailed design and construction planning would minimise the amount of excess excavated material generated as far as practicable. Excavated material would be classified in accordance with the Waste Classification Guidelines. Material suitable for re-use would be segregated (where practicable) to enable re-use on-site or off-site. In situ testing of soils or excavated material where excavation intersects the underlying BHP subgrade material or in areas of potential contamination concern (where a Intertrade CSMP does not apply) would be undertaken to determine the appropriate waste classification of soils/materials. Any contaminated material, including asbestos containing materials, disturbed during construction would be separated from uncontaminated material on-site to prevent cross contamination. Management of contamination would be carried out in accordance with the CEMP, WMS and WMP.

Waste type	Hierarchy	Management of waste
	Re-use	Material with suitable engineering properties that meets soil quality requirements (excluding prohibited or prescribed materials under the POEO Act and Protection of the Environment Operations (General) Regulation 2022) would be re-used within the construction footprint where practicable. The CEMP, WMS and WMP would outline procedures for the re-use of materials on-site.
	Dispose	Excess material (including contaminated material) that is unable to be re-used within the construction footprint would be transported off-site by an authorised contractor, for treatment and/or disposal at an appropriately licenced facility based on its waste classification.
General construction waste	Avoid	Procurement of surplus materials (such as concrete) would be avoided as far as practicable by adhering to the *NSW Government Resource Efficiency Policy* (OEH, 2019). Precast components would be used where practicable (such as culverts).
	Re-use	Wood waste would be stored on-site for re-use. Waste would be segregated and stockpiled on-site and collected by an authorised contractor for off-site recycling at a construction waste recycling facility where practicable.
	Dispose	Waste, including hazardous wastes, would be stored in designated storage areas and collected by an authorised contractor for off-site disposal at a suitably licenced facility.
Wastes from vehicle/plant maintenance	Avoid	Procurement of surplus oil, grease, and lubricants would be avoided as far as practicable by adhering to the *NSW Government Resource Efficiency Policy* (OEH, 2019).
	Re-use	Recyclable waste oil and oil filters would be stored in recycling bins on-site and collected by an authorised contractor and recycled off-site, where practicable.
	Dispose	Waste would be collected and stored in designated waste storage areas for collection by an authorised contractor for off-site disposal.
General domestic waste and packaging	Avoid	All personnel on-site would be mindful of consumption behaviours to avoid generating waste where practicable. Procurement of surplus materials would be avoided as far as practicable by adhering to the *NSW Government Resource Efficiency Policy* (OEH, 2019).
	Re-use	Waste training on how to use the waste bin system at the construction compound, and the level of source separation of waste required on-site. Recyclable materials would be stored at recycling bins for collection by an authorised contractor and recycled off-site where practicable. Food organics would be stored in organics bins for collection by an authorised contractor, and composted off-site at an appropriately licenced facility, where practicable.
	Dispose	Any rubbish or debris would be placed in the general waste bin for collection by an authorised contractor and disposed of off-site at a licenced waste facility.
Wastewater	Dispose	Sewage and grey water from the construction compound would be disposed to sewer.

Waste management during operation

All operational waste would be managed by the Site Manager. An OEMP (or equivalent system) would be prepared. This would include requirements for management of operational waste including the proposed approach to waste separation and sorting, storage, waste collection, handling, treatment and disposal processes to be adopted and monitoring and reporting requirements. The approach to managing the different types of operational waste in accordance with the waste management hierarchy would be outlined in the OEMP and is provided in Table 21-6. Table 21-6 also provides the contingency measures (disposal) for wastes that cannot be avoided, re-used, recycled or treated.

Table 21-6 Management of operational waste

Waste type	Waste classification	Hierarchy	Proposed waste management
Sewage and greywater	• liquid waste	Dispose	Discharge to sewer or approved septic system.
Domestic waste	• general solid waste (non-putrescible)	Dispose	Collected by regular waste collection service.
Green waste from vegetation maintenance	• general solid waste (non-putrescible)	Re-use	As far as practicable, green waste would be chipped, mulched and re-used or collected by an authorised contractor and recycled off-site.
		Dispose	Priority weeds would be disposed of in accordance with relevant guidelines/requirements.
Rubbish and debris	• general solid waste (non-putrescible)	Re-use	Collected by an authorised contractor and recycled off-site.
		Dispose	Waste that is not suitable for re-use would be collected by an authorised contractor and disposed off-site at a suitably licenced facility.
Packaging waste, including plastic, paper and cardboard	• general solid waste (non-putrescible)	Re-use	Waste would be stored in recycling bins on-site for collection by an authorised contractor and recycled off-site.
Lubricant oil	• hazardous waste (such as containers holding lubricants if residues have not been removed by washing) • liquid waste (such as oil)	Re-use	Stored in recycling bins onsite and collected by an authorised contractor for recycling at a suitably licenced facility.
Batteries	• hazardous waste	Re-use	Batteries would be collected by an authorised contractor and recycled at a suitably licenced facility.
Tyres	• special waste	Dispose	Tyres would be collected by an authorised contractor and disposed of at a suitably licenced facility.

21.6.2 Mitigation measures

The mitigation measures that would be implemented to address potential waste management issues are listed in Table 21-7. Mitigation measures in other chapters that are relevant to the management of waste includes Chapter 10 (Contamination and soils) and Chapter 13 (Groundwater). Through the implementation of these mitigation measures, residual impacts resulting from waste are anticipated to be appropriately managed.

Table 21-7 Proposed mitigation measures – waste

Reference	Impact/issue	Mitigation measures	Timing
W1	Excess excavated material and re-use	Measures to minimise excess excavated material and off-site disposal, and to maximise re-use of material on-site, will be investigated as part of the continued development of the project's design and construction methodology.	Pre-construction
W2	Re-use and recycling	Where practicable, opportunities to re-use or recycle waste generated during construction will be investigated during detailed design and construction planning.	Pre-construction
W3	Waste classification	All waste and surplus material generated by the project will be assessed, classified, segregated and managed in accordance with the Waste Classification Guidelines (EPA, 2014) and the relevant requirements of the Protection of the Environment Operations (Waste) Regulation 2014. Materials will be re-used, recycled, recovered or disposed of as appropriate.	Construction and operation
W4	Disposal of waste	All waste generated from the construction and operation of the project that requires off-site disposal will be transported to appropriately licenced waste disposal or transfer facilities or other facilities lawfully able to accept materials.	Construction and operation
W5	Waste management	A Construction waste management sub-plan will be prepared consistent with the *NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021–2027* (NSW DPIE, 2021b) and apply the circular economy principles to waste management.	Pre-construction and construction

22 Cumulative impacts

This chapter provides an assessment of the potential cumulative impacts associated with the construction and operation of the project, when considered together with other relevant future projects within the cumulative impact study area. The Secretary's Environmental Assessment Requirements (SEARs) relevant to cumulative impacts, and where they are addressed in the EIS, are provided in Appendix A (SEARs checklist).

22.1 Assessment approach

The assessment presented in this chapter is a project-level cumulative impact assessment based on the approach described in the *Cumulative Impact Assessment Guidelines for State Significant Projects* (the guidelines) (NSW DPHI, 2026f). A project-level cumulative impact assessment builds on the findings of project assessments to consider impacts from a proposed project in combination with other relevant future projects that are anticipated or reasonably foreseeable.

The guidelines identify important principles that should be considered in the approach to cumulative assessment, including proportionality. The approach to the assessment has been informed by these principles by focusing on assessment matters that could be materially affected. The selection of relevant future projects considered in the assessment was based on project size, project timeframe, planning status, and project location as outlined in section 3.4 of the guidelines (NSW DPHI, 2026f).

Projects with the following planning status were considered in the assessment:

- proposed projects: projects currently subject to environmental assessment with publicly available information
- approved projects: projects that have not started construction or that are currently under construction where construction periods overlap with this project
- changes to existing projects.

Searches to identify relevant future projects (as outlined in section 3.4 of the guideline) included:

- SSD or SSI projects
- projects that are classified as designated development and require an EIS
- projects that require assessment under Division 5.1 of the EP&A Act and are likely to significantly affect the environment and require an EIS
- projects that have been declared to be a controlled action under the EPBC Act
- any major greenfield and urban renewal developments that are scheduled for the area (such as new areas zoned for urban development).

As part of the relevant future projects that were selected based on the above criteria, a specific category of ‘related development’ has been identified, these being defined as development that responds to the opportunities created by the project or which is required as a result of the project.

The relevant future projects outlined in the Scoping Report have been refined based on database searches undertaken on 25 May 2026. This has resulted in some relevant future projects being removed from further consideration as:

- the potential for material cumulative impacts is not anticipated based on the outcomes of the impact assessments documented in this EIS, or
- there is a lack of publicly available information (e.g. projects that have not advanced to an EIS and/or SEARs have lapsed since identification in the Scoping Report), or
- construction of the relevant future project has been completed since the preparation of the Scoping Report.

22.2 Identified projects

The relevant future projects that were considered as having the potential to result in cumulative impacts with the project are shown in Figure 22-1 and described in Table 22-1. This excludes the Port to REZ program of works in the Newcastle LGA as the intersection upgrades are either complete or are scheduled for completion in mid-2026.

For Projects 4 and 6, both had been scheduled for construction in 2025 and completed in 2027. However, construction has not commenced on either project. In the absence of publicly available information on the revised delivery programs, it is assumed there would be an overlap with the projects during construction.

The potential for cumulative impacts is dependent on the scale and nature of the potential impacts of the project in combination with relevant future projects, and sensitivity of the receiving environment. Table 22-1 identifies the future projects that could potentially contribute to cumulative impacts on key matters with the project. The key matters considered in Table 22-1 included traffic, noise and social impacts. Potential cumulative impacts are discussed by key matter in Section 22.3. The cumulative impact assessment is a qualitative assessment, with the exception of the cumulative traffic impacts.


Steel River East Battery Energy Storage System (BESS) (Mayfield West)
Hunter Valley Hydrogen Hub (Kooragang Island)
Port Terminal Facilities Mayfield
Internal port road
Removal of the existing wastewater treatment plant
Removal and construction of a new substation
SOUTH CHANNEL HUNTER RIVER / COQUUN
NORTH CHANNEL HUNTER RIVER
HUNTER RIVER
THROSBY CREEK
MAIN NORTHERN RAILWAY
MINYAN WAY
POROWEI WAY
DELTA ROAD
CORMORANT ROAD
EGRET STREET
RAVEN STREET
CURLEW STREET
TEAL STREET
TOURLE STREET
BULL STREET
INDUSTRIAL DRIVE
WOODSTOCK STREET
GAMACK STREET
BARTON STREET
KERR STREET
WISE STREET
AVON STREET
ARTHUR STREET
CREBERT STREET
WARATAH STREET
REGENT STREET
DORA STREET
FITZROY STREET
TEXAS STREET
BAKER STREET
HANBURY STREET
CHURCH STREET
HAVELOCK STREET
FAWCETT STREET
CARRINGTON STREET
INGALL STREET
MACQUARIE STREET
MAITLAND ROAD
ROE STREET
RAWSON STREET
VILLIERS STREET
SUNDERLAND STREET
BRAYE STREET
PLATT STREET
MARGARET STREET
HENSON AVENUE
SMITH STREET
GREAVES STREET
GEORGE STREET
ADMINISTRATION DRIVE
SELWYN STREET
QUAYSIDE CLOSE
HERON ROAD
GREENLEAF ROAD
MOUNTER STREET
FERNDALE STREET
NEVILL STREET
VALENCIA STREET
NILE STREET
IDA STREET
MYOLA STREET
SCHOLEY STREET
UPFOLD STREET
YOUNG STREET
MABEL STREET
WENTWORTH STREET
MOATE STREET
CHATHAM ROAD
BRETT STREET
NELSON STREET
ISLOF STREET
UNION STREET
WILLIAM STREET
ELIZABETH STREET
HENRY STREET
JOHN STREET
KINGS ROAD
GROSS STREET
PORT WARATAH DRIVE
PARKER STREET
DARLING STREET
SCOTTS STREET
GIPPS STREET
DYKE ROAD
Figure 22-1
Relevant future projects
Legend
Road
Railway
Watercourse
Newcastle Steelworks Memorial and Monument
Relevant future projects
Project Site
National Park
Newcastle
B89
0
200
400
600
800
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:21,000
Date: 24/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, METI/
U:\Projects\AU\217xxx\217410_EnergyCo_Intertrade\4_WIP\GIS\Pro\PS217410_SIA\PS217410_SIA.aprx

Table 22-1 Projects with the potential for cumulative impacts

Relevant future projects	Status[1]	Timing	Description	Possibility for cumulative assessment
1. Removal and relocation of the existing wastewater infrastructure within the project site (related development)	Construction	To be completed prior to Q2 2027	An existing substation and wastewater treatment plant are located within the construction footprint. The wastewater treatment plant would be removed, and the substation relocated within the project site (near Administration Drive). The interim wastewater pump station and pipeline, located within the construction footprint, would also be removed and a permanent pump station and pipeline would be constructed within the project site.	None. These activities will be completed in advance of construction commencing on the project.
2. Removal and construction of a new substation within the project site (related development)	Construction			
3. Construction of a new internal port access road from Steel Works Road to Berth 4 within the Port of Newcastle lease area (related development)	Under development	Unknown	An internal road connection from the operational access road to Mayfield 4 Berth.	Given the status of the project, potential cumulative construction impacts are unknown and this project has not been considered further. During operation, the southern accesses to Mayfield 4 Berth would be used until the internal access road has been provided by the Port of Newcastle. The assumptions for the traffic impact assessment as presented in Chapter 7 (Traffic and access) have accounted for this requirement.
4. Steel River East Battery Energy Storage System (BESS)	Approved (March 2026)	Unknown	The Steel River BESS project involves the construction and operation of a BESS adjacent to the Mayfield West Zone Substation.	Given the separation distances to the project, there is limited potential for material cumulative impacts to arise. However, the noise, social and traffic impacts have been included for further cumulative impact assessment in Section 22.3.

Relevant future projects	Status[1]	Timing	Description	Possibility for cumulative assessment
5. Port Terminal Facilities, Mayfield				
a. Mayfield – Concept Plan (Mayfield Concept Plan) (MP09_0096)	Concept plan - Approved (2012)	N/A	Approved in 2012, the concept plan generally applies to the same land subject to the Mayfield multi-purpose terminal approved in 2001. It provides for the development of the site into five precincts to enable progressive development (which at the time, was envisioned to be completed by 2034). As of May 2026, only two projects are operating under the Mayfield Concept Plan, being: • Stolthaven Fuel Terminal (SSD-7065), which commenced operations in May 2016 • Mayfield Cargo Storage Facility (DA8137), which commenced operations in July 2017. This has since been modified, including modification 4 (discussed below).	Existing operations of approved developments operating under the Mayfield Concept Plan have been captured in the existing environment (baseline) for the project. In the event that future projects are submitted under this concept plan, then those projects would need to assess the cumulative construction or operational arising impacts from this project. Noise and traffic limits imposed on the concept plan (and associated projects) have been considered further in the cumulative impact assessment in Section 22.3. Material cumulative social impacts are not expected, given the nature of the proposed social impacts identified for this project and the nature and timing of future development at the Port of Newcastle.

Relevant future projects	Status[1]	Timing	Description	Possibility for cumulative assessment
b. Modification 4 to the Mayfield Cargo Storage Facility (DA8137)	Under assessment		The modification seeks to extend the boundary of the existing storage facility to store general cargo, including BESS units. It would expand the site boundary to the southwest, by around six hectares. Physical works to facilitate the expansion would occur under existing approvals (DA293-08-00) or as exempt development.	This modification does not seek to change the noise or traffic limits imposed under the Mayfield Concept Plan. Consideration of this modification during operation has been captured under the existing baseline and/or though consideration of the noise and traffic impacts in the context of limits imposed under existing approvals. The modification does not present any details on likely construction program, noise or traffic volumes likely to be generated during construction as the works would be completed under existing approvals. As such, further consideration for traffic impacts on road network performance has not been completed. Qualitative assessment for construction noise has been considered further. For social, no material social impacts are expected given the nature of the proposed modification and the nature of the proposed social impacts for this project.

Relevant future projects	Status[1]	Timing	Description	Possibility for cumulative assessment
c. Mayfield multi-purpose terminal (DA293-08-00), as modified, and Modification 10 to Mayfield multi-purpose terminal (DA293-08-00)	Approved in 2001 Mod 10 - under assessment		The Mayfield multi-purpose terminal lies between the project site and the Hunter River. The approval as it relates to the construction and operation of a multi-purpose terminal to the east and north of the project site. As part of the approved multi-purpose terminal, only the general cargo handling facility has commenced operations (in 2010). The modification proposes to extend the area in which general cargo can be stored. It seeks to formalise the temporary relocation of the general cargo handling facility that was approved under a prior modification and remove the prescriptive boundaries associated with this activity.	This modification seeks to formalise and extend current cargo storage activities within the Port of Newcastle. No construction work is proposed, and the modification identifies that the operations would occur within the approved limits imposed under the 2001 approval and the Mayfield Concept Plan. In particular, operational traffic generated by the multi-purpose terminal is managed under and reported in accordance with the Mayfield Concept Plan (GHD, 2026). Consideration of this modification has been captured under the existing baseline and/or though consideration of the noise and traffic impacts in the context of limits imposed under existing approvals.
6. Hunter Valley Hydrogen Hub	Approved (May 2024)	Unknown	Construction and operation of a hydrogen production facility, including onsite storage, tube-trailer loading facility, distribution via pipeline, onsite hydrogen refuelling station, water and utility connections and other onsite infrastructure.	Given the separation distances to the project, there is limited potential for material cumulative impacts to arise. However, the noise, social and traffic impacts have been included for further cumulative impact assessment in Section 22.3.

1. As of 25 May 2026

22.3 Potential cumulative impacts

22.3.1 Traffic and access

This section provides a summary of the cumulative assessment presented in Technical paper 2.

Construction

As identified in Chapter 7 (Traffic and access), the project would generate 110 light vehicle movements and 40 heavy vehicle movements during the AM and PM peak hour during peak construction.

The cumulative assessment of Projects 4 and 6 has applied the worst-case scenario for construction vehicle volumes that these developments expect to travel along Industrial Drive concurrently with this project. To account for potential cumulative construction impacts, the following additional volumes have been added to the 2027 with construction scenario:

- 79 light vehicle movements in the northbound direction on Industrial Drive during the weekday AM peak and 79 light additional vehicle movements in the southbound direction on Industrial Drive during the weekday PM peak
- four heavy vehicle movements in each direction along Industrial Drive.

No information is available for construction vehicle movements associated with modifications under assessment for Project 5. As such, contribution from these projects to traffic volumes have not been accounted for.

The modelling indicates that the assessed cumulative conditions for the project during the construction period are expected to be very similar to those reported in Chapter 7 (Traffic and access). The cumulative impacts would have minor impacts on the road's capacity and efficiency and minimal impacts on street parking, public and private transport property access, and emergency vehicle access throughout the construction period. Further, all intersections would operate at satisfactory levels of service and would not require any upgrades. Impacts on active transport are expected to be negligible.

Operation

Both Projects 4 and 6 are expected to generate a small number of light vehicle movements during the weekday AM and PM peak hours. As such, operational traffic volumes from these developments have not been included in the operational cumulative traffic and access assessment.

For Project 5, the then Minister for Planning's approval of the Mayfield Concept Plan imposed limits on the total number of operational heavy vehicle movements generated by the development and provided for the staged increase in heavy vehicle movements if certain requirements were satisfied. This ultimately requires the completion of a Transport Management Strategy before the upper limit is permitted.

The staged approach was implemented to ensure any required future infrastructure upgrades are identified and delivered in response to future network capacity constraints, while acknowledging the uncertainties that informed the assessment assumptions. This included an assumed peak hour trip generation of 1,775 vehicles by development on the project site (AECOM, 2010), which did not form part of the Mayfield Concept Plan. The Mayfield Concept Plan had also identified a possible link road and additional intersection connection through the project site to alleviate pressure on the Ingall Street and George Street/Selwyn Street intersections with Industrial Drive, which did not form part of the Mayfield Concept Plan.

The conditions of approval were modified in 2014 to reflect changes in future forecasting of traffic generation under the Mayfield Concept Plan and to improve clarity of the vehicle limit relative to the staged development under the Mayfield Concept Plan. This identifies the initial limit of 95 heavy vehicle movements in peak periods, or 1,268 heavy vehicles per day. This initial limit is currently in place based on the available compliance monitoring released by the Port of Newcastle. The Port of Newcastle's traffic report for the November and December 2025 period identified an average of 22 heavy vehicle movements during the peak period, or 251 heavy vehicles per day (Port of Newcastle, 2025).

Within the 2040 Port Master Plan (Port of Newcastle, 2019), the Port of Newcastle has acknowledged growing pressure on Ingall Street and indicates that a future one way arrangement for Port of Newcastle traffic, with entry via Ingall Street and exit via Selwyn Street, may need to be considered as part of the ongoing review of access infrastructure.

To assess the cumulative impacts of the project with future traffic generated at the Port of Newcastle in 2037, the quantitative assessment accounted for 95 heavy vehicle movements per peak hour as per the limit imposed by the Mayfield Concept Plan approval, and 90 light vehicle movements per peak hour, as presented in the assessment documentation prepared for the Mayfield Concept Plan (AECOM, 2010). These were evenly split between the Industrial Drive and George Street intersection (I-01) and the Industrial Drive and Ingall Street intersection (I-03).

The cumulative 2037 scenario indicates that cumulative operational impacts on the surrounding road network are low and operational conditions with cumulative traffic are expected to be very similar to those reported in Chapter 7 (Traffic and access).

With respect to implications to road and rail infrastructure under the Mayfield Concept Plan, the project does not propose or require any changes to road or rail infrastructure. Any further road or rail infrastructure required in response to the Transport Strategy required under the Mayfield Concept Plan conditions of approval and any interaction with the project is a matter for Port of Newcastle in future planning and applications.

22.3.2 Noise and vibration

This section provides a summary of the cumulative assessment presented in Technical paper 7.

Construction

Two modifications have been submitted for Project 5, one of which does not require any construction work (Project 5c). For Modification 4 to the Mayfield Cargo Storage Facility (DA8137) (Project 5b), a construction noise impact assessment has not been provided as part of the modification application, which would involve construction of new pavement across six hectares. As a conservative assumption, being works occur concurrently and both projects contribute the same noise level at the nearest receivers, the worst-case resulting noise levels may be up to 3 dB louder than the maximum predicted level from either project.

The noise assessments for Projects 4 and 6 indicated that construction works would not exceed the NMLs. Given the distance of each project from the project site and the low noise volumes, the projects are not expected to generate cumulative noise impacts.

Operation

Projects 4 and 6 are not expected to exceed the operational project noise trigger levels and have not been considered further in the operational cumulative noise assessment.

Given noise from port operations, including Stolthaven Fuel Terminal and Mayfield Cargo Storage Facility under Project 5, are managed in accordance with the Mayfield Concept Plan Noise Verification Monitoring Program. As published in February 2026, the 2025 Annual Noise Verification Review (AECOM, 2026) reported that the operations subject to the Mayfield Concept Plan complied with applicable conditions of approval. It is assumed noise levels from all operations in the

Port of Newcastle lease area are compliant with the relevant NSW Noise Policy for Industry (NSW EPA, 2017b) criteria. The modifications to the Mayfield multi-purpose terminal and the Mayfield Cargo Storage Facility identified that neither would increase existing noise emissions or introduce any new noise sources. Therefore, there is a low likelihood of cumulative current and future operational noise impacts with this project.

22.3.3 Social

This section provides a summary of the cumulative assessment presented in Technical paper 11.

Construction

Cumulative impacts to surroundings (amenity) and accessibility are expected to be negligible (prior to mitigation).

The SIA completed for Project 4 and Project 6 identified that the relevant future projects may result:

- impacts to surroundings (amenity) due to construction noise, dust and vibration and increased traffic movements to communities in the vicinity of the projects. Both SIAs completed for Project 4 and Project 6 identified this would result in a low impact following the implementation of mitigation measures. However, it was identified that amenity impacts due to construction of Project 6 was limited to potential impacts to nearby recreational receivers and not residential receivers given the distance to residential areas
- impacts to accessibility due to increased traffic movements during construction. A low impact was identified for Project 4, following the implementation of mitigation measures. For Project 6, this was identified as having no material impact to communities within the social locality.

The interaction of Projects 4 and 6 with the project may contribute to a heightened perception of disturbance, particularly for receivers already exposed to existing industrial activity. However, given the industrial baseline of the social locality, the distance to sensitive receivers in Mayfield East, the temporary and localised nature of construction impacts, and the effectiveness of standard mitigation measures, it is unlikely that cumulative impacts to surroundings (amenity) would be materially exacerbated.

With respect to cumulative impacts to accessibility, the interaction of Project 4 and the project may contribute to a perceived increase in congestion and reduced ease of movement. However, it is unlikely accessibility impacts would be exacerbated given the existing function of the road network and the temporary and localised nature of construction related disruptions. As identified above, Project 6 would have no material impact on accessibility, and therefore cumulative impacts are unlikely.

Given the absence of material impacts associated with the Project 5, absence of information on the construction activities associated with Project 5b, and the existing capacity of the surrounding industrial road network, no cumulative impacts would occur during construction.

Operation

The SIA completed for Project 4 and Project 6 identified that the relevant future projects may result:

- impacts to surroundings (amenity). Both SIAs concluded impacts to surroundings would be low, following the implementation of mitigation measures due the separation to residential areas, limited traffic generation and operational noise
- impacts to accessibility. Both SIAs concluded negligible impacts to accessibility due to the low traffic generation during operations.

Given the location of Projects 4 and 6, the limited scale of operations, the industrial setting and low residual impact of each project on surroundings (amenity), the cumulative impacts on surroundings is expected to be negligible.

For impacts to accessibility, Projects 4 and 6 would have negligible impact and as such, cumulative impacts as a result of the project are considered negligible.

22.4 Management of impacts

The implementation of issue-specific mitigation measures for the project will limit its contributions to any cumulative impacts, and no further mitigation is considered necessary.

23 Justification and conclusion

23.1 Project need and benefits

The Australian Government is committed to coordinated global action to reduce greenhouse gas emissions in line with the Paris Agreement and has legislated targets to reduce emissions by 43 per cent below 2005 levels by 2030 and to net zero by 2050. Independently, the NSW Government has set a goal to achieve net-zero emissions by 2050 (NSW Government, 2020).

The 2026 ISP outlines an optimal path for generation, storage and network investment in the NEM to meet both consumer needs and government policies, at least cost, to 2050. The 2026 ISP identifies the need for a total capacity of nearly 120 gigawatts of grid-scale wind and solar renewables by 2050 to replace coal-fired generation and meet rising demand, firmed by grid-scale storage and backed up by flexible gas-powered generation (AEMO, 2026).

The NSW Government's Electricity Strategy and the Roadmap establishes NSW's plan to deliver the major infrastructure needed to modernise the electricity system and power the economy. It sets out NSW's commitments to coordinate and unlock investment in replacement generation as NSW's existing coal-fired power stations close. The five identified REZs, including CWO REZ and New England REZ, are a key part of the NSW Government's work to coordinate and encourage investment in new energy infrastructure, and realise the objectives of the 2026 ISP and the Roadmap.

The delivery of projects would require importation of OSOM equipment, most notably wind turbine components, high-voltage transformers, synchronous condensers and other equipment that would be required for construction of the REZ network infrastructure, renewable energy generation and firming infrastructure projects. An essential aspect of the logistics challenge is the import of this equipment through marine ports, and the associated storage prior to road transport to the REZs and non-REZ locations.

The Port of Newcastle has been identified as the critical import and logistics hub to facilitate the transition to renewable energy in NSW. To support the development that is required to achieve the objectives of the Roadmap and targets of 2026 ISP, the project would facilitate the timely development of new grid-scale renewable projects within REZs, such as CWO REZ and New England REZ, and non-REZ locations by providing a strategically located port facility, adjacent to the Port of Newcastle lease area.

With the existing portside storage at Port of Newcastle lease area already well utilised by other industries, this project is critical for addressing the shortage of port storage capacity for components required for the development of REZs and their delivery program. The project would almost double the existing port storage capacity for equipment and utilisation by renewable energy projects, and reduce the reliance on the well-used hardstands in the vicinity of the Mayfield 4 Berth. As a result, the NSW Government and renewable developers would have greater certainty over critical REZ project logistics and greater confidence in achieving the targets set out in the strategic plans and policies and unlocking investment for renewable energy projects.

23.2 Strategic context

The Australian, NSW and local governments in consultation with industry have put in place several plans and policies to support the energy transition (as described in Chapter 2 (Strategic context)). In accordance with SEAR 2(h)(i), the project is consistent with these plans and policies as it is critical port logistics infrastructure that would support the supply chain for renewable energy components through Port of Newcastle and timely development of new grid-scale renewable projects within NSW. It would assist in the development of new grid-scale renewable energy projects, contributing to the decarbonisation of the electricity network and lowering emissions.

The project is located on land that is appropriately zoned for a port facility and was selected as the preferred project as it:

- is strategically located adjacent to Mayfield 4 Berth and in proximity to the arterial road network that is designed and approved to accommodate RAV and OSOM vehicles
- connects with EnergyCo's Port to REZ program of works between the Port of Newcastle and the REZs
- provides the space required for the unloading, loading and storage of materials and equipment associated with renewable energy projects, and is of sufficient size to enable EnergyCo to manage delivery of components for renewable energy generation projects
- is on NSW Government owned land
- is on land that is suitable for industrial and commercial uses following the completion of remediation works in 2018
- provides for the opportunity to expand to meet future demand (if required).

23.3 Consideration of community views

In accordance with SEAR 2(h)(ii), this EIS has considered the social impacts and benefits of the project, including community views. The engagement completed with the community and community groups for the project is detailed in Chapter 5 (Engagement) and Appendix D (Engagement summary). This found that the redevelopment of the former BHP Steelworks site and the proposed use as a port logistics precinct was generally supported, but some expressed concern about the energy transition more broadly and its effects on the Newcastle community.

Concerns were raised with respect to traffic (primarily OSOM movements) and noise related impacts during construction or operation by some community stakeholders, however, most residents advised that noise was not a major concern in the context of the existing noise environment.

Interest was also expressed by key heritage community groups on the impacts of the project on heritage items associated with the former BHP Steelworks site, future re-use of buildings within the project site, the long-term management of heritage buildings, and reinstating access to the memorials located within the project site.

This feedback has been considered in the development of mitigation and management measures, where potential impacts may arise as a result of the project. The project has been developed to avoid the need for direct impacts to buildings within the construction footprint and has provided for the adaptive re-use of the heritage-listed Roll Shop building. The project does not require any heritage-listed building to be demolished.

EnergyCo, in direct response to the feedback received, has reinstated public access to the memorials between 9 am and 5 pm and committed to maintaining access during construction and operation. Long term management of the buildings within the southern precinct, other than the Roll Shop building, is beyond the scope of the project and is addressed by EnergyCo separately.

EnergyCo is undertaking work to identify opportunities for partnership with local community organisations and to support appropriate management of heritage items associated with the project site, including undertaking ongoing discussions with NIHA regarding ways to commemorate industrial heritage and protect relics.

Further detail on the engagement completed and how the issues raised have been addressed is provided in Chapter 5 (Engagement) and Appendix D (Engagement summary).

23.4 Actions taken to avoid or minimise the impacts of the project

In accordance with SEAR 2(h)(iv), the project has been (and would continue to be) developed with consideration of both technical and environmental considerations with the objective to avoid and minimise impacts to the community and environment (as far as practicable). Project development has also aimed to maximise the site area available for storage of materials and equipment, logistical movement of OSOM components as well as provide adequate capacity in the pavement for lifting of OSOM components, utilising cranes and reach stackers.

The concept design has been developed based on existing site information and the requirement to maintain and/or reinstate the previously installed remediation infrastructure at the project site.

Key considerations for avoidance and minimisation that have been generally applied throughout the project development process have included:

- minimising excavations and the extent of interference with remediation infrastructure and the underlying BHP subgrade material where practicable
- designing new drainage infrastructure in accordance with the Intertrade CSMP requirements to minimise interaction with underlying contaminated groundwater
- minimising changes to surface levels and drainage infrastructure to minimise changes in flood risk as far as practicable within and adjacent to the project site
- selection of piling methodology to minimise interaction with contaminated soils and groundwater
- selection of pavement for the main logistics precinct to minimise the potential for dust generation during operation
- minimise the clearing extent of existing vegetation to facilitate construction and operation of the project
- avoiding direct impacts to existing buildings, and minimising impacts to non-Aboriginal heritage items located within the southern precinct (including the State heritage listed BHP Administration Precinct). This includes the design of the southern access (central).

Design refinements would continue during project development to further minimise impacts of the project. This is further discussed in Chapter 2 (Strategic context).

23.5 Biophysical, economic and social considerations, including ecologically sustainable development

Section 192 of the EP&A Regulation requires an EIS to contain the reasons justifying the carrying out of development, activity or infrastructure, considering the biophysical, economic and social factors, including the principles of ecologically sustainable development set out in Section 193 of the EP&A Regulation.

This EIS has considered all relevant potential key impacts associated with the project, including cumulative impacts in accordance with SEAR 2(h)(iii). Chapters 6 to 22 provide a summary of the environmental assessments undertaken for the project, including appropriate measures to further avoid and/or minimise impacts.

23.5.1 Biophysical considerations

The location of the project on a disturbed, brownfield site within an established industrial area has limited the potential impacts of the project on the biophysical environment.

The site has been remediated and any temporary interactions with remediation infrastructure or the underlying sub-surface environment would be managed through the implementation of plans prepared in line with the relevant CSMPs. At the completion of construction works, any affected remediation infrastructure would be restored, reinstated or improved upon, as appropriate, to maintain remediation infrastructure and prevent exposure to BHP subgrade, leachate and underlying groundwater. The project would facilitate the issue of a Section A Site Audit Statement following the construction works that certifies the suitability of the project site for continued commercial and industrial land use, with the long term management of the site undertaken in accordance with the future LEMP.

The construction footprint does not contain vegetation that supports significant biodiversity values and the project would only impact planted, exotic or re-growth vegetation, resulting in a minor reduction in low-quality foraging habitat for fauna. Given the degraded nature of the site and the absence of key habitat features, threatened fauna or migratory species are unlikely to rely on the site for essential foraging, roosting or connectivity. Pre-clearance surveys and stop work procedures would manage any potential residual risk of biodiversity impacts.

The project has been designed to avoid the need to demolish any built non-Aboriginal heritage item within the construction footprint, and the introduction of activities at the site are compatible and consistent with the historic character of the former BHP Steelworks site as an active and evolving industrial landscape. The project would result in some moderate adverse to minor positive direct or indirect impacts to a limited number of items, primarily due to the construction of the new southern access (central) and re-use of the Roll Shop building. However, the project would not result in the loss of any significant fabric and would not diminish the heritage values of the State or locally listed items. Residual impacts on non-Aboriginal heritage are assessed as low, with mitigation measures identified to manage any construction risks to structures and unexpected archaeological finds. The activation of the project site may discourage vandalism of heritage buildings and provides for future opportunities for further heritage interpretation at the project site. Aboriginal archaeological heritage impacts are not expected given the extensive historical disturbance of the site.

The EIS has identified construction and operational noise impacts on nearby sensitive receivers, primarily residential receivers located to the west of the project. The predicted exceedances represent a worst-case impact and the large footprint of the project would mean that actual noise levels would vary based on the location and the type of activity being carried out. Exceedances during operation are predicted to occur at night where loading/unloading operations occur at locations in close proximity to sensitive receivers. These can be avoided through the implementation of the mitigation measures presented in Section 11.6.2. The site would operate as a storage area, with minimal activity and peak operational activities occurring infrequently according to ship arrivals and demand by renewable energy projects. In particular, the worst-case operational outcome, being peak activities occurring close to sensitive receivers could occur approximately every three months. The large available footprint has the benefit that the distance from operations to the nearest sensitive receiver can be maximised, particularly during critical time periods. Reasonable and feasible mitigation measures will be implemented during construction and operation. There is the potential that residual noise impacts could remain despite the implementation of reasonable and feasible mitigation measures. To address these residual impacts, further monitoring and adaptive management measures would be implemented.

Other impacts on the environment including traffic, air quality, groundwater, landscape character and views, flooding and water quality, would be minor, limited in extent and manageable through standard environmental management and mitigation measures.

Other residual impacts of the project are largely associated with emergency response (such as flood or fire), incident responses (spills) or unexpected archaeological finds. These residual impacts would be managed through protocols implemented through the CEMP or OEMP.

23.5.2 Social and economic considerations

The key residual social impacts (negative) during construction and operation are associated with potential impacts to accessibility due to increases in traffic movements (negligible and low), amenity impacts resulting from noise emissions (negligible to medium), concerns about changes at the site that could impact heritage values and BHP Steelworks legacy (negligible to low), and the need to develop meaningful ongoing engagement with local communities during construction (low). These negative impacts would be relatively localised to the Mayfield residential areas.

Social benefits of the project during construction would be limited, based on the modest local employment and procurement opportunities of the project. In this respect, the project would employ 110 FTE workers during construction and 45 FTE workers during operation. Local employment and procurement opportunities embedded in the procurement arrangements for the project would align with current NSW Government policies and plans, including participation by First Nations people. During operation, the local community and visitors to the heritage memorials are expected to experience benefits associated with an increased safety and security presence in the surrounding area (low positive).

The project is 'potentially hazardous' given the storage of BESS components and a PHA was completed. The PHA determined that the risk arising from the battery thermal runaway fire scenarios considered does not exceed the fatality, injury or off-site property damage risk criteria specified in the NSW Department of Planning and Environment's 2011 publication *Hazard Industry Planning Advisory Paper (HIPAP) No. 4 – Risk Criteria for Land Use Safety Planning*. Further, the project was assessed as having a negligible societal risk against the 2017 LUSS and would not change the societal risk of the 2023 LUSS.

The Hunter River and surrounding area form part of Country for the Awabakal and Worimi peoples. Engagement during the preparation of the EIS identified that the area holds general cultural heritage value to the Worimi people and is associated with the important landscape feature of the Hunter River. This cultural value remains undiminished by the physical context of the project site and its history of industrial disturbance. The project is unlikely to impact the cultural value of the Hunter River or the surrounding landscape. Furthermore, potential impacts to specific intangible Aboriginal cultural values were not identified during the Aboriginal community consultation process.

23.5.3 Cumulative impacts

Cumulative impacts describe the impacts of the project together with the impacts of other relevant projects. Six projects were identified for consideration, three of which are related developments. The cumulative impact assessment (refer to Chapter 22 (Cumulative impacts)) identified the potential for cumulative traffic and access, noise and vibration and social impacts. These potential impacts are considered to be negligible to low.

The assessment of cumulative impacts acknowledges that each project will be required to mitigate its own impacts to acceptable levels, minimising the overall contribution to cumulative impacts. Cumulative impacts would be further managed through project-specific mitigation measures and in accordance with the CEMP and OEMP, including various sub-plans.

23.5.4 Ecologically sustainable development

The principles of ecologically sustainable development are:

- The precautionary principle – Where there are threats of serious or irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- Inter-generational equity – The present generation should ensure that the health, diversity, and productivity of the environment are maintained or enhanced for the benefit of future generations.
- Conservation of biological diversity and ecological integrity – Conservation of biological diversity and ecological integrity should be a fundamental consideration.
- Improved valuation, pricing and incentive mechanisms – provides that environmental factors should be included in the valuation of assets and services.

The project is consistent with the principles of ecological sustainable development as set out in Table 23-1.

Table 23-1 Consistency with the principles of ecologically sustainable development

Principle	Consideration
Precautionary principle	The project is located on a former industrial site which is suitable for the proposed use and is consistent with the surrounding land use. Desktop and field investigations have been undertaken that have informed the impact assessments completed in the EIS. The assessments have ensured that the potential impacts of the project are understood with sufficient certainty. The assessments are consistent with accepted scientific and assessment methodologies and have taken into account the relevant statutory and government agency policies and guidelines. The project has been designed to avoid environmental impacts, where practicable. Where relevant, a worst-case assessment has been carried out where mitigation and management measures have been proposed to minimise impacts of the project. None of the potential impacts are considered likely to result in serious or irreversible environmental impacts. A lack of scientific certainty has not been used as a reason for postponing measures to prevent environmental degradation.
Inter-generational equity	The project would deliver inter-generational equity by supporting the energy transition to renewable energy as it would facilitate the timely development of new grid-scale renewable projects within NSW by providing a strategically located port facility, adjacent to the Port of Newcastle lease area. Although the project is likely to result in some environmental and social impacts, the role the project would play in the energy transition and the security of energy supply would benefit the current and future generations and facilitate inter-generational equity.
Conservation of biological diversity and ecological integrity	The project is located within a highly modified industrial landscape that has been subject to extensive historical disturbance. There is a small area of isolated vegetation bordering Industrial Drive located outside the construction footprint and small clusters of vegetation within the construction footprint. However, the construction footprint does not contain native vegetation communities or significant biodiversity value, and vegetation removal would be limited to planted, regrowth and exotic vegetation.

Principle	Consideration
	Mitigation measures have been identified for residual impacts, primarily concerning potential impacts to roosting habitat within the Roll Shop building, and an unexpected finds procedure.
Improved valuation, pricing and incentive mechanisms	The EIS has identified the potential impacts of the project and identified mitigation and management measures, where required, to avoid, minimise and manage those impacts. If approved, the project would be undertaken in accordance with these mitigation and management measures. The cost of these mitigation and management measures have been integrated into project planning and decision making alongside social and economic considerations. Adaptive re-use of the heritage-listed Roll Shop building provides a positive outcome from the project and recognises the value of these assets to the community. Any future project-related decisions would consider environmental factors in a cost-effective way and be guided by the whole-of-life costs of providing goods and services.

23.6 Key uncertainties

Uncertainties with regard to the impacts of the project have been minimised through the design process, assessment approach and site investigations as well as the identification of and commitment to environmental management and mitigation measures.

The EIS has been prepared on a concept design and using information available at the time of preparation to provide a conservative assessment of project impacts during construction and operation. The details of the project would be refined during detailed design and include input from the construction contractor. Any deviation from the project as described in the EIS would be subject to a consistency assessment and, if required, subject to further environmental assessment and approval.

23.7 Compliance and monitoring performance

23.7.1 Compliance with relevant statutory requirements

In accordance with SEAR 2(h)(v), the EIS has been prepared in accordance with the requirements of the EP&A Act, EP&A Regulation and the project issued SEARs. The EIS has also been prepared having regard to the *State significant infrastructure guidelines – preparing an environmental impact statement* (NSW DPHI, 2026a). The technical studies supporting this EIS have been completed in accordance with relevant legislative requirements, applicable technical guidelines and, where appropriate, consultation with government agencies. The EIS has also been reviewed and includes the declaration of a Registered Environmental Assessment Practitioner, as required by the EP&A Regulation.

Details on how the EIS has addressed the SEARs and other statutory requirements are provided in Appendix A (SEARs checklist) and Appendix C (Statutory compliance).

23.7.2 Compliance monitoring and communication

If approved, EnergyCo will be responsible for ensuring compliance with the conditions of approval and for engagement with DPHI, relevant regulators and the community. The environmental management and performance framework for construction and operation would be implemented through the CEMP and OEMP respectively, with responsibility for implementation assigned to the construction contractor and operator, as applicable.

During construction and operation, environmental management and performance requirements would be documented in the CEMP and OEMP respectively. The management framework would adopt an adaptive approach, incorporating monitoring, auditing, assessment, investigation and corrective actions to evaluate the effectiveness of the environmental management measures and ensure compliance with the conditions of approval, relevant licences, permits and management plans. Monitoring, auditing and reporting requirements would be defined in the CEMP and OEMP.

The CEMP would be supported by the WMS and WMP prepared for construction activities on land subject to the Intertrade CSMP and Port Lands CSMP. The WMS and WMP would document the procedures required to manage risks of impacting remediation infrastructure, subsequent exposure and handling of BHP subgrade material, as well as potentially sensitive receivers during works with the potential to disturb the remediation infrastructure and sub-surface environment.

The OEMP would also be supported by a LEMP, which would provide the long-term management framework for remediation infrastructure at the site and establish procedures to protect the health of workers, occupiers and users of the project.

23.8 Concluding statement

The project involves the development of a port logistics facility that would support the timely development of new grid-scale renewable projects within NSW by providing additional storage and logistics capacity for large renewable energy components adjacent to Mayfield 4 Berth at the Port of Newcastle.

It is consistent with Australian, State and local government plans and policies, and would provide benefits to NSW by supporting the energy transition to renewable energy. The project would deliver benefits in the region through job creation and investment within the Newcastle LGA.

The location of the project on a disturbed, brownfield site within an established industrial area has limited the potential impacts of the project. The potential residual construction and operational impacts of the project are considered manageable with the implementation of the proposed mitigation and management measures. With the proposed mitigation and management measures, the project has, on balance, the least adverse environmental, social and economic impacts, including its cumulative impacts.

Having regard to the matters considered in this EIS, it is considered that the project is justified. The project is critical in providing support to the energy transition in NSW. On balance, it is considered the strategic need and benefits of the project outweigh the mitigated project impacts.

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Appendix A

SEARs checklist

A1 SEARs checklist

A1.1 SEARs

Table A-1 SEARs checklist

Item	Requirement	Where addressed in the EIS
1. Environmental Impact Assessment Process The process for assessment of the project is transparent, balanced, well-focused and legal.	1. The Environmental Impact Statement (the EIS) must be prepared in accordance with Part 8 of the Environmental Planning and Assessment Regulation 2021 (the EP&A Regulation).	Main EIS document Appendix A (SEARs checklist) Appendix C (Statutory compliance)
	2. The EIS must be prepared having regard to the Department's State Significant Infrastructure Guidelines and State Significant Project Technical Guidelines (together, the Guidelines), as relevant.	Main EIS document Appendix A (SEARs checklist) Appendix C (Statutory compliance)
	3. It is the Proponent's responsibility to determine whether the project needs to be referred to the Australian Government Department of Climate Change, Energy, the Environment and Water (AG DCCEEW) for an approval under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). If AG DCCEEW determines the project is a Controlled Action and an approval is required under the EPBC Act, supplementary environmental assessment requirements may need to be issued to ensure a streamlined assessment under an Accredited Assessment process.	Main EIS document Chapter 18 (Biodiversity) Appendix C (Statutory compliance)

Item	Requirement	Where addressed in the EIS
	4. Where the project is a Controlled Action and requires approval under the EPBC Act, and is being assessed under the Bilateral Agreement (pursuant to Amending Agreement No.1), the EIS must include: a. consideration of any Protected Matters that may be impacted by the project b. identification and assessment of those Protected Matters that are likely to be significantly impacted c. details of how significant impacts to Protected Matters have been avoided, mitigated and, if necessary, offset d. consideration of, and reference to, any relevant conservation advices, recovery plans and threat abatement plans.	Chapter 4 (Statutory context) Section C1.3 of Appendix C (Statutory compliance), noting this concludes that approval is not required under the EPBC Act
	5. The onus is on the Proponent to ensure legislative requirements relevant to the project are met.	Main EIS document Appendix C (Statutory compliance)

Item	Requirement	Where addressed in the EIS
2. Environmental Impact Statement The project is described in sufficient detail to enable clear understanding that the project has been developed through an iterative process of impact identification and assessment and project refinement to avoid, minimise or offset impacts. The description and assessment should demonstrate that the project, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.	1. The EIS must include, but not necessarily be limited to, the following: a. a summary of the project as a whole that has regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development	EIS Executive summary
	b. an introduction	Chapter 1 (Introduction)
	c. the strategic and project context including but not limited to – i. relevant government strategies, policies or plans which provide strategic support for the project ii. regional and local land use planning context iii. key features of the project area and surrounds that could affect or be affected by the project including land uses, land ownership, and important features of the natural, cultural and built environment iv. analysis of feasible alternatives to the project and options within the project including – • do nothing • alternate port option • alternative site	Section 2.2 to Section 2.5 Section 17.1 Appendix C (Statutory compliance)
	d. a project description including but not limited to – i. project area ii. physical layout and design, including an overview of the project in a table that captures the main elements of the project and all construction and operational mitigation measures and figures illustrating the construction and operational elements of the project iii. types of cargo stored and handled on the site, including hazardous and dangerous goods iv. justification for the proposed site access roads to and from the project, taking into consideration impacts to environmental heritage and vehicle swept paths	Chapter 3 (Project description) Section 1.2 of Chapter 1 (Introduction) (for related development) Section 2.5 of Chapter 2 (Strategic context) (for matters relating to site access road designs)

Item	Requirement	Where addressed in the EIS
	v. a description of utility services that need to be provided or relocated and are included within the project scope (and identify if any utility relocations/new services are being carried out under separate consents/approvals) vi. uses and activities, including a description of any related development or infrastructure that is required for the project or may be developed as a result of the project, but would be subject to a separate approval process vii. a detailed construction methodology and staging of construction viii. a detailed timing and sequencing of construction activities ix. a detailed description of how construction will be carried out to minimise impacts to the existing port operations and heritage items	Section 7.4 of Chapter 7 (Traffic and access) (for matters concerning the assessment of construction impacts on the port access and the public road network). Appendix B (Maps)
	e. the statutory context of the project, including: i. any necessary licences and approvals ii. applicable policies and guidelines iii. whether an environment protection licence (EPL) will be required and, if so, what elements of the project would form part of the EPL	Chapter 4 (Statutory context) Appendix C (Statutory compliance)
	f. the community and agency engagement undertaken and to be undertaken for the project, including for the avoidance of doubt: • Conservation Programs, Heritage and Regulation (CPHR) and Water Group of NSW DCCEEW • NSW Environment Protection Authority (EPA) • NSW Fire and Rescue • Transport for NSW (TfNSW) • Department of Defence • Australian Rail Track Corporation • Newcastle City Council • Ausgrid • Hunter Water Corporation	Chapter 5 (Community and stakeholder engagement) Appendix D (Engagement summary)

Item	Requirement	Where addressed in the EIS
	g. the assessment and mitigation of impacts, which provides a detailed summary of the results of the assessment of the potential impacts of the project (see Section 3)	Chapters 6 to 21 Chapter 22 (Cumulative impact) Chapter 23 (Justification and conclusion) Technical papers 1 to 12 Appendix E (Mitigation measures)
	h. the justification and evaluation of the project i. the consistency of the project with the strategic context ii. social impacts and benefits, including community views and how these have been addressed in the project iii. the scale and nature of the economic (for the region and the State as a whole) and environmental impacts and benefits iv. the actions taken to avoid and minimise the impacts of the project v. compliance with relevant statutory requirements	Chapter 23 (Justification and conclusion)
	i. consideration of SEARs advice provided by agencies.	Main EIS document Technical papers 1 to 12 Refer to Section A1.2 (this appendix) for further detail

Item	Requirement	Where addressed in the EIS
3. Assessment and Mitigation of Key Issues and Impacts Key issues and impacts are assessed objectively and thoroughly to provide confidence that the project will be constructed and operated within acceptable levels of impact or with appropriate management and offsets. Key impact issues are nominated by the Proponent in the SSI project application and by the Department in the SEARs. Key issues need to be reviewed throughout the preparation of the EIS to ensure any new key issues that emerge are captured.	1. The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the project location and the surrounding environment. The level of assessment must be commensurate to the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts.	Main EIS document Technical papers 1 to 12
	2. For each key issue, the EIS must include a detailed summary of the results of the assessment of the potential impacts of the project undertaken in detailed studies, including: a. the condition of the existing environment b. a summary of the key findings of the detailed technical studies in the appendices of the EIS, using suitable cross-referencing to reduce repetition between the two parts of the EIS c. description of the scale and nature of the predicted impacts, including any cumulative impacts and whether these impacts will comply with the relevant statutory requirements, standards or performance measures d. demonstrated ability to avoid, mitigate or offset the impacts of the project having regards to - i. mitigation measures incorporated into the design of the project (e.g., changes to the project area, project layout and design, key uses and activities carried out on site, timing) ii. other mitigation measures that will be implemented iii. any negotiated agreements or offsets proposed to address residual impacts of the project following mitigation e. detailed reasons justifying any predicted exceedances of relevant standards or performance measures f. identification of key uncertainties associated with the assessment and what action will be taken to address these uncertainties g. highlight any key linkages between the assessment of different matters or likely cumulative impacts of the project.	Chapters 6 to 11 Chapter 22 (Cumulative impact) and Chapter 23 (Justification and conclusion) Appendix E (Mitigation measures) Technical papers 1 to 12 No offsets or negotiated agreements are proposed as part of the project

Item	Requirement	Where addressed in the EIS
4. Key Appendices	1. The EIS must include the following appendices:	This appendix
	a. a SEARs table, identifying the sections and subsections where the SEARs have been addressed in the EIS and in the specialist assessment reports	Technical papers 1 to 12
	b. a statutory compliance table, identifying where the relevant statutory requirements have been addressed in the EIS	Appendix C (Statutory compliance)
	c. a community engagement table, identifying where the issues raised by the community during engagement have been addressed in the EIS	Appendix D (Engagement summary)
	d. a table of the proposed mitigation measures for the project (excluding any mitigation measures that are built into the physical layout and design of the project and captured in the project description)	Appendix E (Mitigation measures)
	e. any supporting information, including any detailed technical reports prepared by specialists.	Technical papers 1 to 12
5. Estimated Development Cost	1. Provide the estimated development cost (EDC) of the project prepared in accordance with the relevant planning circular using the Standard Form of EDC Report. Note: It is suggested that you discuss the EDC Report with Department assessment staff at least two weeks prior to submission of the EIS	The EDC report has been lodged separately Section 3.1 of Chapter 3 (Project description)
	2. Provide an estimate of the new jobs that would be created during the construction and operational phases of the project, including details of the methodology to determine the figures provided.	The EDC report has been lodged separately, which details the methodology Section 3.1 and Section 3.2 of Chapter 3 (Project description) The methodology to determine job creation is consistent with the Treasury policy paper TPP09-7 and methodology framework TRP09-3.

Item	Requirement	Where addressed in the EIS
Key issues		
1. Hazards and Risk The project minimises risks from dangerous goods and hazardous materials through appropriate screening and controls. The project ensures all hazardous materials handling, storage and transport meets NSW risk criteria. Where relevant, the project addresses pipeline corridor safety through consultation with the pipeline operator and a hazard analysis	1. The EIS must include a Preliminary Hazard Analysis (PHA) prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No.4. 'Risk Citeria for Land Use Safety Planning'. The PHA must also: a. specify the maximum number of people present within the 52 ha Intertrade Site at any one time and confirm that this population will not cause the societal risk to exceed the ALARP band shown in the Port of Newcastle Land Use Safety Study Final Report, Appendix C, page 25, Figure 4-25, dated 10 October 2017	Section 6.5 of Chapter 6 (Hazards and risk) Chapter 5, Chapter 7 and Chapter 8 of Technical paper 1
	b. specify the maximum quantity and locations of all dangerous goods or hazardous materials which may be stored and handled within the facility or transited through the facility at any one time	Table 6.2 of Chapter 6 (Hazards and risk). Section 6.1 of Technical paper 1.
	c. specify the maximum quantity, maximum state of charge (SoC), maximum storage duration and locations of Battery Energy Storage System (BESS) units proposed to be stored and handled within the facility or transited through the facility at any one time	Figure 3-1 in Chapter 3 (Project description) Section 6.5 of Chapter 6 (Hazards and risk) Section 6.1, Section 7.2.1 and Section 7.4.1 of Technical paper 1.
	d. specify if operations within the facility may include charging of BESS units and if so, provide details and assessment of BESS charging	BESS charging is not proposed as part of the project
	e. address potential impacts due to incident (explosions, cascade explosions, thermal overruns and gaseous emissions)	Section 6.5 of Chapter 6 (Hazards and risk) Sections 7.1–7.4 of Technical paper 1
	f. report on: i. compliance with all recent standards and codes for the storage of dangerous goods or hazardous materials at the facility ii. proposed separation distances to on-site and off-site receptors to prevent fire propagation iii. fire protection measures for the storage or transit of BESS units within the facility at the maximum SoC, and BESS charging if any	Section 6.5 and 6.6, and Table 6-5 and Table 6-8 of Chapter 6 (Hazards and risk) Section 1.4, 7.4.2 and 9.1 of Technical paper 1

Item	Requirement	Where addressed in the EIS
2. Traffic and Access Safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts. Impacts on network capacity and the level of service are effectively managed.	1. Provide a Traffic and Access Assessment (construction and operational traffic) as outlined in Section 6.3.3 of the Newcastle Logistics Precinct – Intertrade Project Scoping Report, March 2025 (the Scoping Report)	Chapter 7 (Traffic and access) Chapters 5 to 7 of Technical paper 2
	2. The construction and operational traffic impact assessment must include: a. details of existing traffic volumes at key intersections per Part 3 of the Austroads Guide to Traffic Management	Section 7.3.1 of Chapter 7 (Traffic and access). Section 3.3.2 and Appendix A of Technical paper 2
	b. details of traffic types and volumes likely to be generated during construction (each stage, peak period(s) and construction access and haulage routes) and operation	Section 7.4.1 and 7.5.1 of Chapter 7 (Traffic and access) Section 5.2.1 and 6.2.1 of Technical paper 2
	c. a SIDRA analysis and turn warrants assessments in accordance with Section 3.25 of Part 6 Austroads Guide to Traffic Management	Section 7.4.2 and Section 7.5.2 of Chapter 7 (Traffic and access). Section 4.2, Section 4.4, Section 5.3.1, Section 6.3.1, Appendix B and Appendix C of Technical paper 2
	d. an assessment of the predicted impacts of traffic generated by the project on road safety and the capacity of the road network, including consideration of cumulative traffic impacts on existing performance levels of nearby intersections and potential road work	Section 7.4.2 and Section 7.5.2 of Chapter 7 (Traffic and access) Section 22.3.1 of Chapter 22 (Cumulative impacts) Section 5.3, Section 6.3, Section 7.2 and Section 7.3 of Technical paper 2
	e. details and plans of the proposed internal road network, including all ingress and egress roads and swept path analysis of the movement of the largest vehicle, on-site parking provisions and sufficient pedestrian and cyclists facilities (in accordance with relevant Australian Standards) and maintenance of vehicular access to the Administration Building, particularly for emergency services	Section 3.1.3, Section 3.2.1, Section 3.2.3 and Section 3.2.8 of Chapter 3 (Project description) Section 5.3, Section 6.2 and Section 6.3 of Technical paper 2

Item	Requirement	Where addressed in the EIS
	f. movement of heavy vehicles particularly during the evening and nighttime periods	Section 7.4.1 and Section 7.5.1 of Chapter 7 (Traffic and access) Section 6.2.1 of Technical paper 2
	g. the need to close, divert or otherwise reconfigure or upgrade elements of the road network for the construction and operation of the project	Section 3.1.3 of Chapter 3 (Project description) Section 7.4.6 and 7.5.6 of Chapter 7 (Traffic and access) Section 5.3 and Section 6.3 of Technical paper 2
	h. an assessment of how the proposed project integrates with the traffic generation and road and rail infrastructure provisioning or upgrades associated with the approved Mayfield Concept Plan (MP09_0096)	Section 22.3.1 of Chapter 22 (Cumulative impacts) Section 5.3, Section 6.3 and Chapter 7 of Technical paper 2
	3. The EIS must provide details of the options considered for the site access roads and the criteria used in the selection of the preferred access roads	Section 2.4 of Chapter 2 (Strategic context)
	4. The EIS must assess potential impacts to the operation of RAAF Base Williamstown and Williamstown (Newcastle) Airport, including: a. aerodrome safeguarding guiding principles and inclusion of the site in the RAAF Base Williamtown Wildlife Hazard Area – Area C (8km – 13km)). b. Part 11A of the Defence Regulation 2016	Section 17.3.5 and Section 17.5 of Chapter 17 (Land use and property)

Item	Requirement	Where addressed in the EIS
3. Heritage – Environmental The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of environmental heritage. The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage.	1. Provide an Environmental Heritage Assessment as outlined in Section 6.2.3 of the Scoping Report.	Chapter 8 (Non-Aboriginal heritage) Technical paper 3
	2. The environmental heritage assessment must: a. provide a significance assessment, a statement of heritage impact and a historical archaeological assessment where there is potential for direct or indirect impacts on the heritage significance of heritage items and items nominated for listing on the State Heritage Register	Chapter 8 (Non-Aboriginal heritage) Chapter 5 of Technical paper 3
	b. where ground disturbance is likely to impact reclaimed riverine land, a Maritime Archaeological Assessment (MAA) must be provided	From the background research and historical overlays undertaken as part of Technical paper 4, the study area has always been inland of the Hunter River, since European arrival, and is not on reclaimed riverine land. Therefore, the environmental heritage assessment does not need to include a separate maritime archaeological assessment (MAA) for the project.
	c. assess the consistency of the project against conservation policies of any relevant heritage conservation management plan	Section 8.4 and Section 8.5 of Chapter 8 (Non-Aboriginal heritage) Chapter 6 of Technical paper 3
	d. consider the impacts to the heritage significance of the items caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence, drainage infrastructure, access roads, contamination remediation and site compounds (as relevant)	Section 8.4 and Section 8.5 of Chapter 8 (Non-Aboriginal heritage) Chapter 6 of Technical paper 3, noting that subsidence is not relevant to this assessment given land settlement is not expected based on the nature of the project

Item	Requirement	Where addressed in the EIS
	e. outline measures to avoid and minimise those impacts during construction and operation	Section 8.6 of Chapter 8 (Non-Aboriginal heritage) Appendix E (Mitigation measures) Chapter 8 of Technical paper 3
	f. identify opportunities for the proposal to reflect on the heritage character and significance of the site and surrounding area during operation through heritage interpretation	Section 8.6 of Chapter 8 (Non-Aboriginal heritage) Chapter 7 of Technical paper 3
	g. outline the future management framework for the ongoing protection, management and conservation of heritage items and objects and other heritage values	Section 8.6 of Chapter 8 (Non-Aboriginal heritage) Section 6.8 of Technical paper 3
	h. be undertaken by a suitably qualified heritage consultant(s) and / or historical archaeologist (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria). The MAA, if required, is to be prepared by a suitably qualified and experienced maritime archaeologist	Chapter 1 of Technical paper 3, noting archaeological excavations are not required based on the conclusions of that assessment Technical paper 4, noting a MAA is not required
	i. assess the impact of the swept paths on the proposed access roads and driveways on vegetation and landscaping in the southern precinct of the site, including the heritage curtilage of the Administration Building and whether the design will have impacts to items of heritage significance	Section 8.6 of Chapter 8 (Non-Aboriginal heritage) Chapter 6 of Technical paper 3
	j. outline options considered for the project including locations for new access roads and adaptive reuse of existing buildings for staff amenities or project associated uses, and provide justification for the selected options.	Section 2.4 of Chapter 2 (Strategic context) Section 6.7 of Technical paper 3

Item	Requirement	Where addressed in the EIS
4. Contamination Human and environmental health is protected by understanding the presence and risks associated with contaminated land, including impacts to soils, groundwater, surface water and sediments Contamination risks are independently considered consistent with the auditing regime established under the *Contaminated Land Management Act, 1979.*	1. Provide a contamination assessment as outlined in Section 6.7.3 of the Scoping Report	Chapter 10 (Contamination and soils) Section 2.3 to Section 2.5 of Technical paper 6
	2. If construction of the project has an impact on land that is not covered by a Contaminated Site Management Plan (CSMP), then: a. the EIS must document how the assessment of any disturbed areas not covered by a CSMP has had regard to the relevant guidelines for contaminated land made or approved under section 105 of the Contaminated Land Management Act 1997 b. a Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) (if required), must be undertaken Note: Where a detailed site investigation is prepared and/or remediation is considered necessary, a NSW EPA accredited Site Auditor must be engaged to undertake an audit. The EIS must include copies of any Interim Audit Advice provided by the auditor and a Site Audit Statement and Site Audit Reports issued by the auditor which certifies the site can be made suitable for the proposed use	Chapter 10 (Contamination and soils) Section 2.5 of Technical paper 6, noting this has concluded that a DSI is not required
	3. Where the existing remediation infrastructure (as defined in the CSMP Former BHP Steelworks Mayfield Newcastle December 2018) is impacted by the construction of the project, the EIS must detail the process of management of such works and its maintenance, restoration or replacement	Section 10.6 of Chapter 10 (Contamination and soils) Section 2.3.5 and Section 2.4.5 of Technical paper 6
	4. The contamination assessment must be prepared by a suitably qualified contaminated land consultant who may also be certified	Section 2.2 of Technical paper 6

Item	Requirement	Where addressed in the EIS
5. Noise and Vibration Construction (including airborne and ground-borne) noise and vibration are effectively managed to minimise adverse impacts on acoustic amenity, and adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage. Increases in noise emissions and vibration affecting nearby properties and other sensitive receivers during operation of the project are effectively managed to protect the amenity and well-being of the community. Increases in noise emissions and vibration affecting environmental heritage as defined in the *Heritage Act 1977* during operation of the project are effectively managed.	1. Provide a construction and operational noise and vibration assessment prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines. The assessment must detail noise and vibration impacts on nearby sensitive receivers and structures and outline the proposed management and mitigation measures that would be implemented as outlined in Section 6.4.3 of the Scoping Report	Section 11.4 to 11.6 for Chapter 11 (Noise and vibration) Chapters 5, 6 and 8 of Technical paper 7
	2. The assessment of construction noise and vibration must:	Section 11.4.1 of Chapter 11 (Noise and vibration) Section 3.4 of Technical paper 7
	a. identify the relevant construction scenarios for assessment considering, but not limited to, time of day, duration, annoying characteristics, and noise (both air and ground borne) and vibration levels	
	b. identify noise (both air and ground borne) and vibration impacts resulting from work proposed to be undertaken outside of standard construction hours. The location, duration and justification (consistent with the Interim Construction Noise Guideline requirements) must be provided	Section 11.4 of Chapter 11 (Noise and vibration) Chapter 5 of Technical paper 7
	c. identify and assess the predicted effectiveness of mitigation measures including the effect on noise (both air and ground borne) and vibrations levels, time of day and duration	Section 11.6.2 of Chapter 11 (Noise and vibration) Section 8.1.3 of Technical paper 7
	d. identify potential residual noise and vibration impacts following application of mitigation measures	Section 11.6.2 of Chapter 11 (Noise and vibration) Section 8.1.3 of Technical paper 7
	e. demonstrate how community consultation has informed the development of noise and vibration mitigation measures including how out-of-hours works has been socialised with the affected community (if proposed)	Section 5.3.5 of Chapter 5 (Community and stakeholder engagement) Section 11.6 of Chapter 11 (Noise and vibration) Section 8.1.1 of Technical paper 7.
	3. The process for community engagement should be included or referenced in the noise and vibration assessment as part of the mitigation strategy and assessment	Section 11.6 of Chapter 11 (Noise and vibration) Chapter 8 of Technical paper 7

Item	Requirement	Where addressed in the EIS
	4. The assessment of operational noise and vibration must: a. define and justify all operational assessment scenarios, including but not limited to noise levels generated by loading and unloading of heavy vehicles during the evening and night time periods	Section 11.5 of Chapter 11 (Noise and vibration). Section 3.5 and Section 6.1 of Technical paper 7.
	b. identify, assess and justify mitigation measures to be implemented.	Section 11.6 of Chapter 11 (Noise and vibration). Section 8.1 of Technical paper 7.
Other issues		
The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issues, within the context of the project location and the surrounding environment		
6. Flooding The project minimises adverse impacts on existing flooding characteristics. Construction and operation of the project avoids or minimises the risk of, and adverse impacts from, infrastructure flooding or flooding hazards.	1. Identify any flood risk on-site having regard to adopted flood studies, the potential effects of climate change, and any relevant provisions of the NSW Flood Risk Management Manual.	Section 12.3.2 and Section 12.5.1 of Chapter 12 (Surface water and flooding) Section 4.6, Section 6.1.1 and Section 6.1.2 of Technical paper 8
	2. Where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01.	Section 12.3, Section 12.4.1 and Section 12.5.1 of Chapter 12 (Surface water and flooding) Section 3.3, Section 5.1 and Section 6.1 of Technical paper 8
	3. Flood management objectives and outcomes must be clearly identified and substantiated to address the characteristics of the environment and relevant legislative, management and guidance requirements	Section 3.3.3, Section 6.1 and Section 6.1.2 of Technical paper 8
	4. Detail design solutions and operational procedures to mitigate flood risk where required	Section 12.6 of Chapter 12 (Surface water and flooding) Section 8.2 of Technical paper 8

Item	Requirement	Where addressed in the EIS
7. Air Quality The project is designed, constructed and operated in a manner that minimises air quality impacts (including nuisance and dust) to minimise risks to human health and the environment to the greatest extent practicable.	1. Provide an assessment of air quality impacts, prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines, as outlined in Section 6.14.3 of the Scoping Report	Chapter 14 (Air quality) Table 1.2, Section 2.2 and Chapter 3 of Technical paper 10
	2. The assessment must identify significant air emission sources at the proposed development (during construction and operation), assess their potential to cause adverse off-site impacts, and detail proposed management and mitigation measures that would be implemented	Sections 14.4 to 14.6 of Chapter 14 (Air quality) Chapter 5, Chapter 6 and Chapter 9 of Technical paper 10
	3. Where air emissions during operation have the potential to cause adverse off-site impacts, provide a quantitative air quality impact assessment prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines.	Section 14.5 of Chapter 14 (Air quality) Chapter 6 of Technical paper 10, which concludes that the project does not meet the criteria outlined in Table 4.2 of the Clean Air Society of Australia and New Zealand Guidelines, indicating that adverse off-site impacts during operation are not expected. As such, a quantitative air quality impact assessment is not required.

Item	Requirement	Where addressed in the EIS
8. Climate Change Risk The project is designed, constructed and operated to be resilient to the future impacts of climate change.	1. Provide assessment of the risk and vulnerability of the project to climate change in accordance with the current guidelines	Section 19.2 of Chapter 19 (Climate change)
	2. Include an estimate of greenhouse gas (GHG) emissions for the project by carrying out a Greenhouse Gas Assessment consistent with the most recent version of the NSW EPA's Greenhouse Gas Assessment Guide for Large Emitters (GHG guide). The GHG estimate is to confirm if the project is likely to result in 25,000 tonnes or more of scope 1 and 2 emissions (CO2-e), in any financial year during the operational life of the project.	Section 19.3 of Chapter 19 (Climate change) Chapter 7 of Technical paper 10
9. Heritage – Aboriginal The design, construction and operation of the project facilitates, to the greatest extent feasible, the long term protection, conservation and management of the heritage significance of items of Aboriginal objects and places. The design, construction and operation of the project avoids or minimises impacts, to the greatest extent feasible, on the heritage significance of Aboriginal objects and places.	1. Provide an Aboriginal Heritage Assessment in accordance with the principles and methods of assessment identified in current guidelines	Chapter 9 (Aboriginal heritage) Technical paper 5
	2. Where impacts to Aboriginal places, objects and cultural heritage values (Aboriginal Cultural Heritage) are identified the EIS must: a. outline measures to avoid and minimise those impacts during construction and operation in accordance with the current guidelines b. outline procedures (short and long term) to be followed if Aboriginal objects, Aboriginal burials or skeletal material are found at any stage of work, which formulate appropriate measures to manage unforeseen impacts c. include evidence of adequate and continuous consultation with Aboriginal parties in relation to determining and assessing impacts, and identifying appropriate mitigation measures (including the final proposed measures) in compliance with the consultation process outlined in the Aboriginal cultural heritage consultation requirements for proponents 2010. d. be documented in an Aboriginal Cultural Heritage Assessment Report (ACHAR)	An Aboriginal Cultural Heritage Assessment Report has not been completed based on the findings of the Aboriginal heritage assessment – refer to Chapter 9 (Aboriginal heritage) and Technical paper 5 Refer to Section 8.1 of Technical paper 5 for the Unexpected Finds Procedure
	3. Where relevant, and only in areas free of sub surface contamination, archaeological investigations must be conducted by a suitably qualified and experienced archaeologist, in accordance with section 1.6 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).	No archaeological investigations completed - refer to Chapter 9 (Aboriginal heritage) and Technical paper 5

Item	Requirement	Where addressed in the EIS
10. Landscaping The project design avoids and minimises impacts to existing landscape character and visual amenity.	1. Provide a Landscape Character and Visual Amenity Assessment as outlined in Section 6.12.3 of the Scoping Report	Chapter 16 (Landscape and visual) Chapter 5 and Chapter 6 of Technical paper 12
	2. Assess the number, location, condition and visual significance of trees to be removed and retained by the project	Section 16.3 to 16.5 of Chapter 16 (Landscape and visual) Appendix A of Technical paper 12
11. Cumulative Impact Assessment Are a result of incremental, sustained and combined effects of human action and natural variations over time and can be both positive and negative. They can be caused by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and future activities as they arise.	1. Provide a Cumulative Impact Assessment as outlined in Section 6.17.4 of the Scoping Report.	Chapter 22 (Cumulative)

Item	Requirement	Where addressed in the EIS
12. Social The project is designed to provide socially sustainable outcomes. The project will maximise the social and economic welfare of the community. The project will deliver better development outcomes by minimising negative social impacts and enhancing positive social impacts on affected communities.	1. Provide a Social Impact Assessment prepared in accordance with the Social Impact Assessment Guidelines for State Significant Projects, as outlined in Section 6.9.3 of the Scoping Report.	Chapter 15 (Social) Chapter 6 to Chapter 8 of Technical paper 11
13. Soils The environmental values of land, including soils, subsoils and landforms, are protected. Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils and site contamination.	1. Verify the risk of acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Risk Map) within, and in the area likely to be impacted by, the project.	Section 10.3.2 of Chapter 10 (Contamination and soils) Section 3.2 of Technical paper 6
	2. Where the project is likely to disturb acid sulfate soils, the EIS must assess the impact of the project on acid sulfate soils (including impacts of acidic runoff offsite) in accordance with the current guidelines	Section 10.3.2 of Chapter 10 (Contamination and soils). Section 3.2.3 and 3.2.4 of Technical paper
	3. Identify whether soil salinity is likely to be an issue and if so, determine the presence, extent and severity of soil salinity within the project area, and assess the impacts of the project on soil salinity and how it may affect groundwater resources and hydrology	Section 10.3.2 of Chapter 10 (Contamination and soils) Section 3.3 of Technical paper 6
	4. The impacts on soil (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.	Section 10.4.2 and 10.5.2 of Chapter 10 (Contamination and soils) Section 3.4 of Technical paper 6

Item	Requirement	Where addressed in the EIS
14. Sustainability The project reduces the NSW Government's operating costs and ensures the effective and efficient use of resources. Conservation of natural resources is maximised.	1. Outline any sustainability measures relevant to the project.	Section 20.3 and Section 20.4 of Chapter 20 (Sustainability)
	2. Demonstrate how the project will meet or exceed the relevant industry recognised building sustainability and environmental performance standards.	Section 20.3 of Chapter 20 (Sustainability)
	3. Consider and assess the project against current guidelines including targets and strategies to improve government efficiency in use of water, energy and transport.	Section 20.3 of Chapter 20 (Sustainability)
15. Waste All wastes generated during the construction and operation of the project are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.	1. Provide an assessment of predicted waste generated from the project during construction and operation, including: a. classification of the waste in accordance with the current guidelines b. estimates / details of the quantity of each classification of waste to be generated during the construction of the project, including bulk earthworks and spoil balance c. handling of waste including measures to facilitate segregation and prevent cross contamination d. management of waste including estimated location and volume of stockpiles e. waste minimisation and reuse f. lawful disposal or recycling locations for each type of waste g. contingencies for the above, including managing unexpected waste volumes	Section 21.4 to 21.6 of Chapter 21 (Waste)
	2. Assessment must include consideration of potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly with relation to sediment/leachate control, noise and dust.	Section 21.4 of Chapter 21 (Waste), supported by Chapter 7 (Traffic and access), Chapter 10 (Contamination and soils), Chapter 11 (Noise and vibration), Chapter 12 (Surface water and flooding), Chapter 13 (Groundwater) and Chapter 14 (Air quality).

Item	Requirement	Where addressed in the EIS
16. Water – Hydrology and Quality Long-term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised. Protection of NSW Water Quality Objectives during construction and operation where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the project to the extent of the project impact including estuarine and marine waters (if applicable).	1. Provide a Surface water and Groundwater Impact Assessment(s) that that assesses and potential impacts on: a. construction and operational surface water and groundwater impacts as outlined in Section 6.5.3 and Section 6.8.3 of the Scoping Report, respectively	Chapter 12 (Surface water and flooding) Chapter 13 (Groundwater) Technical paper 8 Technical paper 9
	b. assess potential impacts on drainage lines within and downstream of the project	Section 12.5.2 of Chapter 12 (Surface water and flooding) Section 6.2 of Technical paper 8
	c. details of the proposed drainage design (stormwater and wastewater) for the site including any on-site detention facilities, water quality management measures and nominated discharge points, on-site sewage management, and measures to treat, reuse or dispose of water	Section 12.3.1, 12.5.2 and Section 12.6 of Chapter 12 (Surface water and flooding) Section 3.3.2, Section 4.1, Section 6.2 and Section 8.2 of Technical paper 8
	d. NSW Water Quality Objectives (NSW WQO) and environmental values for the receiving waters relevant to the project, including the indicators and associated trigger values or criteria for the identified environmental values	Section 12.4.2 and Section 12.5.2 of Chapter 12 (Surface water and flooding) Section 5.2.5 and Section 6.2 of Technical paper 8
	e. the required water and sewer servicing strategies.	Section 3.1.4 and Section 3.2.7 of Chapter 3 (Project description) The project would be connected to water and sewer utilities owned and operated by Hunter Water.

Item	Requirement	Where addressed in the EIS
The environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained (where values are achieved) or improved and maintained (where values are not achieved). Sustainable use of water resources.		EnergyCo submitted a Section 50 application and received the requirements from Hunter Water that must be satisfied prior to the commencement of construction and before a Compliance certificate can be issued (reference #188225, dated 25 March 2026). These concern documentation that would be completed as part of the detailed design, and evidence that approval has been granted under the EP&A Act for the project. In the event that connections cannot be provided to support the construction compound, water would be transported to site, and sewerage transported offsite to a suitably licenced facility for disposal.

A1.2 Agency advice

The SEARs required consideration of the advice received from agencies to DPHI. Table A-2 provides where these matters have been considered.

Table A-2 Agency advice

Item	Requirement	Where considered in the EIS
NSW Department of Climate Change, Energy, the Environment and Water		
Water take and licensing	1. A detailed and consolidated site water balance.	A detailed water balance is not considered relevant to the project based on the scale and nature of the project. Further, the project does not propose to take water from surface water or groundwater sources at or in the vicinity of the project, with water supplied water mains or purchased.
	2. Description of all works/activities that may intercept, extract, use, divert, or receive surface water and/or groundwater. This includes the description of any development, activities or structure that will intercept, interfere with or remove groundwater, both temporary and permanent.	Chapter 3 (Project description)
	3. Details of all water take for the life of the project and post closure where applicable. This is to include water taken directly and indirectly, and the relevant water source water entitlements are required to account for the water take. If the water is to be taken from an alternative source confirmation should be provided by the supplier and the appropriate volumes can be obtained.	Water would be purchased from water suppliers or supplied via direct connection to Hunter Water infrastructure. As identified above, the project does not propose to take water from nearby surface water sources, and the beneficial reuse of groundwater is prohibited. Acquiring water entitlements is not proposed. Post closure is not a relevant consideration given the nature and location of the project.

Item	Requirement	Where considered in the EIS
	4. Details of Water Access licences (WALs) held to account for any take of water where required, or demonstrated that WALs can be obtained prior to take of water occurring. This should include an assessment of the current market depth where water entitlement is required to be purchased. Any exemptions or exclusions to requiring approvals or licences under the *Water Management Act 2000* should be detailed by the proponent.	The project is not proposing to extract water from surface or groundwater sources, and any incidental take of contaminated groundwater during limited excavation work is not expected to exceed the 3 megalitre threshold which exempts EnergyCo from requiring a WAL. As such this requirement is not relevant.
Water impacts	5. A description of groundwater conditions that provides an understanding of groundwater level across the site under a range of wet and dry conditions.	Section 13.3 of Chapter 13 (Groundwater) Chapter 4 of Technical paper 9
	6. Assessment of impacts on surface and groundwater sources (both quality and quantity), related infrastructure, adjacent licence water users, basic landholder rights, watercourses, riparian land, groundwater dependent ecosystems, and groundwater levels; including measures proposed to reduce and mitigate these impacts.	Section 12.4 to Section 12.6 of Chapter 12 (Surface water and flooding) Section 13.4 to 13.6 of Chapter 13 (Groundwater) Chapters 4, 5, 6 and 8 of Technical paper 8 Chapter 4 to Chapter 6 of Technical paper 9
	7. Proposed surface and groundwater monitoring activities and methodologies	Surface water and groundwater monitoring is not proposed based on the outcomes of the EIS

Item	Requirement	Where considered in the EIS
Assessment against Policy and Guidelines	8. Identification an impact assessment of all works/activities located on waterfront land including assessment against Guidelines for controlled activities on waterfront land (DPE 2022).	The project is not located on waterfront land, or located within 40 metres of waterfront land
	9. Assessment of project against relevant policies and guidelines.	Sections 12.1, 12.4 and 12.5 of Chapter 12 (Surface water and flooding) Sections 13.1, 13.4 and 13.5 of Chapter 13 (Groundwater) Chapters 2, 5 and 6 of Technical paper 8 Chapters 2 and 5 of Technical paper 9
NSW Environmental Protection Authority		
Environmental impacts of the project	1.1. The description should include the following for both the construction and operation of the project: a) Details of the premises covered by the project including any relationship with any existing Environment Protection Licences b) the layout of all the physical elements of the project within the project area, including all buildings, structures, works, haulage activities, pollution controls, stockpile and material handling areas, sealed and unsealed areas, landscaping and open space. c) all mitigation measures that will be built into the physical layout and design of the project (such as noise walls) d) any ancillary infrastructure for which approval is being sought (such as upgrades to utilities or surrounding roads) e) identify those components of the physical layout and design that may change during the detailed design of the project, and set clear limits within which this change may occur without requiring amendments to the DA or modifications to the development consent if the project is approved f) plans showing the layout and design in plan-view and cross section.	Section 3.1 and Section 3.2 of Chapter 3 (Project description) Appendix B (Maps) Appendix C (Statutory compliance) Appendix E (Mitigation measures)

Item	Requirement	Where considered in the EIS
	1.2. Identify any likely interactions between the development and any existing/approved developments and land uses in the area.	Chapter 22 (Cumulative)
	1.3. Identify all sensitive receivers likely to be affected by the development using clear maps/plans, including key landform areas, such as conservation areas and waterways.	Main EIS document Technical papers 1 to 12
	1.4. Identify all potential environmental emissions, assess the likely environmental impacts, and describe the proposed mitigation measures to minimise environmental pollution to achieve compliance with relevant environmental legislation, policies, and guidelines.	Main EIS document Appendix E (Mitigation measures)
	1.5. The EIS must accurately summarise the key findings of the detailed technical studies in the appendices of the EIS and use suitable cross-referencing to reduce repetition between the two parts of the EIS.	Main EIS document
EPA license and approval requirements	2.1 Identify all approvals and licences required under environment protection legislation including details of all scheduled activities under schedule 1 of the Protection of the Environment Operations Act 1997.	Chapter 4 (Statutory context) and Appendix C (Statutory compliance) noting the project does not include activities or meet the thresholds for an EPL as provided in Schedule 1 of the POEO Act
	2.2. Outline how the proposal and its environmental protection measures would be implemented and managed so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan).	Chapters 6 to 21, and Appendix C (Statutory compliance), noting an EPL is not required; however, the EPA will be the relevant regulatory authority for the project.

Item	Requirement	Where considered in the EIS
Construction works	3.1. The EIS must include detail of the construction works including: a) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site). b) Identify, characterise and classify the following in accordance with the EPA's Waste Classification Guidelines (2014): i. all waste that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste; ii. all waste that is to be removed to an offsite location, including proposed quantities. Include the commitment to ensure this waste is taken to a facility that can lawfully receive it. Note: The EPA's Waste Classification Guidelines (2014) are available at:https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste c) construction timetable and staging; hours of construction; proposed construction methods. d) environment protection measures, including noise mitigation measures - in accordance with the Interim Construction Noise Guideline (DECC, 2009), dust control measures and erosion, and sediment control measures- in accordance with Managing urban stormwater: Soils and construction, vol. 1 (Landcom 2004).	Section 3.2 of Chapter 3 (Project description) Section 10.6 of Chapter 10 (Contamination and soils) Section 11.6 of Chapter 11 (Noise and vibration) Section 12.6 of Chapter 12 (Surface water and flooding) Section 14.6 of Chapter 14 (Air quality) Appendix E (Mitigation measures)
	3.2. Include a site diagram showing the site layout and location of environmental controls.	Indicative site layout is provided in Section 3.1 and Section 3.2 of Chapter 3 (Project description). More detailed plans showing temporary environmental controls would be developed as part of the Construction Environmental Management Plan (CEMP).
	3.3. Construction noise associated with the proposed development should be assessed using the Interim Construction Noise Guideline (DECC, 2009). These are available at: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/construction-noise	Section 11.4 of Chapter 11 (Noise and vibration) Section 2.2 and Chapter 5 of Technical paper 7

Item	Requirement	Where considered in the EIS
Air issues	4.1. The EIS must demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the POEO Act and the Protection of the Environment Operations (Clean Air) Regulation 2022. This consideration should include section 129 of the POEO Act concerning control of "offensive odour".	Section 14.1, Section 14.4 and Section 14.5 of Chapter 14 (Air quality) Section 2.1.2, Chapter 5 and Chapter 6 of Technical paper 10
	4.2. The EIS must include an air quality impact assessment (AQIA). The AQIA must be carried out in accordance with the document, Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022). These are available at: https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/approved-methods-for-the-modelling-and-assessment-of-air-pollutants	Section 14.4 and Section 14.5 of Chapter 14 (Air quality) Chapter 5 and Chapter 6 of Technical paper 10, noting air quality modelling has not been completed based on the nature of the project and outcomes of the impact assessment
	4.3. The EIS must detail emission control techniques/practices that will be employed at the site and identify how the proposed control techniques/practices will meet the requirements of the POEO Act, POEO (Clean Air) Regulation (2022) and criteria within Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022).	Section 14.4.1 and Section 14.5.2 of Chapter 14 (Air quality) Chapter 9 of Technical paper 10
Noise and vibration	The EIS must assess the following noise and vibration aspects of the proposed development: 5.1. Operational and construction activities on the premises that maybe considered vibration intensive should be assessed using the guidelines contained in the Assessing Vibration: a technical guideline (DEC, 2006). These are available at: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/assessing-vibration	Section 11.4.3 of Chapter 11 (Noise and vibration) Section 5.3 and Chapter 6 of Technical paper 7
	5.2. If blasting is required for any reasons during the construction or operational stage of the proposed development, blast impacts should be demonstrated to be capable of complying with the guidelines contained in Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990). These are available at: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/construction-noise	Not applicable. Blasting is not proposed for the project

Item	Requirement	Where considered in the EIS
	5.3. Operational noise from noise intensive activities to be undertaken on the premises should be assessed using the guidelines contained in the NSW Noise Policy for Industry (NSW EPA, 2017b). Available at: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)	Section 11.5 of Chapter 11 (Noise and vibration) Section 2.2 and Chapter 6 of Technical paper 7
	5.4. If applicable, noise on public roads from increased road traffic generated by land use developments other than road projects should be assessed using the guidelines contained in the NSW Road Noise Policy (EPA, 2011) and associated application notes. Available at: https://www.epa.nsw.gov.au/your-environment/noise/transport-noise.	Section 11.4 and Section 11.5 of Chapter 11 (Noise and vibration) Section 2.2, Section 5.2 and Section 6.2 of Technical paper 7
	5.5. If applicable, noise on rail lines from increased rail traffic generated by land-use developments other than rail projects should be assessed using the guidelines contained in the Rail Infrastructure Noise Guideline (EPA, 2013) and associated application notes. Available at: https://www.epa.nsw.gov.au/your-environment/noise/transport-noise.	Not applicable. The project would not result in increased rail traffic
Waste, chemicals and hazardous materials and radiation	The EIS must assess the following waste, chemical and hazardous materials related aspects of the proposed development: 6.1. Assess and describe all aspects of waste generation, management and disposal associated with the proposed development.	Section 21.4 and Section 21.5 of Chapter 21 (Waste)
	6.2. Demonstrate compliance with all regulatory requirements outlined in the POEO Act and associated waste regulations.	Section 21.1 and Section 21.6.1 of Chapter 21 (Waste)
	6.3. Outline contingency plans for any event that may result in environmental harm, such as excessive stockpiling of material, or dirty water volumes exceeding the storage capacity available on-site.	Section 21.6 of Chapter 21 (Waste)
	6.4. Demonstrate that appropriate spill containment will be provided for storage, filling and loading of all fuels and other chemicals to be used on site, in accordance with all relevant Australian Standards, and/or NSW EPA's Storing and Handling of Liquids: Environment Protection- Participants Manual (DECC, 2007).	Section 10.6 of Chapter 10 (Contamination and soils)

Item	Requirement	Where considered in the EIS
	6.5. Demonstrate compliance with Part 9.3E of the POEO Act for the use of any industrial chemicals, including details of activities involving Schedule 6 or Schedule 7 chemicals listed on the IChEMS register. Additionally, demonstrate a system for periodic review to ensure that any new IChEMS Register requirements are incorporated.	The project does not involve the manufacturing of goods requiring the import, export or use of chemicals listed in Schedule 6 or Schedule 7 of the IChEMS register.
	6.6. Assess and describe any potential risks relating to all known and potential contaminants of concern (CoC) including per- and polyfluoroalkyl substances (PFAS) that may be associated with the proposed development and if applicable, how they will be mitigated. Consideration should be given to potential health and environment related impacts caused by the CoC. The assessment should consider various sources, receptors and exposure pathways including but not limited to ingestion (drinking water and food consumption), inhalation, and dermal contact.	Section 10.3, Section 10.4 and Section 10.6 of Chapter 10 (Contamination and soils) Chapter 2 of Technical paper 6.
	6.7. Identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste and Sustainable Materials Strategy 2041 Stage 1: 2021-2027. Available at: https://www.epa.nsw.gov.au/Your-environment/Recycling-and-reuse/Strategic-direction-for-waste-in-NSW/Waste-and-Sustainable-Materials-Strategy.	Section 20.2 to Section 20.4 of Chapter 20 (Sustainability) Section 21.6 of Chapter 21 (Waste)
Water	The EIS surface water quality assessment must: 7.1. Demonstrate that all practical measures to prevent, control, abate or mitigate water pollution have been implemented, including a description of options that were explored (such as reuse to avoid a discharge or treatment).	Section 3.1 of Chapter 3 (Project description) Section 12.4 to Section 12.6 of Chapter 12 (Surface water and flooding) Section 20.3 of Chapter 20 (Sustainability), noting sustainability initiatives to reduce water demand would be further explored during detailed design Section 5.2 and Section 6.2 of Technical paper 8.

Item	Requirement	Where considered in the EIS
	7.2. Provide details of the proposal that are essential for predicting and assessing potential impacts to receiving waters. This could include (but is not limited to): a) Site layout, including details of the existing and proposed water management system. b) Drainage map for the entire site identifying sub-catchments, flow paths, drainage infrastructure, design sizing of structures, water storages, discharge points, and any potential flow paths to receiving waters. c) How stormwater will be managed in all phases of the project. Information should include, where appropriate, measures to avoid or minimise erosion, leachate generation, and sediment mobilisation at the site. d) Any in-water activities (such as piling or dredging).	Section 3.1 and Section 3.2 of Chapter 3 (Project description). Section 12.4 to Section 12.6 of Chapter 12 (Surface water and flooding) Chapter 3, Chapter 4 and Chapter 8 of Technical paper 8, including Figure 4-1 No in-water activities are proposed
	7.3 Include water balance(s) for ground and surface water, including any intake and discharge locations, volumes, frequency and duration.	A water balance is not considered relevant to the project based on the scale and nature of the project. Further, the project does not propose to take water from surface water or groundwater sources at or in the vicinity of the project, with water supplied water mains or purchased.
	7.4 Identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point, including residual discharges after mitigation measures are implemented. This should be undertaken for construction and operational phases.	A qualitative assessment has been completed for construction and MUSIC X modelling has been completed for operation Section 12.4 and Section 12.5 of Chapter 12 (Surface water and flooding) Section 5.2 and Section 5.3 of Technical paper 8

Item	Requirement	Where considered in the EIS
	7.5. Include a water pollution impact assessment undertaken consistent with the guidance available at https://www.epa.nsw.gov.au/your-environment/water/managing-water-pollution-in-nsw/environment-protection-licensing/water-pollution-discharge-assessments. The level of assessment should be commensurate with the risk to the environment and human health.	Section 12.4 and Section 12.5 of Chapter 12 (Surface water and flooding) Section 5.2 and Section 5.3 of Technical paper 8
	7.6. Describe any surface water quality monitoring programs, including proposed monitoring locations, frequency and indicators of surface water quality. Analytical limits of reporting should have regard to any identified guideline values. Water quality monitoring should be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (2004) available at: Approved methods for the sampling and analysis of water pollutants in NSW | EPA	Surface water quality monitoring is not proposed
	7.7. The EIS must describe how stormwater will be managed in all phases of the project, including details of how stormwater and runoff will be managed to minimise pollution. Information should include measures to be implemented to minimise erosion, leachate and sediment mobilisation at the site. The EIS should consider the guidelines Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC, 2008).	Section 12.6 of Chapter 12 (Surface water and flooding) Chapter 5, Chapter 6 and Chapter 8 of Technical paper 8
Groundwater	8.1. Provide details of the project that are essential for predicting and assessing impacts to groundwater with a description of the existing environment, including: a) Geological, topographical, and hydrogeological resource descriptions, maps, and cross-sections. b) Assessment of groundwater quality, users of groundwater, existing bores including depths and construction, assessment of local land use. c) A hydrogeological interpretation of water-bearing geological units, depth to water table, groundwater gradient, Conceptual hydrogeological model, assessment of groundwater dependent ecosystems. d) Site map and cross-sections showing and characterising any proposed excavations and spoil emplacement (relative to water table) with topography. e) Proposed groundwater monitoring program. f) Assessment should be in accordance with Groundwater assessment toolbox for major projects in NSW - Overview document (NSW DPE, 2022b) - https://water.nsw.gov.au/__data/assets/pdf_file/0004/507613/Groundwater-assessment-toolbox-for-major-projects-in-NSW.pdf	The level of assessment and detail provided reflects the conditions of this site, presence of remediation infrastructure and nature of the project Section 13.3 of Chapter 13 (Groundwater) Section 2.2.5, Chapter 4 and Chapter 5 of Technical paper 9

Item	Requirement	Where considered in the EIS
Soils	9.1. The EIS should include an assessment of the potential impacts on soil and land resources should be undertaken, being guided by the Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000). The nature and extent of any significant impacts should be identified. Particular attention should be given to: a) Soil erosion and sediment transport- in accordance with Managing urban stormwater: Soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C Unsealed Roads; D Main Roles) (DECC2008). b) Mass movement (landslides) – in accordance with Landslide risk management guidelines presented in the Australian Geomechanics Society (2007). c) Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets which includes Site Investigation for Urban Salinity (DLWC, 2002).	Section 10.4 and Section 10.5 of Chapter 10 (Contamination and soils) Chapter 3 of Technical paper 6 Landslides is not a relevant consideration to this project
	9.2. A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented. Where required, add any specific assessment requirements relevant to the project.	Section 10.6 of Chapter 10 (Contamination and soils) Section 3.4 of Technical paper 6
Contamination	10.1. Identify the likelihood of contamination at the site and surrounding land (on different media such as soils, groundwater, ground gas, surface water and sediments, where applicable) by considering the context of past, current, and proposed land uses. The EIS must document how the assessment of contaminated land has been undertaken with regard to the relevant guidelines for contaminated land made or approved by the NSW EPA.	Section 10.4 and Section 10.5 of Chapter 10 (Contamination and soils) Chapter 2 of Technical paper 6

Item	Requirement	Where considered in the EIS
	10.2. All reports on contamination must be prepared by a suitably qualified contaminated land consultant(1) who is also certified(2). (1) A suitably qualified and experienced contaminated land consultant is a contaminated land consultant who meets the competencies outlined in the Guideline on the Competencies and Acceptance of Environmental Auditors and Related Professionals (Schedule B9) as provided in the ASC National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in 2013)." (2) A certified consultant is a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme; Note: If an auditor is being engaged for the project, the requirement for a certified consultant to prepare the contaminated land reports is still recommended as it will help ensure all assessment work is done as efficiently as possible, but it is optional. However, it must still be required for all reports to be prepared by a suitably qualified contaminated land consultant.	Section 2.2 of Technical paper 6
	10.3. Where contamination is considered likely based on past or current land uses or other factors (such as offsite contamination migrating onto the site), undertake detailed site investigation/s to determine the nature and extent of the contamination.	Section 2.5 of Technical paper 6, noting this has concluded that a DSI is not required
	10.4. Where contamination exists, assess if remediation of the land is required, having regard to current and future land uses; and the ecological and human health risks posed by the contamination to both onsite and offsite receptors.	The construction footprint is subject to two Contaminated Site Management Plans (CSMPs), and the preliminary site investigation has not identified the need for remediation for areas not subject to existing CSMPs

Item	Requirement	Where considered in the EIS
	10.5. Where a detailed site investigation is prepared and/or remediation is considered necessary, a NSW EPA accredited Site Auditor must be engaged to undertake an audit. The EIS must include copies of any Interim Audit Advice provided by the auditor and a Site Audit Statement and Site Audit Reports issued by the auditor which certifies the site can be made suitable for the proposed use	The construction footprint is subject to two CSMPs, and the preliminary site investigation has not identified the need for remediation for areas not subject to existing CSMPs Section 10.4.1 and Section 10.6.1 of Chapter 10 (Contamination and soils) Chapter 2 and Appendix A (Site Audit Statements) of Technical paper 6
	10.6. The following references should be included as relevant guidelines that must be followed when assessing contaminated land: a) Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (DUAP and EPA, 1998) - https://www.epa.nsw.gov.au/sites/default/files/managing-contaminated-land-guidelines-remediation.pdf a) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA, 2015) b) Contaminated land sampling design guidelines - Part 1 and 2 (NSW EPA, 2022b) c) Consultants reporting on contaminated land: contaminated land guidelines (EPA, 2020) d) Guidelines for the NSW Site Auditor scheme 3rd edition (NSW EPA, 2017a) e) Any other relevant guidelines made or approved by the EPA under s105 of the Contaminated Land Management Act 1997 - https://www.epa.nsw.gov.au/your-environment/contaminated-land/statutory-guidelines	Section 10.1 of Chapter 10 (Contamination and soils) Section 1.3.1 of Technical paper 6 Contaminated soil testing has not been undertaken for this project, and therefore Contaminated land sampling design guidelines - Part 1 and 2 (EPA, 2022) has not been considered.

Item	Requirement	Where considered in the EIS
Climate change	11.1. Provide estimate of greenhouse gas (GHG) emissions for the project by carrying out a Greenhouse Gas Assessment consistent with the most recent version of the EPA's Greenhouse Gas Assessment Guide for Large Emitters (GHG guide) that is available on the EPA's website. The GHG estimate is to confirm if the project is likely to result in 25,000 tonnes or more of scope 1 and 2 emissions (CO2-e), in any financial year during the operational life of the project. Input data and assumptions used to estimate GHG should be accompanied by supporting evidence. Note: Where the proponent believes that certain requirements from the GHG guide are not applicable, the proponent may indicate that in the EIS but must provide sufficient justification.	Section 19.3 of Chapter 19 (Climate change) Chapter 7 of Technical paper 10
Heritage Council NSW		
3. Heritage – Environmental The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of environmental heritage.	1. Provide an Environmental Heritage Assessment as outlined in Section 6.2.3 of the Scoping Report. 2. The environmental heritage assessment must: a) provide a significance assessment, a statement of heritage impact for all heritage items and a historical archaeological assessment where there is potential for direct or indirect impacts on the heritage significance of heritage items. b) provide a maritime archaeological assessment (MAA) if investigations demonstrate that the site includes reclaimed riverine land. c) assess the consistency of the project against conservation policies of any relevant heritage conservation management plan. d) consider the impacts to the heritage significance of the items caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence, drainage infrastructure, access roads, contamination remediation and site compounds (as relevant) e) outline measures to avoid and minimise those impacts during construction and operation f) identify opportunities for the proposal to reflect on the heritage character and significance of the site and surrounding area during operation through heritage interpretation.	Section 2.4 and Section 2.5 of Chapter 2 (Strategic context) Section 8.4 – Section 8.6 of Chapter 8 (Non-Aboriginal heritage) Chapter 1, Chapter 5, Chapter 6, Chapter 7 and Chapter 8 of Technical paper 3, noting archaeological excavations are not required Technical paper 4, noting a MAA is not required

Item	Requirement	Where considered in the EIS
The design, construction and operation of the project voids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage.	g) outline the future management framework for the ongoing protection, management and conservation of heritage items and objects and other heritage values. h) be undertaken by a suitably qualified heritage consultant(s) and/or historical archaeologist (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria). The MAA is to be prepared by a suitably qualified and experienced maritime archaeologist. i) assess the impact of the swept paths on the proposed access roads and driveways on vegetation and landscaping in the southern precinct of the site, including the heritage curtilage of the Administration Building and whether the design will have impacts to items of heritage significance. j) outline options considered for the proposal including locations for new access roads and adaptive reuse of existing buildings for staff amenities or project associated uses, and provide justification for the selected options.	
Heritage NSW		
General	Heritage NSW recommends that the draft Aboriginal Secretary's Environmental Assessment Requirements with respect to Aboriginal Cultural Heritage to be replaced with the following in relation to the proposed Newcastle Logistics Precinct – Intertrade Project (SSI-82049456): - The Environmental Impact Statement should be informed by an Aboriginal Cultural Heritage Assessment Report, prepared in accordance with relevant policy and guidelines to identify describe and assess any impacts to Aboriginal cultural heritage sites with values associated with the project. The Aboriginal Cultural Heritage Assessment Report must be prepared in accordance with the Guide to investigating, assessing, and reporting on Aboriginal Cultural Heritage in NSW (2011) and Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2010), including results of archaeological survey and test explications where required undertaken in accordance with the relevant standards and requirements.	An Aboriginal Cultural Heritage Assessment Report has not been completed based on the findings of the Aboriginal heritage assessment - refer to Chapter 9 (Aboriginal heritage) and Technical paper 5

Item	Requirement	Where considered in the EIS
	- Include evidence of adequate and continuous consultation with Aboriginal parties in relation to determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage in identifying appropriate mitigation measures (including the final proposed measures) in substantial compliance with the consultation process outlined in the Aboriginal cultural heritage consultation requirements for proponents 2010.	Section 5.4.3 of Chapter 5 (Engagement) Section 9.3, Section 9.4 and Section 9.6 of Chapter 9 (Aboriginal heritage) Chapter 2 and Chapter 7 of Technical paper 5
Hunter Water		
General	Hunter Water will also request the following to be included in any future conditions of consent issued for the project: 1. The proponent is required to submit an application for Development Assessment (Section 50) for each stage of the proposed development in accordance with Section 49 of the Hunter Water Act 1991 (the Act) via the Hunter Water Self Service Portal (https://selfservice.hunterwater.com.au/). 2. A Compliance Certificate will be issued under Section 50 of the Act for each stage of the proposed development once Hunter Water's specific requirements have been satisfied, and this Compliance Certificate must be submitted to the Principal Certifying Authority prior to a Construction Certificate being issued for the development.	EnergyCo submitted a Section 50 application and received the requirements from Hunter Water that must be satisfied prior to the commencement of construction and before a Compliance certificate can be issued (reference #188225, dated 25 March 2026). These concern documentation that would be completed as part of the detailed design, and evidence that approval has been granted under the EP&A Act for the project.
	3. The proponent is responsible for ensuring that any development staging is clearly defined in the development consent in order to allow the release of Section 50 Compliance Certificates for each development stage and, if required, the associated staged delivery of water and sewer infrastructure.	Noted. Staging is currently not proposed that would change the requirements for water or sewer connections.
City of Newcastle		
Environmental Impact Statement	City of Newcastle notes clause 1 (c) of the SEARs required the EIS to consider the strategic and project context. We recommend the proponent consider City of Newcastle's Local Strategic Planning Statement (2021) and Newcastle Employment Lands Strategy.	Section 2.2 of Chapter 2 (Strategic context).

Item	Requirement	Where considered in the EIS
Hazards and risk	According to the Scoping Report, Battery Energy Storage Systems (BESSs) will be stored for interim periods on the subject site as part of the proposed project. City of Newcastle notes a Preliminary Hazard Analysis (PHA) is proposed to be undertaken which is considered appropriate. We recommend the PHA addresses the potential impacts due to an incident on site not only from explosions and cascade explosions (thermal runaway) but also other possible effects including thermal overruns and gaseous emissions in a significant event. Such an assessment should also address the transporting of the BESSs to and from the site. Finally, NSW Fire and Rescue should be consulted regarding ramifications of an incident at the site and any emergency requirements/issues.	Section 5.3.2 of Chapter 5 Section 6.5.1 of Chapter 6 (Hazards and risk) Section 7.4.2 and Section 9.1.1 of Technical paper 1
Traffic and access	City of Newcastle recommends Section 2.2 (Traffic and Access) of the SEARS is modified to require the EIS to include the following: h) An assessment of how the proposed project integrates with the traffic generation and road and rail infrastructure provisioning or upgrades associated with the approved Mayfield Concept Plan (MP09_0096).	Section 22.3.1 of Chapter 22 (Cumulative impacts) Chapter 7 of Technical paper 2
Social impact	City of Newcastle notes that the draft SEARS, Scoping Report and Scoping for Social Impact Assessment (SIA) (Appendix B) each interpret the project and project site to only relate to construction and operation of an industrial (logistics) estate and linked movement of vehicles and freight between the Port of Newcastle Mayfield 4 Berth and the Intertrade site, and immediate road network to the Renewable Energy Zone (REZ) project sites. They leave the wider linked social impacts, including that of improved renewal energy access and reliability for individuals, communities and job displacement in traditional energy sectors, to the individual REZ projects that will be supported by Newcastle Logistics Precinct. Given the above, we recommend the inclusion of a specific reference to wider linked social impacts for individuals, communities in the SIA, including but not limited to: • Supportive of improved energy access and reliability • Supportive of increased renewable energy adoption • Empowerment of consumers and cost savings • Energy security, resilience in emergencies • Equitable transition to renewable energy • Environmental and resource extraction community concerns	In accordance with the SEARs, the SIA and EIS were prepared in accordance with the Social Impact Assessment Guidelines for State Significant Projects (NSW DPHI, 2026a). The social locality and the impacts considered in the assessment has been informed by the desktop assessment, engagement feedback and the outcomes of other relevant technical papers. The wider social impacts concerning the broader energy transition is beyond the scope of the SIA for this project.

Item	Requirement	Where considered in the EIS
	• Inequality in access to renewable energy, geographic disparities • Job displacement in traditional energy sectors • Social recruitment procurement practices and policies • Fire and safety, hazardous materials storage, community warning systems	
Transport for NSW		
TfNSW advice for SEARs	The Environmental Impact Statement to be submitted as part of the environmental planning process will need to include a Traffic Impact Assessment (TIA) prepared following the methodology set out in Guide to Traffic Impact Assessment (GTIA) 2024 and Part 12 Austroads Guide to Traffic Management and must include an assessment of the following matters:	
	1. Hours, days and periods of construction.	Section 3.2 of Chapter 3 (Project description)
	2. Schedule for phasing/staging of the project (including pre-construction, accommodation and ancillary infrastructure works) and identifying the traffic volumes for each stage.	Section 3.2.2 of Chapter 3 (Project description). Types of vehicles with construction vehicle routes identified to the nearest State Road (Industrial Drive). Construction vehicle volumes are provided for the maximum movement. Pre-construction, accommodation and ancillary infrastructure works are not relevant considerations for this project.
	3. Clearly identify each access, emergency access and access track connected to the State road network and justify the need for each access or access track.	Access to the project is described in Section 3.1.3 and Section 3.2.8 of Chapter 3 (Project description). Access tracks are not proposed. Access would be via existing public roads

Item	Requirement	Where considered in the EIS
	4. Traffic volumes: a) Surveyed existing background traffic at key intersections per Part 3 Austroads Guide to Traffic Management with survey raw data included. b) Project-related traffic volumes (measured as vehicle trips per an hour and per a day) for each stage including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes. c) Traffic assessment will need to be based on two scenarios: i. Peak project construction traffic, existing background traffic volume + growth and any cumulative traffic volumes present within the background and turning traffic volumes at key intersections with the state road network during constructions. The traffic assessment must include SIDRA analysis and turn warrants assessments. ii. Peak operational traffic volumes, existing background traffic volumes + growth are to be applied to the design year and must be assessed at the key intersections with the state road network during constructions. The traffic assessment must include SIDRA analysis and turn warrants assessments. d) Consideration of possible future expansions to the project and what they may look like in terms of traffic volumes / impacts.	Section 3.1.6 and Section 3.2.8 of Chapter 3 (Project description). Section 7.4 and Section 7.5 of Chapter 7 (Traffic and access) Chapter 3 to Chapter 6 of Technical paper 2 As noted above, a construction and operational scenario have been considered only, noting the multiple phases as identified by Transport for NSW is not relevant to this project The latest Sydney Strategic Traffic Forecasting Model (STFM) outputs were provided by Transport for NSW (2026 & 2036) on 15 August 2025 to estimate the future background volumes for 2027 (construction year) and 2037 (operational year) Turn warrant assessments have been completed at non-signalised intersections within the study area No staging proposed. Future expansion not being considered at this time

Item	Requirement	Where considered in the EIS
	5. Traffic volumes are to include a description of: a) Ratio of light vehicles to heavy vehicles. b) Differentiation of Over Size/Over Mass (OSOM) that do or do not require an NHVR permit and proposed times of operation on the State road network. c) Project related traffic interaction with existing and projected background traffic with annual growth rate applied linearly. d) Peak times for existing traffic and project related traffic. e) Transportation hours.	Section 7.4 and Section 7.5 of Chapter 7 (Traffic and access) Chapter 5 and Chapter 6 of Technical paper 2
	6. The origin, destination and routes for: a) Employee and contractor light traffic. a) Heavy vehicle traffic. b) OSOM vehicle traffic (for OSOMs that require pilot or escort but do not require an NHVR permit), c) OSOM high risk loads. d) A description of all non-high risk OSOM vehicles and materials to be transported. The shortest and least trafficked route is to be given priority for movement of materials and machinery to minimise risk and impact to other motorists, so far as is reasonably practicable. e) The impact of generated traffic and measures employed to ensure efficiency, safety and impacts to assets on the state road network during pre-construction minor works, staging of workforce accommodation (until completion), any parallel activities occurring before commencement of the construction phase, construction, operation and decommissioning of the project. This includes enforcement, managing traffic volumes, driver behaviour and access paths to the site. The assessment identifies road upgrades, modification and high-level enforceable mitigation measures to manage traffic volumes, driver behaviour and site access paths for all project stages.	Section 7.4 and Section 7.5 of Chapter 7 (Traffic and access) Chapter 5, Chapter 6, Chapter 7, Appendix B and Appendix D of Technical paper 2 Assumptions for origin and destination during construction and operation have been described in Chapter 3, Chapter 5 and Chapter 6 of the Technical paper Intersections have been assessed within the study area. The movement of traffic beyond the study area to renewable energy project is beyond the scope of the project and assessment. Movement of components during operation is assessed in respective EIS for renewable projects and managed in accordance with National Heavy Vehicle Regulator (NHVR) requirements

Item	Requirement	Where considered in the EIS
	f) A turn warrant assessment for all stages of the development (i.e. project peak hour is different to network peak hour for construction and pre-construction minor works, pre-construction minor works, staging of workforce accommodation and overlapping activities that are likely to occur before construction of intersection upgrades on the state road network) and must also include an assessment of the worst-case scenario (i.e. peak project traffic volumes applied to peak background traffic, linear growth rate and cumulative traffic of developments at EIS and approved stages that will be present in the background and turning traffic volumes). The turn warrants assessments are to be prepared in accordance with section 3.25 of Part 6 Austroads Guide to Traffic Management. A turn warrant assessment will be required for each scenario identified above and assessed for each access, access track and any other access along the project's identified routes with an interface or connection to the state road network.	Turn warrant assessments have not been completed for state road intersections as these are signalised within the study area and have been updated as part of the Port to REZ program of works
	g) TIA is to detail improvements to the state road network, such as road widening, modifications and intersection treatments, to cater for and to mitigate the impact of project-related traffic (including accommodation and ancillary infrastructure components) at key intersections with State roads. Proposed road facilities, access, and intersection treatments will be identified and comply with Austroads Guide to Traffic Management, Austroads Guide to Road Design, TfNSW Supplements, and Technical Directions, including safe intersection sight distance. Strategic designs are to include swept path analysis for the largest vehicle (check and design) turning at the intersection(s), access points or access tracks. To assist the proponent in preparing strategic designs, the below link is provided: Strategic-Design-requirements-for-DA-Factsheet.pdf (nsw.gov.au)	
	Note: The design speed for state roads is the posted speed +10km/hr.	
	Note: It is the proponent's responsibility to acquire and dedicate land required to accommodate road infrastructure including, but not limited to, footways, structures, stormwater drainage, batters, maintenance access and utilities.	

Item	Requirement	Where considered in the EIS
	7. Traffic safety assessment: a) Local climate conditions that may affect road safety for vehicles used during the project's construction, operation, and decommissioning (e.g., fog, wet weather, etc.). b) A review of crash data along the identified transport route/s for the most recent 5-year reporting period and an assessment of road safety along the proposed transport route(s). c) Measures to be employed to ensure a high level of road safety for daily staff commutes between accommodation and construction site(s), specifically addressing impacts of unsafe driver behaviour and driver fatigue for all project stages and how measures employed will be enforced.	Section 7.4 and Section 7.5 of Chapter 7 (Traffic and access) Section 4.10 of Technical paper 2 Noting however that: • local climate conditions would not materially affect project vehicle safety in the context of this study area (sealed roads) • analysis of routes to renewable energy projects beyond the study area is beyond scope of this project • no accommodation facilities are proposed and the site is located in an urban area
	8. TfNSW advises that discussions should commence with TfNSW Maritime branch on any matters proposed by this project that may have an impact on navigable waters	The project does not propose any works in or over a navigable waterway

Item	Requirement	Where considered in the EIS
Concept Level Route Analysis required for High Risk OSOM	6. The route assessment is required for high risk OSOM (as defined on TfNSW website) delivering components to the project. The concept level route analysis must include: a) Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements required for the project. b) Overall combination type, configuration, load and vehicle configuration. c) The route analysis will include details of all high-risk OSOM loads, vehicle configurations, and laden dimensions and weights. d) The location of pull-over bays/rest areas along high-risk OSOM routes (including GPS coordinates) and the demonstration through swept paths that high-risk OSOMs can be physically accommodated for the project (in terms of size, width, and accessibility). e) Bridge and culvert assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles on the State road network. Bridge and culvert assessments can be made to spu@transport.nsw.gov.au. f) Highlighting each at-risk road structure that the haulage route crosses, including bridges, traffic signals, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads. g) Identifying the traffic mitigation measures, road works, modifications, or upgrades to facilitate the movement of the high-risk OSOM(s) associated with the project. h) Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e. school bus routes, mining shift changes, TSRs, harvest periods and events). i) Identify and assess implications of any road and rail projects under construction during the indicative schedule for project related OSOM movements. j) Assess any narrow sections of the State Road network (i.e. the total width of the lanes and shoulders) which would be too narrow to prevent through traffic on the State road network from passing the high-risk OSOM required for the project. Traffic mitigation measures, road upgrades and modifications would need to be included within the route analysis to demonstrate how traffic in the through lanes could safely pass the projects high-risk OSOM. k) Swept paths are required for all pinch points along the State Road network identified in the route assessment. l) Strategic concept designs all pinch points on the State Road network that require modifications or widening.	Delivery of components to/from the project on public roads is via Selwyn Street (council road). The intersections on public roads providing access to the project have or are being upgraded as part of the Port to REZ program of works. These roads do not require a route analysis. The requirement for a Concept level route analysis for OSOM movements to renewable energy projects would be prepared and assessed by respective projects. This is beyond the scope of this project.

Item	Requirement	Where considered in the EIS
Concept Level Route Analysis required for Operational High Risk OSOM and compliance with Port to Renewable Energy Zone Projects	7. The Scoping Study provides that components requiring high-risk Oversized or Overmass transport will be leaving the storage location regularly. The Route Analysis should also provide how components will be leaving the subject site and be transported to the Renewable Energy Zones: a) The Port of Newcastle is the leading provider for projects within the Hunter/Central Coast Renewable Energy Zone, New England Renewable Energy Zone and the Central West Orana Renewable Energy Zone. The Environmental Impact Statement / Traffic Impact Assessment should include a route study considering consistency with the current work being completed for the Port to Renewable Energy Zone upgrade works along these corridors, evaluating the details raised by Point 1 in this appendix and the impacts on the delivery of high-risk OSOM to the REZ zones from the Port of Newcastle. b) The TIA or EIS, includes information on and swept paths for the intended design high-risk OSOM loads for the proposed logistics precinct and storage area from the proposed site and at key intersections with the State road network that form the construction and operational routes for the project and identify any road upgrades or modifications that would be required to the state road network based on the swept paths, which would need to be detailed within strategic concept designs. c) Identify if any changes are proposed to the current Port to REZ route from the Port of Newcastle, noting that the current route from the Port of Newcastle is via Selwyn Street, George Street and Industrial Drive.	As above (refer to Item 1) Public roads used by OSOM vehicles travelling to/from project within the study area are consistent with the Port to REZ program of works. Swept path analysis has not been completed for these intersections within the study area for this basis.
Department of Defence		
General	Defence has reviewed the key issues and consultation requirements outlined in the draft SEARs and advises the following: • Defence wishes to be formally consulted on the EIS during public exhibition • The EIS needs to address the aerodrome safeguarding guiding principles below: - the subject lands designation under the Defence (RAAF Base Williamtown Defence Aviation Area) Declaration 2024, which requires the defence approval of structures higher than 90 metres; and - the subject lands inclusion in the RAF base Williamtown Wildlife Hazard Area - Area C (8 km to 13 km)	Section 17.3.5 and Section 17.5 of Chapter 17 (Land use and property)

Item	Requirement	Where considered in the EIS
NSW Department of Climate Change, Energy, the Environment and Water - Conservation Programs, Heritage and Regulation Group		
Biodiversity	1. Biodiversity impacts related to the proposed development (SSI-82049456) are to be assessed in accordance with the Biodiversity Assessment Method 2020 and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method 2020. 2. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method 2020. 3. The BDAR must include details of the measures proposed to address the offset obligation as follows; a) The total number and classes of biodiversity credits required to be retired for the development/project; b) The number and classes of like-for-like biodiversity credits proposed to be retired; c) The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules; d) Any proposal to fund a biodiversity conservation action; e) Any proposal to conduct ecological rehabilitation (if a mining project); f) Any proposal to make a payment to the Biodiversity Conservation Fund. If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. 4. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.	The project would not have a significant impact on biodiversity values (refer to Section 1.4 of Chapter 1 (Introduction) and Section 18.1 Chapter 18 (Biodiversity). A BDAR waiver was issued by DPHI for the project on 2 July 2026. Appendix C (Statutory compliance)

Item	Requirement	Where considered in the EIS
Water and soils	5. The EIS must map the following features relevant to water and soils including: a) Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map). b) Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method). c) Wetlands as described in s4.2 of the Biodiversity Assessment Method. d) Groundwater. e) Groundwater dependent ecosystems. f) Proposed intake and discharge locations.	Section 10.3 of Chapter 10 (Contamination and soils) Section 12.3 of Chapter 12 (Surface water and flooding) Section 13.3 of Chapter 13 (Groundwater) Section 18.3 of Chapter 18 (Biodiversity) Chapter 3 of Technical paper 6 Chapter 4 of Technical paper 8 Chapter 4 of Technical paper 9.
	6. The EIS must describe background conditions for any water resource likely to be affected by the development, including: a) Existing surface and groundwater. b) Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations. c) Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters. d) Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.	For hydrology, a qualitative assessment has been completed for construction and MUSIC X modelling has been completed for operation Section 12.3 – 12.5 of Chapter 12 (Surface water and flooding) Section 13.3 of Chapter 13 (Groundwater) Section 2.2.2, Section 2.2.3 and Chapter 4 of Technical paper 8 Chapter 4 of Technical paper 9

Item	Requirement	Where considered in the EIS
	7. The EIS must assess the impacts of the development on water quality, including: a) The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. b) Identification of proposed monitoring of water quality.	Section 12.3 of Chapter 12 (Surface water and flooding) Section 13.3 of Chapter 13 (Groundwater). Section 5.2, Section 6.2 and Chapter 9 of Technical paper 8 Chapter 4 of Technical paper 9 No water quality monitoring is proposed
	8. The EIS must assess the impact of the development on hydrology, including: a) Water balance including quantity, quality and source. b) Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas. c) Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems. d) Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches). e) Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water. f) Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options. g) Identification of proposed monitoring of hydrological attributes.	A water balance is not considered relevant to the project based on the scale and nature of the project. Further, the project does not propose to take water from surface water or groundwater sources at or in the vicinity of the project, with water supplied water mains or purchased. The assessment provided in the EIS reflects the highly disturbed nature of the construction and operational footprints. Monitoring of hydrological attributes is not proposed given the nature of the receiving environment. Section 12.4 – 12.6 of Chapter 12 (Surface water and flooding) Chapter 5, Chapter 6 and Chapter 8 of Technical paper 8

Item	Requirement	Where considered in the EIS
Flooding	9. The EIS must map the following features relevant to flooding as described in the NSW 2023 Flood Risk Management Manual including: a) Flood prone land. b) Flood planning area, the area below the flood planning level. c) Hydraulic categorisation (floodways and flood storage areas).	Section 12.3 of Chapter 12 (Surface water and flooding) Chapter 4 of Technical paper 8
	10. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.	Section 12.3 to Section 12.5 of Chapter 12 (Surface water and flooding) Chapter 4, Section 5.1 and Section 6.1 of Technical paper 8
	11. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios: a) Current flood behaviour for a range of design events as identified in 11 above. This includes the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.	Section 12.5 of Chapter 12 (Surface water and flooding) Section 6.1 of Technical paper 8
	12. Modelling in the EIS must consider and document: a) The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood. b) Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories. c) Relevant provisions of the NSW 2023 Flood Risk Management Manual.	Section 12.3 to Section 12.5 of Chapter 12 (Surface water and flooding) Chapter 4, Section 5.1 and Section 6.1 of Technical paper 8

Item	Requirement	Where considered in the EIS
	13. The EIS must assess the impacts on the proposed development on flood behaviour, including: a) Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure. b) Consistency with Council floodplain risk management plans. c) Compatibility with the flood hazard of the land. d) Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land. e) Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site. f) Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses. g) Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council. h) Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council. i) Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES. j) Any impacts the development may have on the social and economic costs to the community as consequence of flooding.	Section 5.3.2 of Chapter 5 (Engagement) Section 12.3 to Section 12.5 of Chapter 12 (Surface water and flooding) Chapter 4, Section 5.1, Section 6.1 and Chapter 8 of Technical paper 8 Consultation with Council and the SES would occur in the future.

Appendix B
Maps



Figure B-1
Storage precincts

Legend

- Road
- Railway
- Operational footprint
- Northern access
- Southern access (central)
- Indicative BESS locations
- Roll Shop building (all weather storage)
- The operational amenities building and car park
- State heritage curtilage
- Quality Control Laboratory (SEPP heritage item)

Precinct

- Main logistics precinct
- Southern precinct



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000 Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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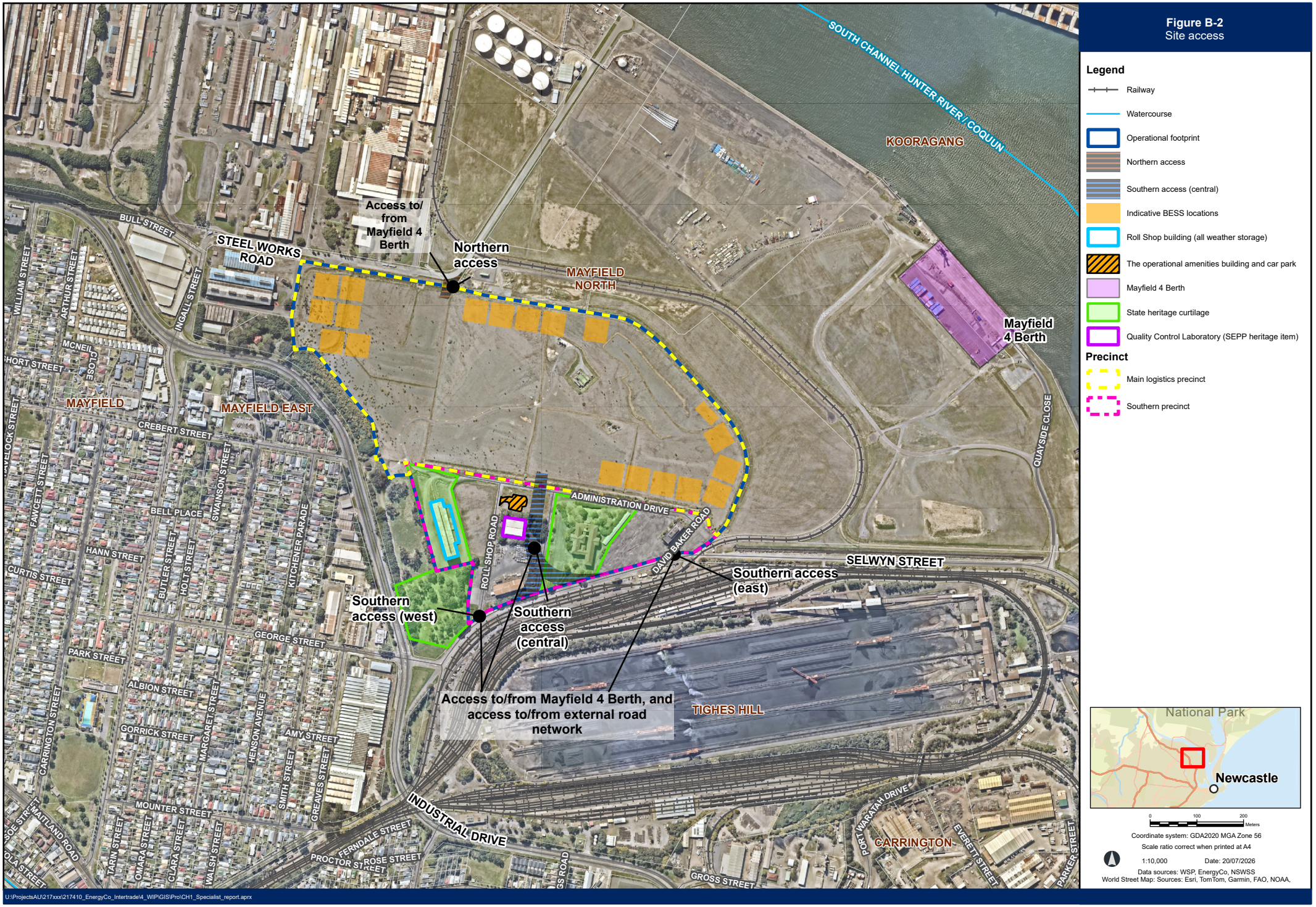

SOUTH CHANNEL HUNTER RIVER / COQUUN
KOORAGANG
Access to/ from Mayfield 4 Berth
Northern access
MAYFIELD NORTH
Mayfield 4 Berth
BULL STREET
STEEL WORKS ROAD
WILLIAM STREET
ARTHUR STREET
INGALL STREET
MCNEIL CLOSE
HORT STREET
MAYFIELD
MAYFIELD EAST
CREBERT STREET
LOCK STREET
FAWCETT STREET
SWAINSON STREET
BELL PLACE
HANN STREET
CURTIS STREET
BUTLER STREET
HOLT STREET
KITCHENER PARADE
ADMINISTRATION DRIVE
ROLL SHOP ROAD
DAVID BAKER ROAD
QUAYSIDE CLOSE
SELWYN STREET
Southern access (east)
Southern access (west)
Southern access (central)
GEORGE STREET
PARK STREET
ALBION STREET
CARRINGTON STREET
MARGARET STREET
HENSON AVENUE
GORRICK STREET
AMY STREET
SMITH STREET
GREAVES STREET
Access to/from Mayfield 4 Berth, and access to/from external road network
TIGHES HILL
MOUNTER STREET
INDUSTRIAL DRIVE
MAITLAND ROAD
TARIN STREET
OMARA STREET
CLARA STREET
WALSH STREET
FERNDALE STREET
PROCTOR STREET
ROSE STREET
GROSS STREET
FORT WARATAH DRIVE
CARRINGTON
EVERETT STREET
PARKER STREET
Figure B-2
Site access
Legend
Railway
Watercourse
Operational footprint
Northern access
Southern access (central)
Indicative BESS locations
Roll Shop building (all weather storage)
The operational amenities building and car park
Mayfield 4 Berth
State heritage curtilage
Quality Control Laboratory (SEPP heritage item)
Precinct
Main logistics precinct
Southern precinct
National Park
Newcastle
0
100
200
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:10,000
Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,
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Figure B-3
Overview of operational activities

Legend

- Road
- Railway
- Operational footprint
- Northern access
- Southern access (central)
- Indicative BESS locations
- Roll Shop building (all weather storage)
- The operational amenities building and car park
- Indicative storage area
- State heritage curtilage
- Quality Control Laboratory (SEPP heritage item)

Precinct

- Main logistics precinct
- Southern precinct



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:4,858 Date: 20/07/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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Figure B-4
Overview of project construction

Legend

- Road
- Railway
- Construction footprint
- Roll Shop building (all weather storage)
- Construction compound
- Excavation Area
- State heritage curtilage
- Quality Control Laboratory (SEPP heritage item)

Precinct

- Main logistics precinct
- Southern precinct



Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:5,000 Date: 19/06/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: Sources: Esri, TomTom, Garmin, FAO, NOAA,

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Access to/from the existing Steel Works Road access
Construction access/egress via Roll Shop Road
Construction access/egress via David Baker Road
SOUTH CHANNEL HUNTER RIVER / COQUUN
CORMORANT ROAD
STEEL WORKS ROAD
ADMINISTRATION DRIVE
ROLL SHOP ROAD
DAVID BAKER ROAD
SELWYN STREET
QUAYSIDE CLOSE
INDUSTRIAL DRIVE
THROSBY CREEK
PROCTOR STREET
ROSE STREET
GROSS STREET
DYKE ROAD
PARKER STREET
MAITLAND ROAD
MOUNTER STREET
GORRICK STREET
ALBION STREET
PARK STREET
GEORGE STREET
CROYDON STREET
ROBERT STREET
WOODBINE STREET
DURHAM STREET
CREBERT STREET
SHORT STREET
MENA STREET
CONTAY STREET
WYE STREET
COWIE STREET
AVON STREET
ARTHUR STREET
HEWISON STREET
FERNDALE STREET
MCISAAC STREET
JOHN STREET
HENRY STREET
ELIZABETH STREET
BRYANT STREET
KINGS ROAD
QUEENS ROAD
REVELATION CLOSE
PORT WARATAH DRIVE
EVERETT STREET
DARLING STREET
MATHESON STREET
BOURKE STREET
SCOTT STREET
BOOTH STREET
YOUNG STREET
GIPPS STREET
NEVILL STREET
SOUTHON STREET
BRAYE STREET
VILLIERS STREET
HEWSON STREET
BELL PLACE
HANN STREET
CURTIS STREET
PITT STREET
SECTION STREET
BARBER STREET
CHURCH STREET
HAVELOCK STREET
BUTLER STREET
HOLT STREET
SWANSON STREET
KITCHENER PARADE
MARGARET STREET
FAWCETT STREET
CARRINGTON STREET
HERBERT AVENUE
SMITH STREET
GREAVES STREET
AMY STREET
WALSH STREET
TARN STREET
OMARA STREET
CLARA STREET
CORONA STREET
NILE STREET
IDA STREET
M'OLA STREET
BARENYA STREET
SILSOE STREET
MOOLCHA STREET
ACKERON STREET
WYVERN STREET
SHARPE STREET
NELSON STREET
LORD STREET
POWELL STREET
WILLIAM STREET
UNION STREET
MCNEIL CLOSE
LINWOOD STREET
HINKLER STREET
ANTILL STREET
VINE STREET
SHORTLAND STREET
TEAL STREET
Figure B-5
Construction routes
Legend
Road
Railway
Construction routes
Watercourse
Construction footprint
State heritage curtilage
Quality Control Laboratory (SEPP heritage item)
Cessnock
Newcastle
0
150
300
450
600
Meters
Coordinate system: GDA2020 MGA Zone 56
Scale ratio correct when printed at A4
1:14,000
Date: 3/03/2026
Data sources: WSP, EnergyCo, NSWSS
World Street Map: DCCEEW, Esri, TomTom, Garmin, FAO, NOAA,
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Appendix C

Statutory compliance

C1 Statutory compliance

This appendix outlines the statutory requirements for consideration in environmental assessment of the project.

C1.1 Objects of the EP&A Act

Consideration of the project against the objects of the EP&A Act is provided in Table C-1.

Table C-1 Objects of the EP&A Act

Object	Consideration
to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources	The project has considered impacts to the community and socio-economic impacts of the project have been assessed in Chapter 15 (Social) and Technical paper 11 – Social (Technical paper 11). During construction, minor local employment and procurement opportunities are expected due to the project's small-scale and workforce requirements. The project would generate amenity impacts (noise) during construction and operation, and mitigation measures have been identified to address the impacts to the nearby community and perceived accessibility impacts due to increased traffic impacts. As discussed in Chapter 15 (Social), there may remain some uncertainty within the community concerning the future management of heritage assets and potential changes to their use. EnergyCo would identify opportunities to support appropriate management of heritage items associated with the former BHP Steelworks site. The project itself provides some benefit in limiting continued vandalism to heritage items given the increased presence at the site at night, once operational. As discussed in Chapter 2 (Strategic context), operation of the project would facilitate NSW's energy transmission by enabling the development of grid-scale renewables identified in the 2026 ISP by 2050. The project would almost double the existing storage capacity for renewable energy components and would reduce reliance on the well-used hardstands in vicinity of the Mayfield 4 Berth. This would provide greater certainty over critical Renewable Energy Zones (REZ) project logistics and greater confidence in achieving targets set out in the strategic plans and policies and unlocking investment for renewable energy projects. As a result, the project would provide a significant regional and national economic benefit associated with energy security and would contribute to unlocking investment in regional NSW. Mitigation measures (refer to Appendix E (Mitigation measures) would seek to further avoid and minimise environmental, social and economic impacts of the project where possible.
to promote the supply, delivery and maintenance of housing, including affordable housing	The project would not impact the supply, delivery or maintenance of housing, including affordable housing.

Object	Consideration
to promote productivity through the development and management of the State and its resources	The operation of the project would facilitate NSW's energy transmission by enabling the development of grid-scale renewables identified in the 2026 ISP by 2050. The project would promote productivity by increasing the existing storage capacity for renewable energy components and in turn provide certainty over REZ project logistics. As a result, the project would provide a significant regional and national economic benefit associated with energy security and would contribute to unlocking investment in regional NSW. Refer to Chapter 2 (Strategic context) for additional details.
to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats	The project options selection process considered a range of constraints to avoid and/or minimise the impacts on the environment (refer to Chapter 2 (Strategic context), with a particular focus on the avoidance or impact minimisation of heritage values. Impacts on non-Aboriginal built heritage impacts would be limited to items within the construction footprint, with the potential for minor and moderate adverse impacts to the BHP Administration Building and the Quality Control Laboratory, respectively, and minor positive impacts to the Roll Shop building (given its reuse as part of the project) (refer to Chapter 8 (Non-Aboriginal heritage). Impacts to Aboriginal archaeological potential is unlikely (refer to Chapter 9 (Aboriginal heritage). The project would not have a significant impact on biodiversity values (refer to Chapter 18 (Biodiversity). A BDAR waiver was issued by DPHI for the project on 2 July 2026.
to promote resilience to climate change and natural disasters through adaption, mitigation, preparedness and prevention	The impacts on climate change have been assessed and considered in Chapter 19 (Climate change) in accordance with the C*limate Risk Ready NSW Guide* (Department of Planning, Infrastructure and Environment (NSW DPIEc), 2021a) and the *ISO 31000:2018 Risk Management – Guidelines*. Priority climate change risks and treatments (adaptive actions) were identified for the project. A climate risk register will be maintained during the life of the project, with risks reviewed every five years, as a minimum. The effectiveness of adaption actions will be reviewed annually. Refer to Chapter 19 (Climate change) for further details.

Object	Consideration
to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage	The impacts on Aboriginal and non-Aboriginal heritage have been assessed and considered in Technical paper 3 – Statement of Heritage Impact (Technical paper 3), Technical paper 4 – Maritime heritage, Technical paper 5 – Aboriginal Cultural Heritage (Technical paper 5), Chapter 8 (Non-Aboriginal heritage) and Chapter 9 (Aboriginal heritage). The project has been designed to avoid and minimise direct impacts on State heritage items, including the BHP Administration Precinct (SHR# 02115). Consultation with Heritage NSW has also informed the design as described in Chapter 2 (Strategic context). Minor adverse impacts to the built heritage components of the BHP Administration Precinct are anticipated. The continued industrial use of the Roll Shop and broader site is consistent with the historic character of the former steelworks as an active and evolving industrial landscape. The project maintains the legibility and prominence of the BHP Administration Precinct and supports the ongoing functional life of significant buildings. Impacts to Aboriginal heritage are unlikely given there are no Aboriginal heritage sites/objects within the project site and the potential for unexpected heritage finds is considered low. Further, potential impacts to specific intangible cultural values from the project were not identified during the Aboriginal community consultation process. Opportunities to further avoid or minimise potential impacts to cultural heritage would be considered during detailed design, where practicable. Where impacts cannot be avoided, a range of mitigation and management measures would be implemented as summarised in Appendix E (Mitigation measures).
to promote good design, amenity and the proper construction and maintenance of bult environments, including the protection of the health and safety of occupants of buildings	The project would result in some amenity impacts to the built environment due to construction and/or operational impacts including noise and visual amenity. These impacts would be minimised as far as practicable through the mitigation measures summarised in Appendix E (Mitigation measures). The design, construction and maintenance of any buildings (including Roll Shop building and staff amenities) would be carried out in accordance with applicable standards and the construction contractor(s) or EnergyCo's management systems as applicable. The health and safety of workers would also be managed in accordance with the contractors or EnergyCo's management systems as applicable. The permanent infrastructure associated with the project (such as hardstand areas, staff amenities and Roll Shop building) would also be operated in accordance with EnergyCo's public safety and technical requirements.

Object	Consideration
to provide opportunities for participation in environmental planning and assessment	Community engagement for the project commenced in early 2025 and has been ongoing since this time. Engagement would continue throughout construction of the project. A summary of the engagement completed to date, including a summary of the outcomes, is provided in Chapter 5 (Engagement). The EIS public exhibition period allows the community and other stakeholders to have the opportunity to review and make comment via submission to the Department of Planning, Housing and Infrastructure (DPHI). Following public exhibition, EnergyCo would prepare a submissions report that responds to the comments and feedback received on the EIS. This process provides further opportunity for community participation in the planning and assessment process for this project.
to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment	The principles of ecological sustainable development (ESD) have been considered in the planning and development of the project. Further details are provided in Chapter 23 (Justification and conclusion).
to promote a proportionate and risk-based approach to environmental planning and assessment	The EIS has been prepared to address Secretary's Environmental Assessment Requirement (SEARs) and the form and content requirements set out in Part 8 Division 5 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the *State Significant Infrastructure Guidelines – Preparing an Environmental Impact Statement* (NSW DPHI, 2026a) (the SSI guidelines). The SEARs were issued on the 29 May 2025, prior to the commencement of the revised objects of the EP&A Act. Appendix A (SEARs checklist) outlines the applicable chapters and technical papers where each environmental assessment requirement is dealt with.
to promote the orderly and economic use and development of land	The project would promote the orderly and economic use and development of land, by providing a dedicated port facility that provides for the logistics of transporting renewable energy components from the Port of Newcastle to energy renewable projects in NSW. The project would support the supply chain for critical energy transmission and generation projects under the Roadmap. Further, the project is consistent with objectives of SP1 – Special Activities zone (Refer to Chapter 17 (Land use and property)).

C1.2 EP&A Regulation 2021 checklist

How the form and content requirements for an EIS as required under the EP&A Regulation are met is outlined in Table C-2.

Table C-2 Requirements of Part 8, Division 5 of the EP&A Regulation

Requirement	Where addressed in the EIS
Section 190 – Form of environmental impact statement	
(1) An environmental impact statement must contain the following information	EIS declaration page
a. the name, address and professional qualifications of the person by whom the statement is prepared	
b. the name and address of the responsible person	EIS declaration page
c. the address of the land	EIS declaration page
i. to which the development application relates	
ii. on which the activity or infrastructure to which the statement relates will be carried out	
d. a description of the development, activity or infrastructure	Chapter 3 (Project description)
e. an assessment by the person who prepared the statement of the environmental impact of the development, activity or infrastructure, dealing with the matters referred to in this Division	Chapter 6 (Hazards and risk) Chapter 7 (Traffic and access) Chapter 8 (Non-Aboriginal heritage) Chapter 9 (Aboriginal heritage) Chapter 10 (Contamination and soils) Chapter 11 (Noise and vibration) Chapter 12 (Surface water and flooding) Chapter 13 (Groundwater) Chapter 14 (Air quality) Chapter 15 (Social) Chapter 16 (Landscape and visual) Chapter 17 (Land use and property) Chapter 18 (Biodiversity) Chapter 19 (Climate change) Chapter 20 (Sustainability) Chapter 21 (Waste) Chapter 22 (Cumulative impacts) Detailed information also contained in the corresponding technical papers appended to the EIS.

Requirement	Where addressed in the EIS
(2) The person preparing the statement must have regard to — a. for State significant development — the State Significant Development Guidelines b. for State significant infrastructure — the State Significant Infrastructure Guidelines	This EIS has been prepared having regard to *the State Significant Infrastructure Guidelines* (NSW DPHI, 2026g) and addresses the information required under the *Registered Environmental Assessment Practitioner Guidelines* (DPE, 2022d).
(3) An environmental impact statement must also contain a declaration by a relevant person that — c. the statement has been prepared in accordance with this Regulation d. the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure e. the information contained in the statement is not false or misleading f. for State significant development or State significant infrastructure — the statement contains the information required under the Registered Environmental Assessment Practitioner Guidelines.	EIS declaration page
Section 191 Compliance with environmental assessment requirements	
The environmental impact statement must comply with the environmental assessment requirements notified under section 176 of the EP&A Act, section 5.16(4)	Appendix A (SEARs checklist) outlines the applicable chapters and technical papers where each environmental assessment requirement is dealt with.
Section 192 – Contents of the environmental impact statement	
(1) An environmental impact statement must contain the following:	
a. a summary of the environmental impact statement	EIS summary
b. a statement of the objectives of the development, activity or infrastructure	Chapter 1 (Introduction) Chapter 2 (Strategic context)
c. (repealed)	This repealed requirement had required consideration of feasible alternatives. This remains a requirement specified in the SEARs and is detailed in Chapter 2 (Strategic context)
d. an analysis of the development, activity or infrastructure, including	
i. a full description of the development, activity or infrastructure	Chapter 3 (Project description)

Requirement	Where addressed in the EIS
ii. a general description of the environment likely to be affected by the development, activity or infrastructure and a detailed description of the aspects of the environment that are likely to be significantly affected iii. the significant likely impact on the environment of the development, activity or infrastructure iv. a full description of the measures to mitigate adverse effects of the development, activity or infrastructure on the environment	Chapter 6 (Hazards and risk) Chapter 7 (Traffic and access) Chapter 8 (Non-Aboriginal heritage) Chapter 9 (Aboriginal heritage) Chapter 10 (Contamination and soils) Chapter 11 (Noise and vibration) Chapter 12 (Surface water and flooding) Chapter 13 (Groundwater) Chapter 14 (Air quality) Chapter 15 (Social) Chapter 16 (Landscape and visual) Chapter 17 (Land use and property) Chapter 18 (Biodiversity) Chapter 19 (Climate change) Chapter 20 (Sustainability) Chapter 21 (Waste) Chapter 22 (Cumulative impacts) Appendix E (Mitigation measures) Detailed information also contained in the corresponding technical papers appended to the EIS.
v. a list of the approvals that must be obtained under another Act or law before the development, activity or infrastructure may lawfully be carried out	Chapter 4 (Statutory context) Appendix C (Statutory compliance) – *this appendix*
e. a compilation, in a single section of the environmental impact statement, of the measures referred to in paragraph (d)(iv)	Appendix E (Mitigation measures)
f. the reasons justifying the carrying out of the development, activity or infrastructure, considering biophysical, economic and social factors, including the principles of ecologically sustainable development set out in section 193	Chapter 23 (Justification and conclusion)

C1.3 Consideration of the EPBC Act

Under the EPBC Act, proposed actions with the potential to significantly impact matters protected by the EPBC Act must be referred to the National EPA to determine whether they are controlled actions and require approval from the Australian Government Minister for the Environment and Water (Minister). Under Part 3 of the EPBC Act, approval from the Minister is required for:

- an action that is likely to have a significant impact on Matters of National Environmental Significance (MNES)
- an action taken by any person on Commonwealth land that is likely to have a significant impact on the environment
- an action taken by any person outside of Commonwealth land that is likely to have a significant impact on the environment on Commonwealth land
- an action taken by a Commonwealth agency anywhere in the world that is likely to have a significant impact on the environment.

The consideration of the EPBC Act requirements is summarised in Table C-3. The project would not have a significant impact on MNES, would not impact the environmental on Commonwealth land and would not be carried out by a Commonwealth agency. As such, assessment and approval are not required under the EPBC Act and the project has not been referred to the National EPA.

Table C-3 Consideration of EPBC Act requirements

Consideration	How matter may be affected by the project
MNES	
World heritage properties	The project would not impact on any world heritage properties.
National heritage places	The project would not impact on any national heritage places.
Wetlands of international importance	The closest wetland of international importance is the Hunter Estuary wetland (Ramsar wetland) located around three kilometres north of the project and is upstream to the project. Further, water quality impacts on the Hunter River are not anticipated with the proper implementation of the mitigation measures during construction and operation. As such, the project would not impact the Ramsar wetland.
Great Barrier Reef Marine Park	The project would not impact on the Great Barrier Reef Marine Park.
Commonwealth listed threatened species and ecological communities Commonwealth listed migratory species	Based on the likelihood of occurrence for species within 10 kilometres of the project site and based on some targeted surveys in early 2025 (Eco Logical Australia Pty Ltd, 2025 and Eco Logical Australia Pty Ltd, 2026), it was concluded that impacts are not likely to occur to Commonwealth listed species. There are no listed threatened ecological communities located within the project site.
Nuclear action	The project would not result in any nuclear action, nor would any nuclear activity need to be undertaken.
Commonwealth marine area	The project would not impact on any Commonwealth Marine areas.
Water resources, in relation to unconventional gas development and large coal mining development	The project would not impact on any water resources (relating to unconventional gas development and large coal mining developments).

Consideration	How matter may be affected by the project
Actions by the Commonwealth or by a Commonwealth agency, or impact on Commonwealth land	
Action by the Commonwealth or Commonwealth agency that will or is likely to have a significant impact on the environment	Not applicable – EnergyCo is not a Commonwealth agency.
Significant impact on the environment on Commonwealth land	The project would not have a direct or indirect impact on the environment on Commonwealth land.

C1.4 Other relevant legislation

Table C-4 identifies other legislation of potential relevance to the project.

In accordance with Section 5.23 of the EP&A Act, some approvals or authorisations do not apply to SSI or must be applied consistently with an approved SSI project. Approvals of relevance to the project which are not required under Section 5.23(1), are:

- an approval under Part 4, or an excavation permit under Section 139 of the *Heritage Act 1977*: potential impacts on non-Aboriginal heritage has been considered in Chapter 8 (Non-Aboriginal heritage) and Technical paper 3
- a flood work approval under Section 90 of the *Water Management Act 2000*. Impacts on flood behaviour is considered in Chapter 12 (Surface water and flooding) and Technical paper 8 – Surface water and flooding (Technical paper 8).

Section 5.23(2) of the EP&A Act notes that Part 6, Division 8 of the *Heritage Act 1977* (Heritage Act) does not apply to prevent or interfere with the carrying out of approved SSI.

Section 5.24(1) of the EP&A Act identifies approvals or authorisations that cannot be refused if they are necessary for carrying out approved SSI/CSSI and must be issued substantially consistent with the Part 5, Division 5.2 approval. Of potential relevance to the project would be:

- an approval under Part 3 of the *Coal Mine Subsidence Compensation Act 2017* (CMSC Act) for alterations to Selwyn Street and associated utility adjustments along Selwyn Street. However, Subsidence Advisory NSW confirmed in December 2025 that these works are considered minor and exempt from requiring approval, subsidence controls or mitigation measures. This is considered further in Chapter 6 (Hazards and risk)
- consent under Section 138 of the Roads Act. However, Schedule 2, clause (5)(1) of the Roads Act does not require a public authority, or a network operator under the *Gas Supply Act 1996* or the *Electricity Supply Act 1995*, to obtain a road authority's consent under Section 138 the exercise the public authority's or network operator's functions in, on or over an unclassified road. As such, approval under Section 138 would not be required for works associated with the integration of the new southern access (central).

Table C-4 Other relevant legislation to the project

Legislation	Requirements
Commonwealth legislation	
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	This Act provides for the protection of Aboriginal cultural property that are of particular significance to Aboriginal people in accordance with Aboriginal tradition and may apply to Aboriginal cultural property as well as to ancient sites. An Aboriginal Heritage Assessment (AHA) has been prepared which identified that no declarations relevant to the construction or operational footprint have been made under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*. Further details are provided in Technical paper 5 and summarised in Chapter 9 (Aboriginal heritage).
Airports Act 1996 (Airports Act)	Part 12 of the Airports Act and the Airports (Protection of Airspace) Regulations 1996 establish a framework for the protection of airspace at, and around airports. Part 6 of the Airport Regulations 2024 does not identify the Newcastle Airport as an airport to which Part 12 of the Airports Act applies.
Biosecurity Act 2015 (Cth) (Biosecurity Act)	The Biosecurity Act (Cth) mandates that international vessels and goods must arrive at a designated first port of entry (FPOE). These ports, including the Port of Newcastle, have the infrastructure and procedures in place to manage biosecurity risks. Port operators at FPOEs have specific obligations under the Biosecurity Act (Cth), including managing biosecurity risks associated with their operations. In the future, the project site may be designated with relevant biosecurity classification to permit the unhindered unloading from vessels at Mayfield 4 Berth to the project site. However, this is subject to confirming the required approval under the Biosecurity Act (Cth) and required infrastructure requirements (e.g. mobile washdown and areas for inspection and quarantine).
Climate Change Act 2022 (Climate Change Act (Cth))	The Climate Change Act (Cth) sets out emission reduction targets and establishes the Climate Change Authority. A Greenhouse gas management sub-plan would be prepared for the construction of the project. This would include strategies to reduce GHG emissions, as part of the sustainability strategy and the Commonwealth emission reduction targets. Further details are provided in Chapter 19 (Climate change), Chapter 20 (Sustainability) and Technical paper 10 – Air quality (Technical paper 10).

Legislation	Requirements
Defence Act 1903 (Cth) and *Defence Regulation 2016*	Under the *Defence Act 1903* (Cth), an area of land, sea or airspace in or adjacent to Australia can be declared as a Defence Aviation Area. Part 11A of the Defence Regulation 2016 sets out the matters for the regulation or prohibition of development, structures or objects in a defence aviation area. The project site is in the RAAF Base Williamtown Defence Aviation Area as identified in Defence (RAAF Base Williamtown Defence Aviation Area) Declaration. All temporary and permanent structures at the project site would be below the 90-metre limit specified for the project site under the declaration. As such an approval under the Defence Regulation 2016 is not required. The project is also within eight kilometres to 13 kilometres from the airport and consideration has been given to the *National Airports Safeguarding Framework, Guideline C (Managing Wildlife Strike Risk)*. Attachment 1 of the guideline outlines what management action is required based the land use type for existing and proposed developments, the wildlife attractant risk rating and the distance to the airport. The project most closely aligns with 'commercial car park', 'warehouse (non-food storage) and 'water infrastructure (drains, channels and basins)'. The latter poses the highest level of risk and based on distance requires information on the development to be provided to the airport operator for it to include the project site in future monitoring activity that it conducts. As the channels within the project site are designed to drain and not retain water for long periods of time, the risk of attracting wildlife is considered to be lower than Attachment 1 of Guideline C (Managing Wildlife Strike Risk) indicates. If approved, EnergyCo will provide details of the project to the Department of Defence for it to include the project site in its monitoring program. Further details are provided in Chapter 17 (Land use and property).
National Environment Protection Council Act 1994 (NEPC Act)	The National Environment Protection Council (NEPC) was established under the NEPC Act. The primary functions of the NEPC are to: • prepare National Environment Protection Measures (NEPMs) • assess and report on the implementation and effectiveness of the NEPMs in each state and territory. NEPMs are a special set of national objectives designed to assist in protecting or managing aspects of the environment (e.g. soils, contamination, groundwater, air quality and waste). Relevant matters are discussed in Technical paper 6 – Contamination and soils (Technical paper 6), Technical paper 9 – Groundwater (Technical paper 9), Chapter 10 (Contamination and soils), Chapter 13 (Groundwater), Chapter 14 (Air quality) and Chapter 21 (Waste).
National Greenhouse and Energy Reporting Act 2007 (NGER Act)	The NGER Act established a single national framework for reporting and disseminating company information about GHG emissions, energy production, and energy consumption. A rule made under this Act and enacted in 2015 was to establish the Safeguard Mechanism, which operates in tandem with the Emissions Reduction Fund. Under the National Greenhouse and Energy Reporting Scheme (NGERS), emitters (as defined under the Safeguard Mechanism) must report annually all Scope 1 and Scope 2 emissions, and results are presented on the Clean Energy Regulator website. Further details are provided in Technical paper 9 and summarised in Chapter 20 (Sustainability).

Legislation	Requirements
Native Title Act 1993 (Native Title Act (Cth))	The Native Title Act (Cth) recognises and protects native title. The Native Title Act (Cth) covers actions affecting native title and the processes for determining whether native title exists and compensation for actions affecting native title. It establishes the Native Title Registrar, the National Native Title Tribunal, the Register of Native Title Claims and the Register of Indigenous Land Use Agreements (ILUA), and the National Native Title Register. Under the Act, a future act includes proposed public infrastructure on land or waters that affects native title rights or interest. A search of the National Native Title Tribunal Native Title Vision website was carried out on 28 May 2026, with no Native Title claims or Native Title holders registered within the construction or operation footprint. The National Native Title Tribunal was consulted for a list of registered native title claimants, native title holders and Indigenous Land Use Agreements on 2 July 2025 and 4 July 2025. The consultation indicated that there is no native title land or claims that overlap with the construction or operation footprint. There is no Crown land (within the meaning of the definition under *Crown Lands Management Act 2016*) within the construction or operation footprint. There are no existing registered native titles, determined native title claims or any indigenous land use agreements that apply the construction or operation footprint. Consultation has been undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) that stipulates, where relevant, consultation must be conducted with Native title holders or registered native title claimants. Further details on Aboriginal heritage impacts and Native Title are provided in Technical paper 5 and summarised in Chapter 9 (Aboriginal heritage).
NSW legislation	
Aboriginal Land Rights Act 1983 (ALR Act)	The ALR Act establishes the NSW Aboriginal Land Council and Local Aboriginal Land Councils (LALCs) and requires these bodies to: • take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law • promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area. Under the ALR Act, LALCs can lodge a claim with respect to "claimable Crown Land" (within the meaning of the definition under *Crown Lands Management Act 2016*) which, if granted, is transferred as freehold title. 'Claimable Crown Lands' includes Crown lands that are not lawfully used or occupied and that are not needed, nor likely to be needed, for an essential public purpose. There are no Crown land parcels within the construction or operation footprint. Further details on Aboriginal heritage impacts and Crown land are provided in Technical paper 5, Chapter 9 (Aboriginal heritage) and Chapter 17 (Land use and property).

Legislation	Requirements
Biodiversity Conservation Act 2016 (BC Act) and Biodiversity Conservation Regulation 2017	The BC Act aims to conserve threatened species, populations and ecological communities through ensuring appropriate assessment, management and regulation of actions that may damage critical or other habitat for a listed threatened species, or may otherwise significantly affect a threatened species, population or ecological community. Section 7.9 of the BC Act applies to SSI applications and requires the project's EIS to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless the Planning Agency Head and Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values. The project would not have a significant impact on biodiversity values (refer to Chapter 18 (Biodiversity) and a BDAR waiver was issued by DPHI for the project on 2 July 2026.
Biosecurity Act 2015 (Biosecurity Act (NSW))	The Biosecurity Act (NSW) provides the framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with a biosecurity matter, carriers and potential carriers, and other activities that involve these aspects. It also gives effect to intergovernmental biosecurity agreements to which NSW Government is party to. It identifies prohibited matters (such as invasive species) and sets out obligations (or duties) on relevant parties to prevent, minimise and notify authorities of a biosecurity event. During construction and operation, the general obligation to prevent, minimise and notify authorities of a biosecurity event will apply. It is noted that, once operational, components would be subject to biosecurity clearance prior to arrival to the project site.
Coal Mine Subsidence Compensation Act 2017 (CMSC Act)	The CSMC Act in relation to the project provides for the assessment and management of risks associated with subsidence resulting from coal mine operations. Under Part 3 of the CMSC Act, an approval is required for work in connection to the erection or alteration of an improvement within a mine subsidence district. An improvement includes infrastructure above or below the surface of the land. Selwyn Street is within the Newcastle mine subsidence district. As such, any road works associated with the site accesses or utility adjustments along Selwyn Street would require an approval under Part 3 of the CMSC Act. It is noted that exemptions published by the Subsidence Advisory NSW in April 2023 identifies that minor road works (such as resurfacing, kerb and gutter replacement and street lighting) is exempt. Under Section 5.24(1) of the EP&A Act, the approval cannot be refused if it is necessary and substantially consistent with the SSI approval. Consultation undertaken with Subsidence Advisory NSW in December 2025 identified that the proposed construction works within the designated mine subsidence district would be limited to the removal of existing road guttering and pedestrian walkway within Selwyn Street and excavation of around one metre for the construction of the southern access (central). Construction works would be considered exempt development allowed by Subsidence Advisory NSW as selected minor construction works (roadworks – minor works) and no subsidence controls or approvals would be required. Further details on potential impacts of mine subsidence are considered in Chapter 6 (Hazards and risk).

Legislation	Requirements
Contaminated Land Management Act 1997 (CLM Act)	The project site is managed subject to the Intertrade CSMP and the ongoing maintenance order issued under section 28 of the CLM Act. On 8 April 2020, the NSW Environment Protection Authority (EPA) repealed the 'significantly contaminated land' declaration that applied to the project site (Notice No. 20194450). The construction footprint also extends into areas subject to the Port Lands CSMP, and areas within Selwyn Street which is not subject to any CSMP. During construction, contamination impacts would be managed in accordance with requirements set out in the Intertrade CSMP and Port Lands CSMP. The Intertrade CSMP requires that, where works are to be undertaken on land subject to the Intertrade CSMP and a potential to disturb the capping layer and or underlying sub-surface environment, a WMS must be prepared and implemented in accordance with the requirements of the Intertrade CSMP. Similarly, the Port Lands CSMP requires that where works are to be undertaken on land subject to the Port Lands CSMP and a potential to disturb the capping layer and or underlying sub surface environment, a WMP must be prepared and implemented in accordance with the requirements of the Port Lands CSMP. The WMS and WMP will document the procedures that are required to manage identified risks to soils and the environment. These procedures will detail measures for the appropriate handling, segregation, stockpiling, reuse (where practicable) and reinstatement of disturbed materials, and for the reinstatement of any capping layer disturbed by construction works. Where construction is proposed in areas not subject to a CSMP, a specific unexpected finds procedure will be implemented as part of the Construction Environmental Management Plan (CEMP). The unexpected finds procedure will set out the process for the identification of contamination or other unexpected finds in the sub-surface environment and the environmental management measures required to be implemented in such a matter to manage risks to workers and the environment. In the event previously unidentified contamination is uncovered during construction that is not covered by an existing CSMPs, the NSW EPA is required to be notified in accordance with the CLM Act. At the completion of construction, a Section A Site Audit Statement certifying the suitability of the project site for continued commercial and industrial land use would be obtained. Long term management of the remediation infrastructure at the site would be ultimately subject to a future Long-term Environmental Management Plan (LEMP) that will replace the Intertrade CSMP. Further details on potential impacts of contamination and management are presented in Chapter 10 (Contamination and soils).

Legislation	Requirements
Dangerous Goods (Road and Rail Transport) Act 2008 and Dangerous Goods (Road and Rail Transport) Regulation 2022	The *Dangerous Goods (Road and Rail Transport) Act 2008* regulates the transport of dangerous goods by road and rail to promote public safety and protect property and the environment. The Dangerous Goods (Road and Rail Transport) Regulation 2022 give effect to the standards, requirements and procedures of the Australian Dangerous Goods (ADG) Code so far as they apply to the transport of dangerous goods by road and rail. The ADG Code sets out the requirements for transporting dangerous goods by road or rail. Technical paper 1 – Preliminary hazard analysis (Technical paper 1) used the ADG Code during the risk screening process. The transport of dangerous goods such as paints, solvents and fuels would be small based on the expected storage volumes of dangerous goods within the project site during construction and operation. Standard and proven management measures and adherence to legislation would manage potential risk associated with on-site storage, handling and transport of dangerous goods and hazardous materials (refer to Chapter 6 (Hazards and risk)).
Electricity Infrastructure Investment Act 2020	The *Electricity Infrastructure Investment Act 2020* provides for the coordination of investment in new generation, storage and network infrastructure projects in NSW. Under the *Electricity Infrastructure Investment Act 2020*, the Minister for Energy has appointed the Energy Corporation of NSW (EnergyCo) (ABN 13 495 767 706) as the Infrastructure Planner for NSW REZs. In its capacity as Infrastructure Planner, EnergyCo is responsible for coordinating transmission, generation, firming and storage projects for the NSW REZs to deliver efficient and timely investment.
Energy and Utilities Administration Act 1987	The *Energy and Utilities Administration Act 1987* establishes EnergyCo as a statutory body representing the Crown.
Fisheries Management Act 1994 (FM Act)	The FM Act provides for the identification, conservation and recovery of threatened fish, aquatic invertebrates and marine vegetation. One of the key objectives of the FM Act is to conserve fish stocks and key fish habitats. Part 7 of the FM Act establishes that a permit is generally required to dredge, reclaim, obstruct fish passage, harm marine vegetation, use explosives or electrical devices in a waterway that is classified as key fish habitat. The project, as SSI, is exempt from the need to obtain permits under sections 201, 205 and 219 of the FM Act. The project does not involve dredging or reclaiming of land. The project would not obstruct fish passage, harm marine vegetation or involve works within key fish habitat. The closest mapped key fish habitat is the Hunter River South Channel, which the project drains to. As such, the only potential risk to key fish habitat would be associated with changes in water quality. During construction, impacts to water quality would be managed through standard mitigation measures. During operations, water quality discharges from the project site would represent an improvement on existing conditions and would be consistent with long-term water quality objectives set out in the NSW WQOs.

Legislation	Requirements
Heritage Act 1977 (Heritage Act)	Under the Heritage Act, the Heritage Council must be notified if a relic is uncovered during construction and if it is reasonable to believe that the Heritage Council is unaware of the location of the relic. Section 139 of the Heritage Act specifies that a person must not disturb or excavate land knowing, or suspecting, that the action may result in the discovery, exposure, movement, damage or destruction of a relic, unless the work is undertaken in accordance with an excavation permit. Part of the southern precinct is listed as a State Heritage item (the BHP Administration Precinct). This incorporates the BHP Administration Building and its immediate surrounds, and areas west of Roll Shop Road, including the Roll Shop building. The project would partially impact the proposed curtilage in the vicinity of the BHP Administration Building and would involve modifications to the Roll Shop building to enable its use during operation. It would avoid direct impacts to the bicycle shed located within the BHP Administration Precinct curtilage. Under the SSI provisions for the project, exemptions and permits that would otherwise be required under Part 4 and Section 139 of the Heritage Act are not required for approved SSI projects by reason of Section 5.23 of the EP&A Act. Notwithstanding, heritage impacts associated with the project have been assessed in accordance with the Heritage Act. The project would not involve any residual physical impacts to significant architectural fabric of the BHP Administration Precinct and significant vegetation and the semi-circular drive at the northern façade of the BHP Administration Building would not be impacted. Vegetation management, including tree trimming and removal, in proximity to the BHP Administration Building would modify aspects of the current setting but would not diminish the heritage significance of the item. Impacts to the Roll Shop building would be limited to upgrading and repair works to enable its operational use. Construction would avoid major structural alteration or façade modification and would not involve the removal of significant heritage fabric. The proposed use represents a continuation of the building's industrial character and function and supports the conservation of its heritage values within an industrial context. The primary residual impact to the State Heritage item is related to the intensification of industrial activity within the State Heritage register curtilage and alteration of some visual impacts. While these impacts would change the current post-industrial character of the site, it is consistent with the historic function of the item as an active industrial landscape. The overall heritage values of the site would be retained, and the project is unlikely to result in ongoing degradation of heritage significance. The project would not have any maritime cultural heritage impacts. Further details are provided in Technical paper 3 and Chapter 8 (Non-Aboriginal heritage).

Legislation	Requirements
National Parks and Wildlife Act 1974 (NP&W Act)	The NP&W Act provides for the control and management of all national parks, historic sites, nature reserves, wetlands and other state reserves. The project footprint would not have a direct impact on any protected areas. The NP&W Act also provides for the protection of 'Aboriginal objects' and 'Aboriginal places' and makes it an offence to harm Aboriginal objects, places or sites without permission. Under the provisions of Section 86 of the NP&W Act, a person must not harm or desecrate a known Aboriginal object unless authorised by an Aboriginal heritage impact permit issued under Section 90 of that Act. Additionally, under the provisions of Section 5.23(1) of the EP&A Act, a permit that would otherwise be required under Section 90 of the NP&W Act is not required for approved SSI projects. An AHA has been prepared for the project. Impacts to Aboriginal heritage are unlikely given there are no Aboriginal heritage sites/objects within the construction footprint and the potential for unexpected heritage finds is considered low. Further, potential impacts to specific intangible cultural values from the project were not identified during the Aboriginal community consultation process. Further details are provided in Technical paper 5 and summarised in Chapter 9 (Aboriginal heritage).
Native Title (New South Wales) Act 1994 (Native Title Act)	This Native Title Act provides for the recognition of native title in relation to land or waters in NSW in accordance with the Native Title Act (Cth). The *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) stipulates that, where relevant, consultation must be conducted with Native title holders or registered native title claimants in accordance with the NSW Native Title Act. Details regarding the status of native title associated with the project has been discussed previously in relation to the Native Title Act (Cth). The National Native Title Tribunal was consulted for a list if registered native title claimants, native title holders and Indigenous Land Use Agreements on 2 July 2025 and 4 July 2025. The consultation indicated that there is no native title land or claims that overlap with the construction or operation footprint. Further detail is provided in Technical paper 5.
Protection of the Environment Operations Act 1997 (POEO Act)	The POEO Act establishes, among other things, pollution management, pollution incident reporting and the procedures for issuing licences for environmental protection on aspects such as waste, air, water and noise pollution control. An EPL is required under Chapter 3 of the POEO Act to undertake a scheduled activity (listed in Schedule 1 of the POEO Act) or scheduled development work (outlined in section 47 of the POEO Act). The project does not require an EPL as it does not meet the criteria listed in Schedule 1 of the POEO Act. Further, as the proponent is a public authority, the EPA will be the regulatory authority for this non-scheduled activity (Section 6 of the POEO Act). Nevertheless, the project must comply with the requirements for the POEO Act, including (but not limited to) requirements in relation to the disposal of waste, leaks, spillages and other escapes (sections 115 and 116), pollution of waters (section 120), air pollution (section 124 and 126), noise pollution (section 139), land pollution (section 142A), waste offences (sections 143 and 144) and the maintenance and operation of plant and equipment (section 167).

Legislation	Requirements
Rail Safety National Law (NSW) No 82a of 2012 and the *Rail Safety (Adoption of National Law) Act 2012 No 82*	The main purpose of *Rail Safety National Law (NSW) No 82a of 2012* is to provide for safe railway operation in Australia. For the amended project, this would be relevant to any activities within active rail corridors. The *Rail Safety (Adoption of National Law) Act 2012 No 82* applies the Rail Safety National Law to NSW as if it were an Act. Two at-grade rail level crossings are located near the project site, with one positioned on Selwyn Street to the east of David Baker Road and the other on the operational access road (within the Port of Newcastle lease area) approximately 600 metres east of Ingall Street. These level crossings are associated with the existing private freight rail network associated with the surrounding industrial area and Port of Newcastle operations. Construction vehicles associated with the project would not interface with these level crossings. During operation, movements to/from Mayfield 4 Berth would pass across both level crossings. However, the number of vehicles using these routes is relatively low, with up to three heavy vehicle movements per hour, including up to two oversize and/or overmass (OSOM) vehicles, together with light vehicle escort movements and operational staff trips. The project would not directly interface with existing rail infrastructure or involve vibration intensive activity that could pose a risk to rail infrastructure adjacent to the project site. OSOM movements across the two-level crossings would also be managed in accordance with an agreement that would be entered into with Infrabuild, owner of the existing rail infrastructure. This would include communication protocols to provide advance notification and, where practicable, coordination of OSOM movements. This is further discussed further in Chapter 7 (Traffic and access). The impacts of the project on rail and crossings have been assessed in Technical paper 2 – Traffic and access (Technical paper 2), Chapter 7 (Traffic and access) and Chapter 17 (Land use and property).
Roads Act 1993 (Roads Act)	The principal object of the Roads Act of relevance to the project is the regulation of the carrying out of various activities on public roads. Under Section 138 of the Roads Act, consent is required for carrying out works in, on or over a public road (this includes the erection of structures), and the digging up or disturbance of the surface of a public road. The project would require the carrying out of work on or over Selwyn Street for construction of the project and would require work to connect new southern access (central) for operation. Selwyn Street is a local and unclassified road, with the City of Newcastle the relevant roads authority. Under Schedule 2 of the Roads Act, Section 138 does not require a public authority to obtain a road's authority consent to the exercise of the public authority's functions in, on or over an unclassified road. As such, approval under Section 138 would not be required for works associated with the integration of the new southern access (central). As Steel Works Road is a private port road, the Roads Act does not apply. The impacts of the project on roads and traffic have been assessed in Technical paper 2 and Chapter 7 (Traffic and access).

Legislation	Requirements
Waste Avoidance and Resource Recovery Act 2001 (WARR Act)	The WARR Act promotes waste avoidance and efficient resource use to reduce generation of waste through the *Waste Avoidance and Resource Recovery Strategy*. The project would consume some natural resources and would produce waste. Waste management would be carried out in accordance with the WARR Act. The project would consume some natural resources and produce waste. Waste and resource impacts associated with the project have been considered in Chapter 21 (Waste).
Water Management Act 2000 (WM Act)	The WM Act establishes conditions by which users need a licence or authority to take water. Many of the functions of the *Water Act 1912 have* been repealed and replaced with provisions in the WM Act. Under the provisions of section 5.23(1) of the EP&A Act, a water use approval pursuant to Section 89 of the WM Act, a water management work approval pursuant to Section 90 of the WM Act, and an activity approval (other than an aquifer interference approval) pursuant to Section 91 of the WM Act are not required and accordingly, do not apply to approved SSI projects. Further, the project is not seeking a water use approval, nor it is located within 40 metres of waterfront land. The project would involve work that would meet the definition of a flood work under Section 90 of the WM Act, being a work (such as a cutting or embankment) that is likely to have an effect on the distribution or flow of floodwater in the time of flood and is not a work that has been declared not to be a flood work by the regulations. As discussed in Chapter 12 (Surface water and flooding), minor changes to flood behaviour up to the PMF would be wholly contained within the project site. During the PMF, minor increases would occur to the north and south of the site, but within areas already inundated to depths of 0.2 metres to 2.1 metres. Temporary groundwater dewatering and construction activities that interfere with aquifers are generally identified as aquifer interference activities in accordance with the WM Act and the *NSW Aquifer Interference Policy* (NSW DPI, 2012). For water sources where a water sharing plan applies, an aquifer interference approval is required under Section 91(3) of the WM Act. However, under Part 3, Division 3 Section 45 (1) of the Water Management (General) Regulation 2025, a person is exempt from the requirement for access licence under Section 60A(1) and (2) of the WM Act if the person: • is specified in a provision to Schedule 4, Part 2 • takes water in the circumstances, and in accordance with conditions, if any, specific in provision. In addition, a person who is exempt under Part 3, Division 3, Section 45 (1) is also exempt from the mandatory conditions relating to access licences that are imposed on a water supply work approval.

Legislation	Requirements
	Due to contamination, the underlying groundwater at the project site is prohibited from beneficial use. Interception of groundwater is expected to occur only temporarily during piling activities or when excavation work in the southern precinct (e.g. the southern access (central)) may encounter wet lithology. The driven piling methods would be used in accordance with the Intertrade CSMP to avoid the need for dewatering. The activity meets the *NSW Aquifer Interference Policy* (NSW DPI, 2012) of 'minimal impact' as, water is not extracted for use during construction, there is no material drawdown effect on the aquifer and if required, and in the unlikely event groundwater is intercepted, any inflows will be captured and managed appropriately in accordance with the Work Method Statement prepared for the project in accordance with the Intertrade CSMP, the unexpected finds protocol and CEMP (refer to Chapter 10 (Contamination and soils)). This project is not expected to require extraction or dewatering of groundwater or exceed the three megalitres extraction threshold which would require a water access licence. Further details on the *NSW Aquifer Interference Policy* (NSW DPI, 2012) are provided in Technical paper 9 and summarised in Chapter 13 (Groundwater).

C1.5 Consideration of NSW environmental planning instruments

Section 5.22 of the EP&A Act states that environmental planning instruments do not apply to SSI projects. Notwithstanding, several key environmental planning instruments have been considered in relation to the assessment of the project as summarised in Table C-5.

Table C-5 Consideration of key environmental planning instruments for the project

Environmental planning instrument	Relevance to the project
State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)	The project is SSI under Section 2.13(1) of the Planning Systems SEPP as it is permissible without development consent and is development specified in Schedule 3. Schedule 3, Section 2 identifies 'development for the purpose of port and wharf facilities or boating facilities (not including marinas) by or on behalf of a public authority that has an estimated development cost of more than $30 million'. Public authorities are defined in Section 1.4 of the EP&A Act. This includes a statutory body representing the Crown. The *Energy and Utilities Administration Act 1987* establishes EnergyCo as a statutory body representing the Crown. As such, the project is subject to Part 5, Division 5.2 of the EP&A Act and the Minister for Planning and Public Spaces is the approval authority.

Environmental planning instrument	Relevance to the project
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)	**Zoning and permissibility** The project, identified as the 'Intertrade Industrial Park' under Chapter 5 of the Transport and Infrastructure SEPP. The project area is zoned SP1 – Special Activities. The land use table under Chapter 5 of the Transport and Infrastructure SEPP identifies port facilities as permissible with consent. However, under Chapter 2 of the Transport and Infrastructure SEPP, development for the purposes of a "port facility" may be undertaken by or on behalf of a public authority without consent in a prescribed zone (section 2.80(1)(b)). Section 2.78 includes SP1 – Special Activities as a prescribed zone. Under Section 2.78 of the Transport and Infrastructure SEPP, port facilities are defined as having the same meaning as in the Standard Instrument. The Standard Instrument defines port facilities as any of the following facilities at or in the vicinity of a designated port within the meaning of Section 47 of the *Ports and Maritime Administration Act 1995:* (a) facilities for the embarkation or disembarkation of passengers onto or from any vessels, including public ferry wharves, (b) facilities for the loading or unloading of freight onto or from vessels and associated receival, land transport and storage facilities, (c) wharves for commercial fishing operations, (d) refuelling, launching, berthing, mooring, storage or maintenance facilities for any vessel, (e) sea walls or training walls, (f) administration buildings, communication, security and power supply facilities, roads, rail lines, pipelines, fencing, lighting or car parks. EnergyCo is a public authority for the purposes of the EP&A Act and Port of Newcastle is classified as a designated port under section 47 of the *Ports and Maritime Administration Act 1995*. The project is a facility *for the loading or unloading of freight onto or from vessels and associated receival, land transport and storage facilities*. In conclusion, the project is permissible without consent by virtue of Chapter 2, section 2.80(1)(b) of the Transport and Infrastructure SEPP as it is for a port facility in a prescribed zone and would be undertaken by or on behalf of a public authority. **Heritage** Section 5.31 of the Transport and Infrastructure SEPP lists heritage items on land subject to Chapter 5 of the SEPP and defines what works require development consent, as well as the considerations and consultation requirements that a consent authority must satisfy before granting consent to a proposed development that impacts a heritage item. Heritage items subject to these requirements are listed in Section 5.31(9) of the Transport and Infrastructure SEPP.

Environmental planning instrument	Relevance to the project
	Section 5.31(9) lists two heritage items within the project site (BHP Administration Building and the Quality Control Laboratory) and eight heritage items within the Port of Newcastle and surrounds. The BHP Administration Building is also within the curtilage for the State heritage listed BHP Administration Precinct. The Roll Shop building is not identified as a heritage item by the Transport and Infrastructure SEPP. These requirements do not apply as the project does not require development consent under Chapter 2 of the Transport and Infrastructure SEPP that should be applied over Chapter 5 of the Transport and Infrastructure SEPP. Nevertheless, potential impacts on non-Aboriginal heritage have been considered in Chapter 8 (Non-Aboriginal heritage) and Technical paper 3. Heritage NSW has been consulted on the project and outcomes of the assessment. The project does not involve the demolition of any heritage structure. Any stabilisation works associated with these buildings would be progressed by EnergyCo separately under its obligations under the Heritage Act. No residual physical impacts to significant architectural fabric of the BHP Administration Building and significant vegetation and the semi-circular drive at the northern façade would not be impacted. Vegetation management, including tree trimming and removal, in proximity to the BHP Administration Building would modify aspects of the current setting but would not diminish the heritage significance. The primary residual impact to the BHP Administration Building is related to the intensification of activity within its curtilage and alteration of some visual impacts. While these impacts would change the current post-industrial character of the site, it is consistent with the historic function of the item as an active industrial landscape. The overall heritage values of the site would be retained, and the project is unlikely to result in ongoing degradation of heritage significance. Construction of the project would not alter or remove heritage fabric from the Quality Control Laboratory (including moveable heritage within the building), however its visual setting would be changed due to changes resulting from the new southern access (central). This has minor impacts on the heritage significance of the building. **Rail corridor** Section 2.97 to section 2.100 applies to certain types of development that are in or adjacent to a rail corridor and establishes considerations and notifications that a consent authority must complete prior to determining a development application. These sections do not apply as the project does not require development consent. For section 2.97 to 2.99, the consent authority is to notify and seek concurrence from the relevant rail authority (being ARTC or Transport for NSW). These sections also refer to the consideration of guidelines issued by the Planning Secretary and published in the Government Gazette. This refers to *Development Near Rail Corridors and Busy Roads – Interim Guideline* (NSW Department of Planning, 2008), which is referenced in the SEARs and have been considered (where applicable) below.

Environmental planning instrument	Relevance to the project
	A rail corridor as defined by the SEPP includes land: • that is owned, leased, managed or controlled by a public authority for the purpose of a railway or rail infrastructure facilities • that is zoned under an environmental planning instrument predominantly or solely for development for the purpose of a railway or rail infrastructure facilities, or • in respect of which the Minister has granted approval under Part 3A or Division 5.2 or (before its repeal) Division 4 of Part 5 of the EP&A Act, or consent under Part 4 of the EP&A Act, for the carrying out of development (or for a concept plan for a project comprising or including development) for the purpose of a railway or rail infrastructure facilities. The rail line from south of Selwyn Street to the north of the project site is owned and maintained by Infrabuild. Pacific National is the rail operator for this section of the freight rail line. Neither are a public authority, and ARTC have confirmed that they are not the relevant rail authority. The rail line is zoned as SP1 – Special Activities and it was subject to a realignment in accordance with a concept approval obtained under Part 3A of the EP&A Act for a broader port-related development. Section 2.97 of the Transport and Infrastructure SEPP applies to development that involves a likely significant increase in the total number of vehicles or the number of heavy vehicles using a level crossing because of the project. Section 2.98 (1)(a) of the Transport and Infrastructure SEPP also applies to development on land adjacent to a rail corridor that is likely to have an adverse effect on rail safety. Up to three heavy vehicle movements per hour, including up to two OSOM vehicles (and associated light vehicle movements) would be required to travel to/from Mayfield 4 Berth from the southern accesses on Selwyn Street or the northern access on Steel Works Road. Construction work is not proposed in areas adjacent to the rail line. Engagement with Port of Newcastle, Infrabuild and Pacific National has not identified any operational concerns with the movement of project-related vehicles at the level crossings, subject to the implementation of communication and scheduling protocols. Refer to further discussion in Chapter 7 (Traffic and access) and Chapter 17 (Land use and property). The project would not involve any other works listed in section 2.98(1)(b)-(c) of the Transport and Infrastructure SEPP. Section 2.99 of the Transport and Infrastructure SEPP would not apply as excavation works for the project would not penetrate to a depth of two metres below ground level adjacent to the rail corridor. Section 2.100 of the Transport and Infrastructure SEPP, which requires consideration of rail vibration on certain sensitive land uses (residential, places of worship, educational establishments, hospitals and childcare). As such, it does not apply to the project.

Environmental planning instrument	Relevance to the project
	Tree preservation Section 5.29 establishes the requirements for when development consent is required for tree or vegetation removal on land that is subject to Chapter 5 of the SEPP but is outside the lease area, and considerations that a consent authority must have. This section does not apply as the project does not require development consent. However, the considerations of impacts to trees are outlined in Chapter 16 (Landscape and visual) and Technical paper 12 - Landscape character and visual impact (Appendix A (Arboricultural impact assessment).
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP)	The Biodiversity and Conservation SEPP consolidates the planning provisions of several previous SEPPs of potential relevance to the project with respect to vegetation in non-rural areas. Chapter 2 of the SEPP aims to protect the biodiversity value of trees and other vegetation in non-rural areas and to preserve the amenity of non-rural areas through the preservation of trees and other vegetation. While the provisions of the SEPP do not apply to SSI project, Chapter 18 (Biodiversity) has considered the potential impacts of the project on vegetation.
State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)	The Resilience and Hazards SEPP consolidates and repeals the provisions of the following SEPPs: • SEPP (Coastal Management) 2018 • SEPP 33 – Hazardous and Offensive Development • SEPP 55 – Remediation of Land. The potential relevance of the Resilience and Hazards SEPP to this project would be Chapter 4 – Remediation of land. The object of this Chapter is to provide a statewide planning approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. While the provisions of the Resilience and Hazards SEPP do not apply to SSI projects, the issues for consideration by a consent authority have been included in the assessment of the project. The project site has been remediated by the Hunter and Central Coast Development Corporation (HCCDC), in accordance with a Voluntary Management Plan (VMP) regulated by EPA) under the CLM Act. The project site is considered by the EPA accredited Site Auditor to be in a satisfactory condition for commercial and industrial uses, subject to the implementation of the Intertrade CSMP and compliance with the conditions of an ongoing maintenance order issued under Section 28 of the CLM Act. The project works would be undertaken so that the remediation infrastructure is either consistent with or improves upon that detailed in the Intertrade CSMP. These works would be undertaken to achieve the issue of a Section A Site Audit Statement certifying the suitability of the project site for continued commercial and industrial land use, subject to a Long-term Environmental Management Plan (LEMP) that will replace the Intertrade CSMP.

Environmental planning instrument	Relevance to the project
	Beyond the project site, minor interactions with contaminated soils may occur as a result in integration works for the new northern and southern (central) accesses. This would be temporary and managed in accordance with the Port Lands CSMP or the CEMP (for works in Selwyn Street). Refer to Chapter 10 (Contamination and soils) for further discussion. In early 2026, the Climate Change and Natural Hazards State Environmental Planning Policy: Explanation of Intended Effect (NSW DPHI, 2026c) was released, provides the explanation of the intended effect of a proposed new SEPP relating to climate change and natural hazards that will replace the Resilience and Hazards SEPP. This was supported by *Climate Change Scenario Guidelines – Draft for consultation* (NSW DPHI, 2026d). The relevant provision of these amendments concerns the standardisation of climate change scenarios considered in strategic and statutory planning. For major developments (including SSI), this proposes that a project is to consider, as a minimum, SSP3-7.0 with a modelling timeframe of 50 and 100 years. For the flood impact assessment, the hydrological model supplied by Newcastle City Council was not available. A review of the hydrological data provided included flows during a 0.5% and 0.2% AEP event, which were determined to be an equivalent of SSP2-4.5 – 2050 and SSP3-7 – 2100 respectively. The assessment of climate change risks has considered the NSW and Australian Regional Climate Modelling 2.0 projections for the Hunter region under the high-emissions scenario (SSP3-7.0), which assumes no additional global climate policies, leading to a doubling of CO_2 emissions by 2100 and projecting a global mean surface air temperature increase of 2.8–4.6°C by 2100 (Lee et al, 2021). Refer to Chapter 12 (Surface water and flooding) and Chapter 19 (Climate change) for further information.
Newcastle Local Environmental Plan 2012 (LEP)	The LEP provides development standards, zoning and planning controls for development in the Newcastle LGA. Under section 1.3 of the LEP, the LEP does not apply to the project site. However, the assessment has considered heritage items listed in the LEP in proximity to the project site in Chapter 8 (Non-Aboriginal heritage) and has considered the definition of a tree in the arboricultural impact assessment presented in Appendix A of Technical paper 12 – Landscape character and visual impact.

Appendix D
Engagement summary

Table D-1 Summary of stakeholder and community feedback

Category	Issues and feedback	Summary response and where addressed in the EIS
Construction impacts	Noise, especially if there is night work	A mixture of both standard and non-standard construction hours as defined in the *Interim Construction Noise Guideline* (DECC, 2009) are proposed. Standard project construction hours would be between 7 am to 6 pm, Monday to Saturday. Works outside standard hours may be required for the following activities: • incidents and emergencies (or as directed by police or other emergency services) • tie in of access roads to the existing road network • utility relocation and adjustment work • to optimise construction sequencing and minimise overall disruption to sensitive receivers • any other works that cannot be safely undertaken during standard construction hours. The noise impact assessment predicts exceedances that could occur during the standard project construction hours. Additional mitigation measures have been identified in response to these exceedances, which is presented in Chapter 11 (Noise and vibration) and Technical paper 7 – Noise and vibration (Technical paper 7).
	Dust	Dust mitigation will be managed through appropriate dust suppression techniques outlined in the CEMP. Refer to Chapter 14 (Air quality) and Technical paper 10 – Air quality (Technical paper 10).
	Traffic impacts	A traffic and access assessment was undertaken to determine the potential impact associated with the construction of the project. Based on an analysis of trip generation and distribution, it is expected that the construction of the project would generate minor increases in traffic on key roads surrounding the project site, with minimal impact on the overall performance of the road network. When operational in 2028, the impact of additional traffic is also expected to be minimal. Refer to Chapter 7 (Traffic and access) and Technical paper 2 - Traffic and access (Technical paper 2).

Category	Issues and feedback	Summary response and where addressed in the EIS
Cultural heritage	Heritage preservation and commemoration of the buildings within the site.	A Statement of Heritage Impact was prepared to assess the impact of the project on the non-Aboriginal heritage values within and adjoining the construction footprint. This found that project would respect the heritage significance of the study area by retaining all heritage-listed buildings and by avoiding direct impacts to significant fabric, with impacts related to changes in setting and access rather than to the removal of significant heritage fabric. Refer to Chapter 8 (Non-Aboriginal heritage) and Technical paper 3 - Statement of Heritage Impact (Technical paper 3). Options to avoid and minimise impacts on heritage was considered during options development (refer to Chapter 2 (Strategic context). EnergyCo are in ongoing discussions with NIHA about ways to commemorate industrial heritage and protect relics. This is beyond the scope of the project.
Tree removal	Concerns raised about tree removal	There will be some tree removal required within the construction footprint, primarily the result of the construction of the new southern access (central). These trees are planted, regrowth or exotic trees. Trees within the garden located to the north of the BHP Administration Building would not be impacted. Refer to Chapter 16 (Landscape and visual) and Technical paper 12 – Landscape character and visual (Technical paper 12) (including Appendix A – Arboricultural impact assessment).
Social and economic	The community perceives benefits such as training and employment opportunities coming from the project. Heritage considerations were also important. Potential impacts were during construction and operations were noted by some.	The potential social impacts arising during construction and operation have been considered in Chapter 15 (Social) and Technical paper 11 – Social impact assessment (Technical paper 11). Social benefits of the project during construction would be limited, based on the modest local employment and procurement opportunities of the project. In this respect, the project would employ 110 full-time equivalent (FTE) workers during construction and 45 FTE workers during operation. Local employment and procurement opportunities embedded in the procurement arrangements for the project would align with current State government policies and plans, including participation by First Nations people. During operation, the local community and visitors to the heritage memorials are expected to experience benefits associated with an increased safety and security presence in the surrounding area (low positive).

Category	Issues and feedback	Summary response and where addressed in the EIS
Out of scope	Concerns raised about the use of the Port of Newcastle instead of rail or inland river systems. Concerns raised about overmass and/or oversize OSOM movements leaving the project site.	This project responds to whole of government decision to use the Port of Newcastle as the main delivery point for renewable energy projects and road-based transport. OSOM vehicle movements between the project site and renewable energy project locations would occur infrequently during approved night-time periods. These movements would be managed to minimise disruptions to other road uses through an approved traffic management plan, which is a requirement of the National Heavy Vehicular Regulator when issuing permits for OSOM movements. Refer to Chapter 7 (Traffic and access) and Technical paper 2.

EnergyCo - Newcastle Logistics Precinct
Construction noise & vibration questionnaire

We have developed a five-minute questionnaire to help us understand how construction noise and vibration from the Newcastle Logistics Precinct project site might impact you. We would like to learn more about nearby residents' experiences and expectations around construction noise including noise from out of hours work. Any feedback provided will be managed in accordance with the NSW Government's privacy requirements. Personal information will only be used for the purpose of responding to your enquiry or improving project engagement.

The survey will take around 5 minutes to complete and all questions are optional.

* This form will record your name, please fill your name.

1. Please tell us your name

2. Please tell us your address

3. *Which category best describes you:*

Please select at most 3 options.

- [ ] Local resident
- [ ] Local business
- [ ] Member of a local community group
- [ ] Place of worship
- [ ] School or day care centre
- [ ] Health care facility
- [ ] Other

4. *How close are you to Industrial Drive?*

- ◯ less than 100 metres
- ◯ between 100 and 200 metres
- ◯ between 200 and 400 metres
- ◯ more than 400 metres
- ◯ Other

5. *How long have you lived at your current address?*

6. *Do you regularly notice noise from the Port of Newcastle at night or in the day?*

- ◯ Yes
- ◯ No
- ◯ Sometimes

7. *Which of the following options apply to you and members of your household?*

- ◯ Work from home (standard business hours)
- ◯ Work from home (non-standard business hours)
- ◯ Shift work
- ◯ Study from home
- ◯ Other

8. Do you have any comments about existing noise issues?

9. If you would like to be added to our database to receive regular project updates, please provide your email address:

10. If you would like to be contacted by a member of the project to discuss your responses to this questionnaire, provide your mobile number:

Appendix E
Mitigation measures

E1 Mitigation measures

Table E-1 details the mitigation measures of the project.

Table E-1 Mitigation measures

Reference	Impact/issue	Mitigation measure	Timing
Hazards and risks			
HAZ01	Battery fire	An emergency management plan for the project will be developed in consultation with Fire and Rescue NSW and implemented. It will include, but not be limited to: • emergency response procedures relating to battery fires • the confirmed location and requirements for on-site fire-fighting facilities • a schedule for the regular review, testing and improvement of the battery fire response controls and procedures.	Prior to storage of batteries Operation
HAZ02	Battery fire	A battery storage management plan will be developed and implemented for the project. The plan will include (but is not limited to): • locational requirements for battery storage areas as identified in Technical paper 1 – Preliminary Hazard Analysis, which will be confirmed with NSW Fire and Rescue prior to operation • physical controls at the battery storage area(s), such as bollards or protection barriers • protocols for the regular inspection of battery units while in storage and procedures for managing damaged batteries. • Battery units will be stored in accordance with the applicable manufacturer requirements.	Prior to storage of batteries Operation

Reference	Impact/issue	Mitigation measure	Timing
Traffic and access			
T1	Road and traffic management	A Construction traffic management sub-plan as part of the CEMP will be developed in consultation with the relevant road authorities. The sub-plan will set out the temporary traffic control measures required during construction, including signage, lane arrangements, speed controls and proposed routes to ensure the safe movement of road users around work areas.	Pre-construction
T2	Road safety – design related	All accesses via public roads will be designed to accommodate the required design vehicle(s) requiring access and generally in accordance with relevant guidelines (where applicable).	Detailed design
T3	Road condition	Routine road condition inspections and pre-construction road dilapidation surveys will be completed along all nominated construction routes on local roads and existing accesses within the Port of Newcastle. Where rectification works are required due to project construction impacts, consultation with the appropriate road authority or landowner will be undertaken prior to undertaking the required works. Rectification works must be implemented as required to ensure thoroughfare is maintained for ongoing vehicular access.	Pre-construction Construction
T4	Parking (construction)	Parking for construction workers will be fully accommodated at the construction compound and various work areas. All construction heavy vehicles will use the existing hardstand areas within the project site.	Construction
T5	Coordination with the Port of Newcastle for works on Steel Works Road	Construction works along Steel Works Road and operational access road will be coordinated with the Mayfield Industrial Estate Association to minimise disruption to access and internal port vehicle movements, and to maintain safe traffic movements.	Construction
T6	Emergency access	Emergency access to the project site must be maintained at all times. Local emergency services must be notified of any traffic changes.	Construction

Reference	Impact/issue	Mitigation measure	Timing
T7	Safety measures for visitors to the Newcastle Steelworks Memorial and Monument	Visitor access to the Newcastle Steelworks Memorial and Monument including the public car parking area will be maintained. Should access including the public car parking area be temporarily restricted during construction to ensure public safety, advanced warning will be provided to the community in accordance with notification policies developed and included in the Construction Environmental Management Plan. Safety measures will be implemented to manage interactions with the general public accessing the Newcastle Steelworks Memorial and Monument during construction. These measures will be confirmed during detailed design and may include temporary fences or barriers where delineation is required, and using appropriate signage and traffic controls.	Construction
T8	Operational traffic movements to/from Mayfield 4 Berth	Communication and scheduling protocols for OSOM movements at the level crossings on Selwyn Street and the operational access road will be agreed with Port of Newcastle and Infrabuild , and implemented prior to the commencement of operations.	Operation
T9	OSOM vehicle access	OSOM movements will be managed in accordance with the National Heavy Vehicle Regulator permit requirements and in consultation with Transport for NSW.	Operation
T10	Parking (operation)	Sufficient parking spaces for site staff and site visitors will be provided within the project site.	Detailed design Operation

Reference	Impact/issue	Mitigation measure	Timing
Non-Aboriginal heritage			
NAH1	Unexpected finds	An Unexpected Finds Procedure (UFP) for all ground disturbance works below the capping layer will be prepared and implemented during construction. In the event of potential archaeological remains are uncovered, works will cease in the immediate area and a qualified historical archaeologist engaged to assess significance and recommend management actions. Any required management actions will be determined with consideration of the interaction with the underlying BHP subgrade material and any other contamination risks. Maintain records of any archaeological discoveries to inform future works and contribute to the archival record for the site. Notify Heritage NSW where required under the Heritage Act 1977 as per the Unexpected Finds Procedure to be prepared for the construction footprint. Note: only finds that are demonstrably inconsistent with the known industrial and remediation context, such as intact structural features not represented in archival sources, deposits with clear stratigraphic integrity, or evidence of pre-BHP occupation, would trigger the UFP and associated stop works requirements.	Construction
NAH2	Heritage interpretation	Appropriate heritage interpretation will be implemented within the Newcastle Steelworks Memorial and Monument park prior to the commencement of operations or in a timeframe agreed with Heritage NSW and the Newcastle Industrial Heritage Association. Appropriate examples are outlined in Section 7.3 and 7.4 of Technical paper 3. The form and location of the heritage interpretation will be determined in consultation with Heritage NSW and the Newcastle Industrial Heritage Association.	Pre-operation
NAH3	Impact to non-Aboriginal heritage sites	The location of listed heritage items within and adjacent to the construction footprint and the relevant protocols to manage and minimise potential harm to these items will be documented in the Construction Environmental Management Plan. This includes the delineation of heritage curtilage boundaries on construction drawings, and the establishment of heritage exclusion zones within the construction footprint prior to the commencement of works with potential impacts.	Pre-construction Construction

Reference	Impact/issue	Mitigation measure	Timing
NAH4	Potential vibration impacts	Any vibratory causing plant or equipment used on the project must not encroach into their respective safe working distances to heritage listed items within the southern precinct. If there is any risk of cosmetic damage, a vibration monitoring system must be installed for the duration of works to alert plant and equipment operators when vibration levels are approaching the cosmetic damage threshold. Vibratory causing works must cease prior to reaching the threshold and additional safeguards implemented to prevent cosmetic damage prior to the recommencement of works.	Construction
NAH5	Impact to built heritage	A photographic archival recording of the BHP Administration Precinct State heritage item and its broader site context must be completed prior to commencement of construction. This recording will be prepared in accordance with the Guidelines for preparing archival recordings of heritage items as a condition of consent (Heritage NSW, 2025).	Pre-construction
NAH6	Changes to the Roll Shop building	Any repair or upgrade works to the Roll Shop building must follow conservation best practice, retaining original structural systems, cladding profiles and overall form.	Construction
NAH7	Impact to built heritage	Heritage awareness training will be carried out for all construction and project personnel working within the project site as part of the site induction(s). As a minimum, the training is to cover sites of heritage significance within the project site and the protocols that must be complied with to minimise and manage potential impacts to these sites.	Construction
Aboriginal heritage			
AH1	Impacts to Aboriginal heritage	If at any time during construction any unanticipated Aboriginal objects or human remains are discovered within the construction footprint, they will be managed in accordance with an unexpected finds protocol that is aligned with the procedure outlined in Chapter 8 of Technical paper 5 – Aboriginal heritage assessment.	Construction

Reference	Impact/issue	Mitigation measure	Timing
Contamination and soils			
CS1	Disturbance to remediation infrastructure and underlying BHP subgrade material	Prior to commencement of any works on the project site likely to impact existing remediation infrastructure and/or underlying sub-surface environment a Work Method Statement (WMS) will be prepared in accordance with the Contaminated Site Management Plan, Lot 332 DP 1176879, Former BHP Steelworks Mayfield, Newcastle Hunter Development Corporation' dated December 2018 (Intertrade CSMP) and relevant NSW Environment Protection Authority guidelines and suitable for acceptance as appropriate by a NSW EPA Accredited Site Auditor. The WMS is to be implemented for the duration of construction works.	Pre-construction Construction
CS2	Disturbance to remediation infrastructure and underlying BHP subgrade material	Prior to commencement of any works on the project site within the Port of Newcastle lease area likely to impact existing remediation infrastructure and/or underlying sub-surface environment a Work Management Procedure (WMP)will be prepared in accordance with the *Contaminated Site Management Plan, Port Lands, Former BHP Steelworks Mayfield, Newcastle* (Hunter Development Corporation, 2016) (Port Lands CSMP) and relevant NSW Environment Protection Authority guidelines and suitable for acceptance as appropriate by a NSW EPA Accredited Site Auditor. The WMP is to be implemented for the duration of construction works.	Pre-construction Construction
CS3	Unexpected contamination within Selwyn Street	Prior to commencement of any construction work that involves ground disturbance within the Selwyn Street site, a specific unexpected contamination finds procedure for the Selwyn Street site will be prepared by, or in consultation with, a suitably qualified contamination consultant. The procedure will detail the requirements for the identification, notification and management of unexpected contaminated materials, in accordance with relevant NSW Environment Protection Authority guidelines. The procedure will be implemented along with the project's Construction Environmental Management Plan for the duration of construction works on the Selwyn Street site.	Pre-construction for works within Selwyn Street Construction

Reference	Impact/issue	Mitigation measure	Timing
CS4	Disturbance of acid sulfate soils	Prior to commencement of construction works with the potential to generate actual or potential acid sulfate soils, a procedure for the identification, and if required subsequent assessment and management of actual or potential acid sulfate soils will be prepared in accordance with the relevant NSW guidelines, including: • *Acid Sulfate Soils Manual 1998* (Acid Sulfate Soil Management Advisory Committee, 1998) • *National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018a) • *National Acid Sulfate Soils Guidance: National acid sulfate soils identification and laboratory methods manual* (Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018b). The procedure will be implemented during construction works that have the potential to generate actual or potential acid sulfate soils.	Pre-construction Construction
CS5	Erosion and sedimentation	Site-specific or activity-specific erosion and sediment control plans will be developed as part of the Construction Environmental Management Plan and implemented for activities associated with the excavation or importation of soils within the construction footprint. Erosion and sediment controls will be designed with consideration of *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004), and *Volumes 2A* (DECC, 2008a) and *2C* (DECC, 2008b), commonly referred to as the 'Blue Book'.	Construction
CS6	Contamination	A Long-term Environmental Management Plan (LEMP) will be prepared to detail the ongoing management of remediation infrastructure and contamination exposure risk following construction of the project within the area subject to the Intertrade CSMP that is suitable for acceptance as appropriate by the NSW EPA Accredited Site Auditor. The implementation of the LEMP will be required during operation to maintain suitability of the area subject to the Intertrade CSMP for the project.	Operation
CS7	Containment of chemicals, fuels and other dangerous goods	All chemicals, fuels or other dangerous goods will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and the NSW EPA's *Storing and Handling of Liquids: Environment Protection - Participants Manual* (DECC, 2007). This includes provision of appropriate spill containment. Incident response procedures will be implemented to avoid and manage accidental spillages of fuels, chemicals or fluids. Spill kits will be provided at strategic, accessible locations, and staff will be trained in incident response procedures.	Construction Operation

Reference	Impact/issue	Mitigation measure	Timing
Noise and vibration			
NV1	Construction noise and vibration impacts	A CNVMP will be prepared as part of the CEMP and will consider the final, detailed construction methodology and scheduling and identify measures to schedule these activities appropriately to reduce potential for noise impacts where practicable.	Detailed design/ pre-construction/ construction
NV2	Construction noise impacts	Where construction is likely to result in exceedances of NMLs at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures: • select quieter plant and equipment and use alternative construction methods to minimise noise levels • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • install screens or use barriers to mitigate noise from stationary noise sources • maximise the offset distance between noisy plant and sensitive receivers • orient noisy plant and equipment away from sensitive receivers • use non-tonal reversing alarms in place of traditional beeper reversing alarms during OOH where noise impacts are predicted • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacture's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as excavator bucket impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of regular toolbox meetings • notify potentially sensitive receivers of any upcoming works that are predicted to be impacted by noise intensive activities • confirm that noise affected receivers outside standard construction hours and highly noise affected sensitive receivers are managed with consideration to the *Construction Noise and Vibration Guideline* (TfNSW, 2026) additional mitigation measures such as notifications, verification, and respite where appropriate.	Construction

Reference	Impact/issue	Mitigation measure	Timing
NV3	Construction noise validation	Monitoring will be carried out at representative locations during noise intensive activities that have the potential to cause noise exceedances at sensitive receivers, to confirm that actual levels are consistent with the predictions and that appropriate mitigation measures have been implemented.	Construction
NV4	Out of hours construction works	An out of hours (OOH) work protocol that details how the project will identify, assess and approve OOH work outside standard construction hours will be developed and implemented. The protocol will include provisions to: • carry out additional assessments for work proposed outside standard construction hours, to confirm noise levels at potentially affected sensitive receivers and determine suitable mitigation measures to minimise noise levels • notify and engage with potentially noise affected receivers about upcoming work outside standard construction hours and address any associated complaints • identify appropriate respite for noise affected receivers (where required).	Pre-construction Construction
NV5	Construction vibration exceeding cosmetic damage	Where vibration intensive work is required within the recommended minimum working distances and is considered likely to exceed the cosmetic damage criteria: • different construction methods with lower source vibration levels will be investigated and implemented, where feasible • confirm any vibration-sensitive heritage structures that could be impacted by the proposed works, including confirming the structural integrity of the structure, have an appropriate vibration criteria applied • vibration monitoring and alert system will be installed and functional prior to the commencement of vibratory causing work within safe working distances • work will cease if the monitoring levels indicate vibration levels are likely to exceed the vibration criteria • construction methodology must be amended to ensure limits are within appropriate vibration criteria before recommencement of works.	Construction

Reference	Impact/issue	Mitigation measure	Timing
NV6	Operational noise exceedances	Where operations are likely to result in exceedances of PNTLs during the night time period at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures: • select quieter plant and equipment to minimise noise levels • maximise the offset distance between noisy plant and sensitive receivers • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • use non-tonal reversing alarms in place of traditional beeper reversing alarms • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacture's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of site inductions regular toolbox meetings.	Operation
NV7	Operational noise exceedances	For residences where potential operational noise levels are predicted to exceed the Project Noise Trigger Level (PNTL), noise monitoring to confirm actual operational noise levels will be carried out at representative locations following commencement of project operation. Where the monitoring identifies operational noise is above PNTLs, modify night-time activity (quieter equipment or separation distance, or rescheduling to less sensitive periods) to avoid exceedances.	Operation

Reference	Impact/issue	Mitigation measure	Timing
Surface water and flooding			
SWF1	Flood risks to people and property during major flood events.	Flood emergency management and response procedures will be prepared and implemented. The procedures will be detailed in the Construction Environmental Management Plan and operational Flood emergency management sub-plan as part of the Operational Environmental Management Plan (OEMP). The procedures will detail emergency preparedness and response in the event of a flood and could include moving equipment where likely to become buoyant to higher ground or raising equipment. For the southern precinct, this will also include procedures for how sufficient space between stored components will maintain existing overland flow paths. The sub-plan to the OEMP will be prepared in consultation with the Local Emergency Management committees and NSW SES. This sub-plan will consider sources of flood warning information, flood evacuation triggers, evacuation routes and checks to complete upon return to the project site as identified in the City of Newcastle Flood Emergency Sub-Plan (SES, 2022) and the SES Emergency Planning tool, (Welcome to the NSW SES Emergency Planning Tool (NSW SES, 2026).	Pre-construction Construction Operation
SWF2	Impacts to water quality due to storage	Measures to minimise off-site discharge during fire incidents will be detailed in the operational emergency management plan for the project. Temporary controls will be developed to isolate drainage infrastructure to prevent offsite discharge where practicable.	Operation
Groundwater			
GW1	Impacts to groundwater	The Work Method Statement developed and implemented for the project will identify all reasonably foreseeable risks relating to encountering contaminated groundwater and describe how these risks will be addressed during construction.	Pre-construction Construction
GW2	Groundwater inflows into excavations	In the event that groundwater is encountered during excavations and there is a requirement to dewater, inflows will be collected, managed and disposed of in accordance with the Work Method Statement.	Construction

Reference	Impact/issue	Mitigation measure	Timing
Air quality			
AQ1	Dust emissions during construction	Construction air quality management measures will be detailed in the Air quality management sub-plan and implemented during construction to minimise particulate and gaseous emissions within the construction footprint as far as practicable. Mitigation measures will include (but not be limited to): • use of water sprays or dust suppression surfactants as required for dust suppression • adjusting the intensity of activities based on observed dust levels and weather forecasts • excess material is to be stored in stockpiles • minimising the amount of materials stockpiled and position stockpiles away from surrounding receivers • stockpiles in-situ for longer than 10 days require covering, seeding or placing sediment fencing near stockpiles • limiting vehicle movements to designated entry/exit routes and parking areas • covering loads • stabilising disturbed areas as soon as practicable • minimising the extent of disturbance as far as practicable • conducting regular visual inspections of dust emissions and applying additional controls as required • stabilising site access points and/or using rumble grids as to minimise the tracking of material onto sealed roads. Mitigation measures during screening will include (but not be limited to): • performing as far as practicable from nearby sensitive receivers • fit hoppers with dust filters • all inspection points and hatches will be fully sealed.	Construction

Reference	Impact/issue	Mitigation measure	Timing
AQ2	Combustion emissions	Combustion emissions generated during construction within the construction footprint will be minimised through: • ensuring all vehicles and machinery are maintained in a proper and efficient manner • minimising the use of diesel- or petrol-powered generators by using mains electricity or battery-powered equipment where practicable • ensuring all vehicles switch off engines when stationary for extended periods, to prevent unnecessary idling of vehicles.	Construction
AQ3	Combustion emissions	Combustion emissions generated within the operational footprint by vehicles and plant during the operation of the project will be minimised through: • ensuring all vehicles and machinery are fitted with appropriate emission control equipment and maintained in a proper and efficient manner • ensuring all vehicles switch off engines when stationary, to prevent unnecessary idling of vehicles • ensuring maintenance of all vehicles and machinery in a proper and efficient manner.	Operation
Social			
SI1	Amenity impacts during construction	A Community and stakeholder engagement plan will be prepared and implemented to ensure: • early notification to residents of the direct social locality at least a fortnight prior to the commencement of construction. Notifications will describe the nature and duration of works, expected noise levels, and provide contact details for the project engagement team • appointment of dedicated community engagement officers responsible for proactive, accessible communication with affected stakeholders, including tailored approaches such as door-knocking, text messages, newsletters and phone calls • development of a Complaints management system for managing enquiries and complaints, ensuring timely responses and regular updates to the community on how issues are being investigated and addressed.	Pre-construction and construction

Reference	Impact/issue	Mitigation measure	Timing
SI2	Amenity and accessibility impacts to direct social locality due to project infrastructure and operations	A stakeholder engagement and communication program will be implemented as part of the project's OEMP. The program will include, at a minimum: • a 24 hour contact line and email address to support ongoing stakeholder communication • a complaints handing procedure, including record of complaints received, the nature of the issues raised, the response provided, and any corrective action taken (where required) • timely notifications of OSOM movements, as required.	Operation
SI3	Local employment and procurement opportunities	Implementation of the following government policy settings within the regional social locality (considering non-Aboriginal and Aboriginal businesses), including: • the NSW Government Procurement Policy • NSW Government's Aboriginal Procurement Policy. Compliance with these policies will be embedded within the project's contractual arrangements.	Construction
SI4	Local employment and procurement opportunities	Existing engagement forums including the Hunter–Central Coast Regional Reference Group and First Nations Working Group will be utilised to provide updates and feedback on project engagement. Use of these forums will be maintained through to completion of construction. A scheduled session with local businesses will be facilitated to provide a project update during the contract procurement period.	Pre-construction and construction
SI5	Monitoring and management of social impacts (amenity and traffic during construction and operations)	A program of monitoring and evaluation will be implemented throughout the project lifecycle to track social impacts and the effectiveness of mitigation measures. Monitoring requirements and performance indicators will be embedded within the Construction Environmental Management Plan and Operational Environmental Management Plan. Outcomes of monitoring will inform ongoing stakeholder engagement, reporting, and adaptive management to ensure social impacts are effectively managed over time.	Construction and operation

Reference	Impact/issue	Mitigation measure	Timing
Landscape and visual			
LV1	Lighting	All temporary and permanent lighting on the project site will be designed and operated in accordance with AS4282:2023 control of the obtrusive effects of outdoor lighting to reduce potential lighting impacts	Construction and operation
LV2	Screening	Utility works required in the vicinity of Crebert Street/Industrial Drive intersection within the construction footprint will be carried out =in consultation with a qualified arborist to avoid the removal of trees.	Pre-construction
LV3	Light spill and screening	In the event of the removal of existing trees in the vicinity of Industrial Drive and Crebert Street that are currently relied upon for screening, a landscape plan will be prepared and implemented to fill any gaps in vegetation along the western boundary of the project site. This landscape plan will include fast growing native species that will provide screening where views to the site from residential areas (e.g. from Crebert Street) have emerged. When established, this screening vegetation will reduce the visibility of the project from these areas over time.	Construction and operation
LV4	Tree impacts	All trees proposed to be removed that are assessed as having a 'high priority for retention' must be inspected by a suitably qualified arborist to identify opportunities to refine the detailed design and/or construction methodology to minimise impacts and avoid their removal where practicable.	Pre-construction
LV5	Tree impacts	A Tree Protection Plan (TPP) and Tree Protection Specification (TPS) will be prepared by an arborist with a minimum AQF Level 5 qualification in Arboriculture. The TPP and TPS will be prepared and implemented prior to any works taking place on site.	Pre-construction
Land use and property			
LU1	Land use impacts	The design will continue to be refined to minimise potential impacts on existing land uses and properties as far as practicable.	Detailed design
LU2	Impacts to utilities and services	The location of all services and utilities within the construction footprint will be confirmed during detailed design, and any required protection or relocation works will be designed in consultation with utility providers, easement beneficiaries and the Mayfield Industrial Estate Association, where applicable.	Detailed design

Reference	Impact/issue	Mitigation measure	Timing
LU3	Impacts to port operations	To minimise disruption to port activities that use Selwyn Street and Steel Works Road, Port of Newcastle and other port and industrial users will be consulted on construction program prior to and during construction activities. This will include consultation relating to: • the timing and location of construction works, especially where there are some restrictions on vehicle or construction equipment movements • the timing and location of construction works which have the potential to impact port operations, such as tie in works on Selwyn Street and Steel Works Road.	Pre-construction Construction
LU4	Defence aviation	The details of the project (as constructed) will be provided by EnergyCo to the Department of Defence prior to the commencement of operations at the project site for the airport operator to include it as a site within their monitoring program.	Prior to operation
Biodiversity			
B1	Unexpected threatened species finds protocol	An unexpected threatened species finds protocol will be prepared and implemented during construction. If a threatened species is identified within the construction footprint, works in the affected area will cease and appropriate management actions will be implemented in accordance with the protocol, including notification to relevant authorities and obtaining any required approvals prior to recommencing works.	Construction
B2	Impacts to microbats	A pre-construction microbat survey and habitat assessment will be undertaken by a suitably qualified ecologist prior to works on or within the Roll Shop building. Where microbats are identified and likely to be impacted by the works, a microbat management plan will be prepared by a suitably qualified microbat specialist and implemented for the duration of relevant works. The plan will include appropriate mitigation measures, such as timing and staging of construction activity, noise minimisation, exclusion measures, site inductions, and monitoring protocols.	Pre-construction Construction

Reference	Impact/issue	Mitigation measure	Timing
Climate change			
GHG1	GHG emissions	Opportunities to minimise GHG emissions during construction and operation will be investigated during detailed design, including, but not limited to: • reusing existing material and excess spoil on site as part of pavement solution • using low carbon concrete and steel in civil infrastructure • using recycled aggregates in place of virgin materials • giving preference to environmentally labelled products and materials, such as those with Environmental Product Declarations • implementing product stewardship schemes to take back, reuse or recycle materials/products used during construction to minimise waste and associated emissions.	Detailed design
CC1	Climate change risks	The climate change risk register will be reviewed during detailed design and maintained for the life of the project. Risks will be reviewed every five years, as a minimum. The effectiveness of adaptation actions will be reviewed annually.	Detailed design Construction Operations
CC2	Climate change risks	Climate change risk treatments (from Table 19-4) will be confirmed and incorporated into detailed design, construction and operations.	Detailed design Construction Operations
Sustainability			
SUS1	Sustainability management	A project specific Sustainability Management Plan will be developed during detailed design and implemented for construction and operation. At a minimum, the plan will include and address those requirements outlined in Section 20.3.	Pre construction Construction Operation

Reference	Impact/issue	Mitigation measure	Timing
Waste			
W1	Excess excavated material and re-use	Measures to minimise excess excavated material and off-site disposal, and to maximise re-use of material on-site, will be investigated as part of the continued development of the project's design and construction methodology.	Pre-construction
W2	Re-use and recycling	Where practicable, opportunities to re-use or recycle waste generated during construction will be investigated during detailed design and construction planning.	Pre-construction
W3	Waste classification	All waste and surplus material generated by the project will be assessed, classified, segregated and managed in accordance with the Waste Classification Guidelines (EPA, 2014) and the relevant requirements of the Protection of the Environment Operations (Waste) Regulation 2014. Materials will be re-used, recycled, recovered or disposed of as appropriate.	Construction and operation
W4	Disposal of waste	All waste generated from the construction and operation of the project that requires off-site disposal will be transported to appropriately licenced waste disposal or transfer facilities or other facilities lawfully able to accept materials.	Construction and operation
W5	Waste management	A Construction waste management sub-plan will be prepared consistent with the *NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021–2027* (NSW DPIE, 2021b) and apply the circular economy principles to waste management.	Pre-construction and construction


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