

Environmental Impact Statement

3 June 2025
Homebush Battery Energy Storage System

Environmental Impact Statement

Client: Ausgrid

ABN: 78 508 211 731

Prepared by

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Declaration

Project details	
Project name:	Homebush Battery Energy Storage System
Application number:	SSD-77443244
Address of the land in respect of which the development is made:	10 Homebush Bay Drive, Homebush, NSW 2140.
Applicant details	
Applicant name:	Ausgrid
Applicant address:	24-28 Campbell Street, Sydney, NSW, 2000
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Declaration by registered environmental assessment practitioner	
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Organisation registered with:	Environment Institute of Australia and New Zealand
Declaration	The undersigned declares that this EIS: • Has been prepared in accordance with the Environmental Planning and Assessment Regulation 2021 • Contained 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 Department's State Significant Development Guidelines – Preparing an Environmental Impact Statement • 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 principals of ecologically sustainable development • Contains a consolidated description of the Project in a single chapter of the EIS • Contains an accurate summary of the findings of any community engagement

Project details	
	Contains an accurate summary of the detailed technical assessment of the impacts of the Project as a whole.
Signature:	
Date:	3 June 2025

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Glossary and terms

Term/Acronym	Definition
°C	Celsius
μT	microTesla
2024 ISP	<i>2024 Integrated System Plan (AEMO, 2024)</i>
A-Weighting	A response provided by an electronic circuit which modifies sound in such a way that the resulting level is similar to that perceived by the human ear
A-Weighted decibel (dB(A))	This is a measure of the overall noise level of sound across the audible spectrum with a frequency weighting (i.e., 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies
ABCP	Air Base Command Post
ABS	Australian Bureau of Statistics
AC	Alternating current
Access Road	The existing driveway to the WestConnex Fulton Hogan Egis Motorway Control Centre office and warehouse, from the M4 Western Motorway on-ramp (eastbound), via Homebush Bay Drive.
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHCR	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents (Consultation Requirements)</i> (NSW DECCW, 2010a)
Acoustic background level (ABL)	The single-figure background level representing each assessment period – day, evening and night (i.e. three ABLs are determined for each 24-hour period of the monitoring period). ABL is a measure of background noise level in the absence of noise from the source. Determination of the ABL is by the tenth percentile method, i.e. sort the recorded hourly L_{A90} into ascending order and selecting the lowest ten percentile level.
Advisory Circular	<i>AC 139-07(2) – CASA Advisory Circular – Reporting of Tall Structures</i> (Civil Aviation Safety Authority, 2021)
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AGL	Above ground level
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information System
AHIP	Aboriginal Heritage Impact Permit
Airports Act	<i>Airports Act 1996</i> (Australian Government, 1996)
Airports Regulation	<i>Airports (Protection of Airspace) Regulation 1996</i> (Australian Government, 1999)
ALARP	As low as reasonably practicable
ALR Act	<i>Aboriginal Land Rights Act 1983</i>
Amber	Amber Organisation Pty Ltd

Term/Acronym	Definition
API	Aerial Photograph Interpretation
AQC	Air Quality Categories
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soils Management Plan
ATSIHP	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BGL	Below ground level
Biodiversity and Conservation SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>
BMS	Battery Management System
BoM	Bureau of Meteorology
BP	Before present
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CadnaA	Computer Aided Noise Abatement
CASA	Civil Aviation Safety Authority
CBD	Central Business District
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CER	Clean Energy Regulator
CIA	Cumulative Impact Assessment
CLM Act	<i>Contaminated Land Management Act 1997</i>
CNVMP	Construction Noise and Vibration Management Plan
Construction Footprint	The area occupied by the Project during construction
CO	Carbon monoxide
CO _{2e}	Carbon dioxide equivalent
COPC	Contaminant of Potential Concern
CPESC	Certified Practitioner of Erosion and Sediment Control
CRTN	Calculation of Road Traffic Noise
CRSCCS	Centre for Road Safety Crash and Casualty Statistics
CSP	<i>Community Strategic Plan 'Strathfield 2035' (Strathfield Council, 2022)</i>
Cth	Commonwealth

Term/Acronym	Definition
CTMP	Construction Traffic Management Plan
DA	Development Application
dB(A)	A-weighted decibel
DC	Direct current
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DCP 2022	<i>Strathfield Development Control Plan 2022</i> (Strathfield Council, 2022b)
DECC	NSW Department of Environment and Climate Change
DECCW	NSW Department of Environment, Climate Change and Water
DEH	NSW Department of Environment and Heritage
DFO	Direct Factory Outlet
DISER	Department of Industry Science and Resources
DNSP	Distribution Network Service Provider
DoP	NSW Department of Planning
DOS	Degree of Saturation
DP	Deposited Plan
DPE	NSW Department of Planning and Environment
DPHI	NSW Department of Planning, Infrastructure and Housing
DPIE	Department of Planning, Industry and Environment
EDC	Estimated Development Cost
EIS	Environmental Impact Statement
EMF	Electric and magnetic field
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i> (NSW)
EPBC Act	<i>Environment and Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPI	Environmental Planning Instrument
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development
EST	Energy Security Target
FERP	Flood Emergency Response Plan
FIRA	Flood impact and risk assessment
FFS	Fire Safety Study
FTE	Full-Time Equivalent
GDE	Groundwater dependent ecosystem

Term/Acronym	Definition
GDP	Gross Domestic Product
GHD	GHD Pty Ltd
GHG	Greenhouse gas
GVM	Gross Vehicle Mass
GWh	Gigawatt hours
ha	Hectare
HIPAP	Hazardous Industry Planning Advisory Paper
HV	High voltage
HZ	Hertz
IBRA	Interim Biogeographic Regionalisation for Australia
ICNG	<i>Interim Construction Noise Guideline</i> (NSW Department of Environment and Climate Change, 2009)
ICNIRP	International Commission of Non-Ionising Radiation Protection
IEMA	Institute of Environment Management and Assessment
IPC	Independent Planning Commission
kHz	Kilohertz
km	Kilometre
km ²	Square kilometres
km/h	Kilometres per hour
km/year	Square kilometre per year
kV	Kilovolt
L _{A1} , L _{A10} , L _{A90}	Noise level exceeded for n% of the measurement period with A-weighted, calculated by statistical analysis - where n is between 0.01% and 99.99%. For example, L _{A10} is the noise level just exceeded for 10% of the measurement period, calculated by statistical analysis and used to determine traffic noise and L _{A90} is the noise level exceeded for 90% of the measurement period, A-weighted and calculated by statistical analysis and used to determine background noise levels.
L _{Aeq}	This is the equivalent steady sound level in dB(A) containing the same acoustic energy as the actual fluctuating sound level over the given period. Noise levels often fluctuate over a wide range with time. Therefore, when a noise varies over time, the L _{Aeq} is the equivalent continuous sound which would contain the same sound energy as the time varying sound. Many studies show that human reaction to level-varying sounds tends to relate closer to the L _{Aeq} noise level than any other descriptor
L _{AFmax}	A-weighted, fast response, maximum, sound level
LALC	Local Aboriginal Land Council
LETS	Low Emissions Technology Statements
LGA	Local Government Area
LiFePO ₄	Lithium Iron Phosphate chemistry
LOS	Level of Service

Term/Acronym	Definition
LUCRA	Land Use Conflict Risk Assessment
m	Metre
m/s ^{1.75}	Metres per second to the power of 1.75
MCA	Multi-criteria analysis
MCC	WestConnex Fulton Hogan Egis Motorway Control Centre office and warehouse
mG	Milligauss
ML	Megalitres
MLRA	Multi-level Risk Assessment
mm	Millimetre
mm/s	Millimetres per second
MNES	Matter of National Environmental Significance
MP	Member of Parliament
MQE	Material quantity estimates
MV	Medium voltage
MW	Megawatts
MWh	Megawatt hours
NABERS	National Australian Built Environment Rating System
NBN	National Broadband Network
NEM	National Electricity Market
NHVR	National Heavy Vehicle Regulator
NML	Noise management level
NPfI	<i>NSW Policy for Industry (2017)</i>
NPI	National Pollutant Inventory
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	NSW National Parks and Wildlife Service
NO ₂	Nitrogen dioxide
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
NSWALC	New South Wales Aboriginal Land Council
NNTT	National Native Title Tribunal
NVIA	Noise and Vibration Impact Assessment
NZP	<i>Net Zero Plan</i> (DCCEEW, 2023)
OCP	Organochlorine Pesticides
OEH	NSW Office of Environment and Heritage
OEM	Original Equipment Manufacturer
OEMP	Operation Environmental Management Plan

Term/Acronym	Definition
Operational Footprint	The area occupied by the Project's permanent operational infrastructure
OSOM	Oversize and/or overmass
PADs	Potential archaeological deposits
PAH	Polycyclic Aromatic Hydrocarbon
PASS	Potential Acid Sulfate Soils
PCB	Polychlorinated Biphenyls
PCT	Plant Community Type
PCYC	Police Citizens Youth Clubs
PFAS	Polyfluoroalkyl Substance
PHA	Preliminary Hazard Analysis
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
PM _{2.5}	Fine particles less than 2.5 micrometres in diameter
PM ₁₀	Fine particles less than 10 micrometres in diameter
PMF	Probable maximum flooding
PMST	Protected Matters Search Tool
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
POEO Waste Regulation	<i>Protection of the Environment Operations (Waste) Regulation 2014</i>
pphm	Parts per hundred million
PPV	Peak particle velocity
Project	Construct, operate and maintain the Homebush BESS
Project Area	The development footprint i.e. the area that will be physically disturbed for construction and operation of the Project
PSA	Primary Study Area
RAP	Remedial Action Plan
RAPs	Registered Aboriginal Parties
Rating background level (RBL)	The overall single-figure background level representing each assessment period (day/evening/night) over the whole monitoring period
RAV	Restricted Access Vehicles
Region	The Eastern and Central Districts of the Greater Sydney Region
Resilience and Hazards SEPP	<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>
RET	Renewable Energy Target
RMU	Ring main units
RNP	<i>NSW Road Noise Policy</i> (NSW DECCW, 2011)
RTA	Roads and Traffic Authority
SA2	Statistical Area 2
SAII	Significant and Irreversible Impacts

Term/Acronym	Definition
SEARs	Secretary's Environmental Assessment Requirements
SEIA	Social and Economic Impact Assessment
SEPP	State Environmental Planning Policy
SHI	NSW State Heritage Inventory (NSW DPE, 2025)
SHR	NSW State Heritage Register (Heritage NSW, 2025)
SILO	Scientific Information for Landowners
Signalised and Unsignalised Intersection Design and Research Aid (SIDRA)	A software package used for the analysis of intersection and network capacity, level of service, and performance, as well as for signalised intersection and network timing calculations
SIS	<i>NSW State Infrastructure Strategy 2022-2042</i> (Infrastructure NSW, 2022)
SISD	Safe Intersection Sight Distance
site	The area of land owned by Ausgrid forming Lot 1, DP 1218218. The address is 10 Homebush Bay Drive, Homebush, NSW 2140
SL	Social Locality
SPV	Special Purpose Vehicle
SSA	Secondary Study Area
SSD	State Significant Development
SSI	State Significant Infrastructure
Strathfield LEP	<i>Strathfield Local Environment Plan 2012</i>
Strathfield LSPS	<i>Strathfield 2040 – Local Strategic Planning Statement</i> (Strathfield Council, 2020)
STSS	Sub-transmission switching station
Sustainable Buildings SEPP	<i>State Environmental Planning Policy (Sustainable Buildings) 2022</i>
SVTM	<i>NSW State Vegetation Type Map</i>
SWMP	Soil and Water Management Plan
T	Tonne
TEC	Threatened Ecological Community
TfNSW	Transport for New South Wales
The Blue Book	<i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004)
TIA	Traffic Impact Assessment
TIR	<i>Technology Investment Roadmap</i> (DISER, 2020)
TNSP	Transmission Network Service Provider
TOD	Transport Oriented Development
Transport and Infrastructure SEPP	<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>
TRH	Total Recoverable Hydrocarbons
TSSC	Threatened Species Scientific Committee

Term/Acronym	Definition
Two-dimensional Unsteady FLOW (TUFLOW)	A computer software used to simulate water flow
UL	Underwriters Limited
UNFCCC	United Nations Framework Convention on Climate Change
VIA	Visual Impact Assessment
WIA	Water Impact Assessment
WM Act	<i>Water Management Act 2000</i>
WSP	Water sharing plan
ZTV	Zone of theoretical visibility

Summary

Overview

Over the past two decades the contribution of renewable energy to the national electricity market (NEM) has increased from effectively zero to around 38%. As this continues to grow the need for short term energy storage becomes increasingly important, allowing the intermittency of renewables to be evened out across daily load cycles. Ausgrid aims to address this need through the development of battery energy storage systems (BESS) on land within their existing property portfolio across New South Wales (NSW).

Ausgrid is the largest distributor of electricity in eastern Australia, providing power to 1.8 million customers and powering around 60% of NSW's Gross Domestic Product (GDP). Ausgrid's network is made up of substations, transmission lines, underground cables and power poles spanning 22,275 square kilometres (km²) throughout the Sydney, Central Coast and Hunter Regions.

Ausgrid is seeking development consent to construct, operate and maintain the Homebush BESS (the Project) adjacent to the existing Ausgrid 132 kilovolt (kV) Mason Park sub-transmission switching station (STSS). The Project would involve the installation of the BESS and its connection, via a 33 kV underground cable, to the existing STSS. The BESS would be located in the central portion of the site.

The Project is considered State Significant Development (SSD) under the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act). As such, this environmental impact statement (EIS) has been prepared in accordance with the relevant provisions of the EP&A Act. This EIS addresses:

- The relevant provisions of the EP&A Act
- The requirements of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation)
- The NSW Government *State significant development guidelines – Appendix B – preparing an environmental impact statement* (DPIE, 2022)
- The Secretary's Environmental Assessment Requirements (SEARs), issued on 20 November 2024.

The Project

Key features and components of the Project would include:

- Construction and operation of a BESS with a capacity of 200 Megawatts (MW) and storage of 400 Megawatt hours (MWh)
- Containerised battery units (112 Megapacks) and associated infrastructure, including inverters and 56 medium voltage (MV) transformers
- A 33 kV underground cable connection from the containerised battery units to the Mason Park STSS
- A combined switch room and control room building
- Eight ring main units (RMU)
- An onsite workshop facility
- One auxiliary transformer
- A backup diesel generator
- Other ancillary infrastructure including fire suppression, stormwater management, 2.4 m high boundary security chain wire fencing, noise barriers, lighting and close circuit television (CCTV).

A detailed description of the Project is provided in **Chapter 3.0**.

Strategic context

The key strategic driver for the Project is to support the transition of the NEM away from fossil fuels and towards primarily renewable energy. This is driven by the planned decommissioning of the NEM's coal-fired power plants in the coming years and the need to deliver on the Australian Government's commitments under the Paris Agreement and the Net Zero Plan, with a view to achieving net zero emissions by 2050.

The Project also aligns with other key government strategies, including Australia's *Long-Term Emissions Reduction Plan*, *NSW Electricity Infrastructure Roadmap 2020*, *Greater Sydney Region Plan – A Metropolis of Three Cities* and the *2024 Integrated System Plan*.

The Project is expected to provide the following benefits to the State and local community:

- Providing additional energy storage capacity to support the increase in renewable energy generation across the electricity grid, addressing projected shortfalls due to the retirement of coal fired generators
- Improving network stability for NSW, by providing system services to help stabilise the wider transmission network
- Job creation and investment for the Greater Sydney Region and NSW more broadly.

The site for the Project was chosen based on the following characteristics:

- Proximity to the existing electricity transmission network
- Proximity to the large industrial load centre of the Greater Sydney region
- Availability of suitable land within Ausgrid's existing landholdings
- Surrounding industrial and commercial land uses and major arterial roads, resulting in low environmental and social impacts
- The availability of skilled construction and operation workers in the region.

Statutory context

The Project is classified as SSD (SSD-77443244) as per Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021* (NSW DPIE, 2021). As such, development consent is required for the Project under Part 4 of the EP&A Act. This EIS complies with the objectives of the EP&A Act and has been prepared to support the Project's SSD application.

Consultation

Ausgrid has undertaken consultation with a variety of key stakeholders throughout the development of the Project, including:

- Government agencies
- Landowners
- The local community
- Aboriginal stakeholders.

A detailed account of the consultation undertaken to date is provided in **Chapter 5.0** and **Appendix C**.

Consultation with the community and key stakeholders will continue throughout the subsequent stages of the Project via the Project website, newsletters and community meetings.

This EIS will be placed on public exhibition in accordance with the requirements of the EP&A Act. During the exhibition period, community members and stakeholders have the opportunity to provide feedback directly to the NSW Department of Planning, Housing and Infrastructure (DPHI). This feedback will be considered and responded to within the submissions report, which Ausgrid will prepare for the Project.

Environmental assessment

This EIS has assessed the potential environmental, social and economic impacts associated with the construction and operation of the Project. A summary of these impacts, organised according to the chapters of this EIS, is provided as follows.

Aspect	Summary
Biodiversity	A Biodiversity Development Assessment Report (BDAR) was prepared for the Project. This was supported by fieldwork and assessed impacts relevant to the <i>Biodiversity Conservation Act 2016</i> (NSW) (BC Act) and the <i>Environment and Protection and Biodiversity Conservation Act 1999</i> (Cth) (EPBC Act). The Project has the potential to result in direct, indirect and prescribed impacts on biodiversity values. The majority of impacts on biodiversity would occur during construction from the clearing of vegetation. The Project would involve the removal of: • 0.26 ha of planted native vegetation • 0.34 ha of native vegetation. (Plant Community Type (PCT) 3962 – Coastal Floodplain Phragmites Reedland and PCT 4023 - Coastal Valleys Riparian Forest) • 0.69 ha of non-native vegetation. The Project would result in no loss of hollow-bearing trees. The construction and operation of the Project would result in indirect impacts on biodiversity values due to sedimentation and erosion, weeds, pathogens, noise, vibration, light, increased human activity and disturbance. Mitigation measures will be implemented to minimise the potential impacts to biodiversity values within the Project Area. A total of six ecosystem credits would be required to offset the Project's residual biodiversity impacts.
Aboriginal heritage	An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared to identify the Aboriginal cultural heritage values of the site. The ACHAR involved consultation with Aboriginal stakeholders, detailed desktop research, conducting an archaeological survey and site investigations. The results of the ACHAR indicated there are no items or sites of Aboriginal cultural significance within the site. As such, no impacts to Aboriginal cultural heritage are expected from the Project. Appropriate mitigation measures are proposed in the event of the future discovery of Aboriginal sites or items.
Land use, soils and contamination	<u>Land use</u> The Project would be compatible with the existing land use. The Project complies with the objectives of the 'SP2 Infrastructure (Electricity Supply)' land use zone, as outlined in the <i>Strathfield Local Environment Plan 2012</i> (Strathfield Council, 2012) (Strathfield LEP). With the implementation of appropriate mitigation and management measures, there would be no significant amenity impacts to other surrounding land uses. <u>Soils</u> Construction of the Project would involve vegetation removal, ground disturbance, excavation, transport, storage and reuse of soils, use of heavy machinery, and other activities. These activities have the potential to destabilise soils within the site and expose acid sulfate soils (ASS). An Acid Sulfate Soils Management Plan (ASSMP) will be prepared to outline management and treatment methodologies to be implemented during soil disturbance.

Aspect	Summary
	The dispersion of destabilised soils could lead to soil erosion and result in waterlogging of soils and soil structure decline. The risk of erosion and sedimentation impacts on soils would be managed through an Erosion and Sediment Control Plan (ESCP) as part of a Soil and Water Management Plan (SWMP). <u>Contamination</u> A Preliminary and Detailed Site Investigation was undertaken to assess the potential risk of contamination within the site. Contaminated materials and ASS identified in the Project Area were reviewed, and potential contamination risks to human health, soils, surface water and groundwater were assessed. Soil sampling was undertaken within the site and samples were analysed to determine the presence of contaminants of potential concern (COPC). None of the detected concentrations of COPC in the soils sampled from the site exceed the human health criteria or pose any ongoing risk to ecological populations. There is potential for the release of contaminants within the Project Area during construction and operation, which could result in contamination of soils, surface water and groundwater. Appropriate mitigation and management measures will be implemented to minimise potential risks.
Visual amenity	A Visual Impact Assessment (VIA) was prepared for the Project. The VIA identified that the Project would be constructed within a highly modified urban environment, adjacent to the existing Mason Park STSS, high voltage transmission towers, a shopping centre car park and a motorway interchange. The Project would introduce elements that would result in a low to very low visual modification to the existing setting. Views of the Project would be experienced temporarily by those in close proximity to the Project, as they drive/cycle past, as well as by people with partial views from nearby locations. Four viewpoints representative of nearby visual receivers were assessed. The assessment indicated low to negligible visual impacts from these viewpoints during construction and at Year 1 of operation. The removal of trees within the site would be the most noticeable visual change, experienced within the foreground of views from the Direct Factory Outlet Homebush car park and the M4 Western Motorway on-ramp. The assessment concluded that there are no sensitive public or private viewpoints that are likely to be subject to moderate or higher visual impacts. Mitigation measures proposed would provide an opportunity to minimise any residual visual impacts.
Noise and vibration	A Noise and Vibration Assessment (NVIA) was prepared to assess potential noise and vibration impacts during construction and operation of the Project. The NVIA identified that construction noise levels, without mitigation, are expected to exceed the noise management levels (NML) during standard construction hours for both residential and non-residential receivers. Mitigation measures will be implemented to manage noise impacts during construction, though some exceedances may occur during certain periods of construction. Construction traffic would not exceed road traffic noise criteria. Modelling determined the operational noise levels of the Project (without mitigation) would exceed the noise trigger levels at numerous sensitive receptors. As such, mitigation measures, including the permanent installation

Aspect	Summary
	of noise barriers and reduction of fan duty cycle speeds within the containerised battery units will be implemented to achieve compliance. Therefore, no residual operational noise impacts are expected. Vibration generated during construction would be within the acceptable criteria at all nearest sensitive receptors. Vibration is not anticipated to be generated during operation. Therefore, no vibration impacts are anticipated for the Project.
Traffic and transport	A Traffic Impact Assessment (TIA) was prepared for the Project to assess the potential construction and operational traffic impacts. The main construction access route to the site would be via Homebush Bay Drive and the Western Motorway on-ramp, which form part of the State road network. Larger plant required for the Project is expected to be delivered from Port Botany or the Port of Newcastle. Traffic management measures would be required along the Access Road to control the construction vehicles entering and exiting the site. During the peak construction period (a 6 month duration), the Project is expected to generate up to 154 vehicle trips per day, comprising 134 light vehicle trips and 20 heavy vehicle trips. This would reduce to 80 vehicle trips per day during the average construction period. The additional vehicles associated with construction are not expected to result in any substantial congestion amongst the broader road network or any substantial impacts to nearby intersections. An additional four traffic movements per week are expected during operation of the Project, which is considered negligible.
Surface water, groundwater and flooding	A Water Impact Assessment (WIA) was prepared for the Project to assess potential impacts relating to surface water, flooding and water use. The Project is located in flood prone land. The WIA found that residual impacts related to flooding are not expected to be significant during construction or operation, provided the proposed mitigation measures are implemented. Surface water quality impacts from soil disturbance or spills of hazardous materials are possible, particularly if these mobilised materials enter local waterways. These potential impacts are expected to be appropriately managed through the implementation of the proposed mitigation measures. Excavation during construction of the Project, such as cable trenching, have the potential to result in impacts to exposed groundwater, including changes in groundwater levels, contamination from construction materials, and increased turbidity. Appropriate mitigation measures are proposed to manage this impact. Water supply during construction is expected to be externally sourced and delivered to the site via a water tanker. Water demand during operation is expected to be limited and would be sourced through a new potable water connection installed for the Project. As such, impacts to the existing water supply during construction and operation, including surface water or groundwater resources, would be negligible.

Aspect	Summary
Hazards and risk	A preliminary risk screening concluded the Project would not be considered 'potentially hazardous industry'. A Preliminary Hazard Analysis (PHA) was prepared for the Project to assess other types of hazards that may arise during construction and operation of the Project. The potential onsite hazards identified included: • Thermal runaway and fire in a containerised battery unit • Electrical fault or failure to control electrical energy at electrical equipment • Fire in nearby area causing damage and escalation to Project infrastructure. An assessment of these hazards in the PHA identified the onsite and offsite risk profile rating as either 'as low as reasonably practicable' (ALARP) or better ('Acceptable'). The Project can be managed in accordance with the established risk criteria in accordance with ALARP principles. Given the low levels of electric and magnetic fields (EMF) expected to be produced by the Project and the typical separation distance between EMF emitting equipment associated with the Project and sensitive receivers, the effect of EMF on local receivers would be negligible.
Social and economic	A Social and Economic Impact Assessment (SEIA) was prepared for the Project. The assessment identified the benefits of the Project, such as supporting the integration of renewable energy into the electricity grid, job opportunities and general community economic benefits. Stakeholders have voiced concerns over visual amenity, noise, traffic, access and hazards associated with the Project. These potential impacts have been assessed to result in a low to negligible social impact and can be managed through the application of relevant mitigation measures. The Project is expected to have an overall positive impact on economic productivity during construction. The operation of the Project is also expected to achieve flow on benefits to the NSW economy. The Project is expected to support the transition to renewable energy within the NEM, as well as increasing the overall firming capacity of the NSW electricity grid, which could see a reduction in wholesale electricity prices.
Non-Aboriginal heritage	Non-Aboriginal heritage (historic heritage) impacts were considered through a desktop assessment. Two local heritage items listed under the Strathfield LEP were identified around 160 m and 180 m south-west of the site. As works are not anticipated to extend beyond the site boundary, these items are not expected to be affected. Due to previous disturbance, the site has very low archaeological potential and is unlikely that historic heritage items remain in the Project Area. Mitigation measures are proposed in the event of the future discovery of historic heritage sites during construction, operation or decommissioning of the Project.
Waste	Waste expected to be generated during construction includes green waste (vegetation), wastewater, construction waste, demolition waste, personnel waste, excess spoil and contaminated soils. During operation, waste is expected to be limited to maintenance and operations waste, and domestic waste which would be managed using conventional waste collection, handling and disposal procedures in compliance with regulatory requirements.

Aspect	Summary
	Mitigation measures have been outlined to ensure waste is appropriately managed and disposed of in accordance with relevant NSW government policy and guidance.
Air quality	A desktop qualitative assessment was conducted to identify air quality impacts associated with the Project. The assessment established that construction is likely to generate airborne dust emissions from ground disturbing works, such as excavation, and the movement of vehicles. Exhaust emissions during construction are expected to be generated by vehicles transporting workers to and from the Project, trucks delivering construction materials and construction equipment. During operation, localised dust would be generated from vehicles travelling on the internal site roads for maintenance activities. Exhaust emissions would be generated by workers' vehicles when travelling to and from the site, during periodic maintenance and unscheduled repair works. These impacts would however be negligible due to the low expected volumes. Standard air quality mitigation measures will be implemented. Impacts on local and regional air quality are expected to be negligible during construction and operation.
Embodied carbon emissions	An embodied carbon emissions assessment was prepared (Appendix N) which estimated the embodied carbon emissions relating to the materials used in the construction of the Project to be 46,089 tonnes of CO ₂ e. Containerised battery units would contribute 95% of these total emissions. The other contributors would be steel and concrete. Embodied carbon emissions would be reduced through the application of the proposed mitigation measures.

Cumulative impacts

Cumulative impacts occur when the residual impacts of projects overlap to create more significant impacts.

Major projects in the vicinity of the Project were identified and screened based on the scale of each project, data confidence, overlapping receptors, and overlapping timelines. Eight nearby projects were identified as having the potential for cumulative impacts with the Project.

Potential cumulative impacts associated with the Project include those relating to water quality, noise and vibration, and traffic and transport on the surrounding road network.

Assessment of the Project's residual impacts in combination with impacts identified for other major projects in the vicinity of the Project concluded that no significant cumulative impacts would be expected.

Justification of the Project

The NEM is in the process of transitioning from fossil fuel-based electricity baseload to a grid based primarily on renewable energy. This is motivated by the planned decommissioning of coal-fired power plants in coming years, as well as by the need to decarbonise our economy more generally. The Project aims to increase stability of the electricity grid, support its transition to renewable energy generation and provide the services to stabilise the wider transmission network.

Potential impacts associated with the Project have been assessed and it has been determined that any residual and/or cumulative impacts would result in a low to negligible effect on environmental, social and/or economic factors. Appropriate measures have been proposed to mitigate or manage potential adverse impacts during construction, operation and decommissioning.

The Project would provide environmental, social and economic benefits to the Greater Sydney region and NSW, including:

- Alignment with Commonwealth, state and local policies, strategies and statutory requirements
- Additional energy storage capacity to support the broader increase in renewable energy generation across the electricity grid, directly addressing projected shortfalls due to the retirement of coal fired generators
- Improved network stability, by providing system services to help stabilise the wider transmission network
- Job creation and investment for the Greater Sydney Region and NSW more broadly.

The environmental, social and economic benefits of the Project are deemed to outweigh any temporary impacts that would result from the Project's construction and operation. It is therefore recommended that the Project be granted development consent.

1.0 Introduction

1.1 Overview

Over the past two decades the contribution of renewable energy to the national electricity market (NEM) has increased from zero to around 38 percent (%). As this continues to grow the need for short term storage becomes increasingly important, allowing the intermittency of renewable energy to be evened out across daily cycles. Ausgrid aims to address this through the development of Battery Energy Storage Systems (BESS) using available land within their existing property portfolio across New South Wales (NSW).

Ausgrid is seeking development consent to construct, operate and maintain the Homebush BESS (the Project) adjacent to the existing Ausgrid 132 kilovolt (kV) Mason Park sub-transmission switching station (STSS) located in Homebush, NSW. The location of the Project in its regional setting is shown in **Figure 1-1**. The Project would be located in Lot 1 of Deposited Plan (DP) 1218128 (the site). The boundary of the site is shown on **Figure 1-2**.

The BESS would have a capacity of 200 megawatts (MW) over a two-hour duration (i.e. 400 megawatt hours (MWh)).

BESS projects are defined as 'electricity generating works' under *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP). Section 2.36 of this policy states that development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed non-residential zone. The Project is located in land zoned as 'SP2 Infrastructure (Electricity Supply)', which is one of the prescribed non-residential land use zones for the purpose of this clause. On this basis, the Project is permissible with development consent.

Further to this, the Project would be considered State Significant Development (SSD) as it will have an estimated development cost (EDC) of more than \$30 million (as per *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP)).

This report satisfies the requirement for an environmental impact statement (EIS) to support the SSD application. This EIS has been prepared in accordance with the form and content prescribed by the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), as well as the NSW Government *State significant development guidelines – Appendix B – preparing and environmental impact statement* (DPE, 2022). The structure of the EIS is further detailed in **Section 1.6**.

This EIS has been prepared based on the Secretary's Environmental Assessment Requirements (SEARs) issued for the Project on 20 November 2024, which are included in **Appendix A**.

1.2 The Applicant

The applicant is Ausgrid, the largest distributor of electricity in eastern Australia, providing power to 1.8 million customers and powering 60% of NSW's Gross Domestic Product (GDP). Ausgrid's network is made up of substations, transmission lines, underground cables and power poles, spanning 22,275 square kilometres (km²) throughout Sydney, the Central Coast and the Hunter Region.

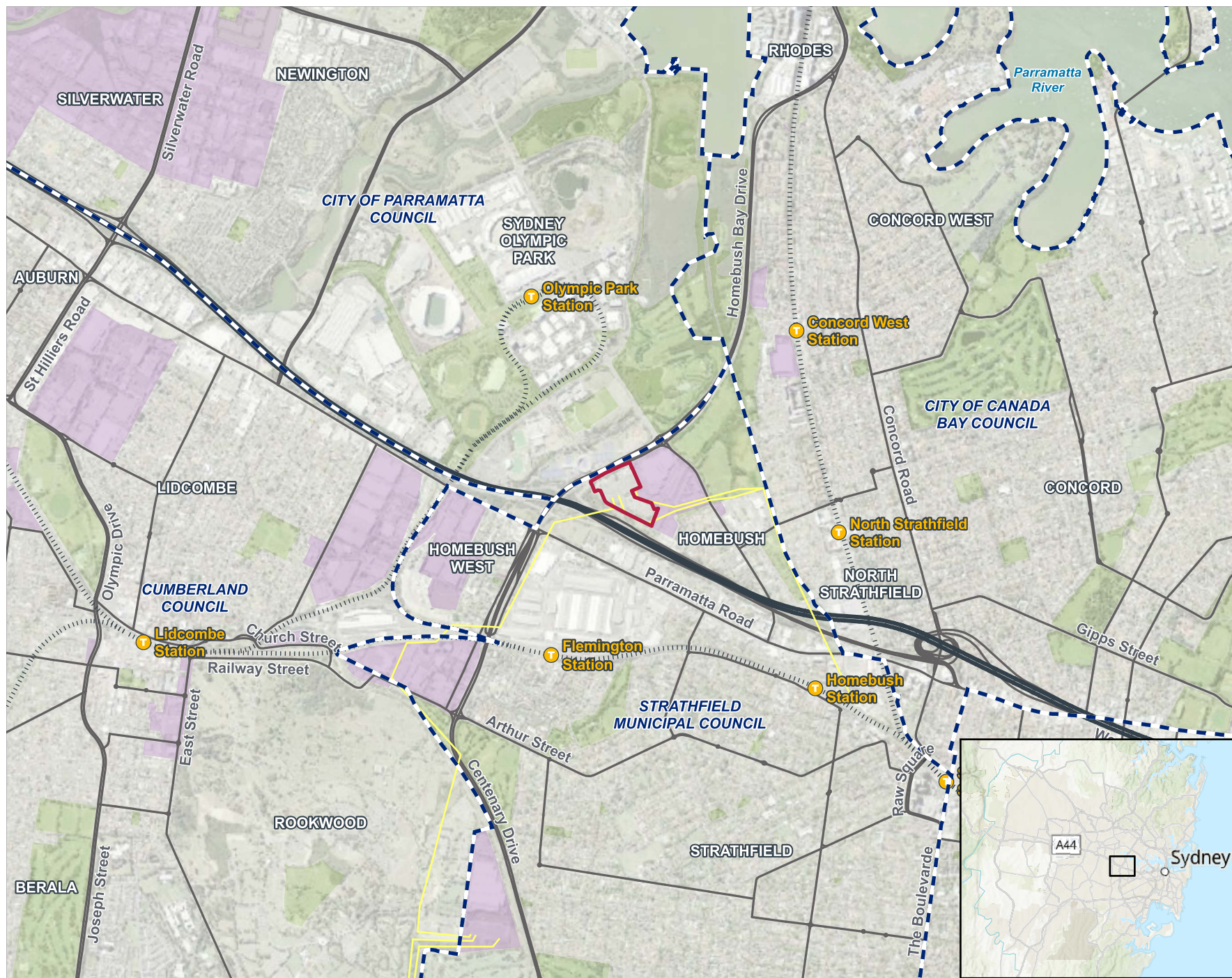
The NSW Treasury holds the largest stake in the Ausgrid business (49%), with the remainder made up of institutional investors.

Ausgrid operates in the NEM as both a Distribution Network Service Provider (DNSP) and a Transmission Network Service Provider (TNSP). Ausgrid actively operates, maintains, repairs and builds its electricity network with a focus on safety and reliability. **Table 1-1** provides further information on Ausgrid.

Table 1-1: Applicant details

Item	Details
Applicant	Ausgrid
Address	24-28 Campbell Street, Sydney, NSW, 2000
ABN	78 508 211 731

**FIGURE 1-1:
REGIONAL SETTING**



Legend

- The site
- LGA boundary
- Industrial area
- Local park
- Motorway
- Primary road
- Railway
- Railway station

Transmission Lines

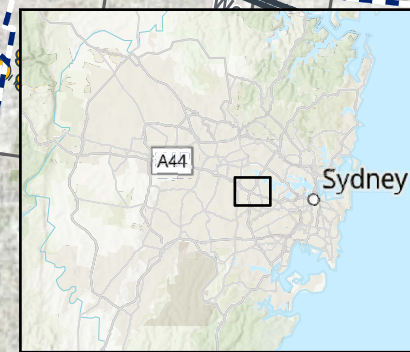
132 kV

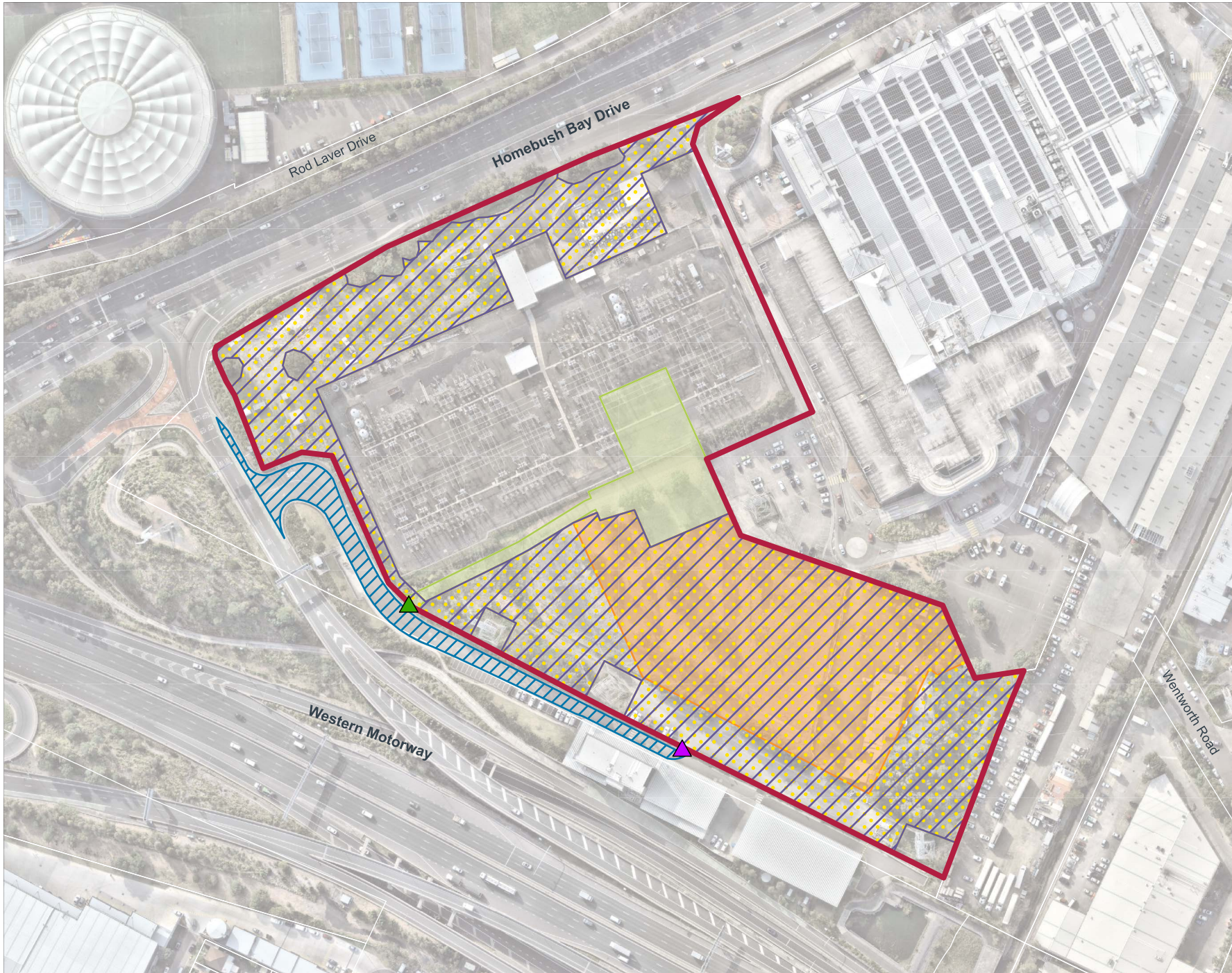
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**FIGURE 1-2:
PROJECT LOCATION**

Legend

- The site
- Project Area
- Construction Footprint
- Operational Footprint
- HV connection infrastructure
(subject to separate
approvals process)
- Access Road
- Site entry
- Site exit

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1.3 The Project

1.3.1 Background to the Project

The increasing contribution of renewable energy to the NEM brings challenges in relation to aligning energy generation and demand. Specifically, the peak of renewable energy generation is usually in the middle of the day, though consumer demand usually peaks in the afternoon and evening, when generation from some renewable sources (such as solar) has ceased or significantly subsided.

Ausgrid has identified the opportunity to leverage their existing property portfolio to provide a solution to this mismatch in supply and demand through the construction and operation of BESSs in strategic locations across NSW. This addresses the generation and demand issue directly, providing for the next phase of the NEM beyond the planned closure of coal powered electricity generation assets.

The design of the Project has aimed to avoid, minimise and offset the potential impacts it may have on the surrounding physical, biological and social environments. This included a site selection process, siting the Project immediately adjacent to an existing substation to avoid the need for transmission infrastructure whilst minimising amenity impacts to surrounding receivers.

1.3.2 Project objectives

The objectives of the Project are:

- To provide storage capacity to the NEM to increase the stability of the electricity network
- To support the transition from fossil fuel to renewable energy by providing firming capability to support increasing levels of renewable energy generation
- Where applicable, provide system services to help correct and/or stabilise the wider transmission network, e.g. frequency stabilisation.

1.3.3 Key features of the Project

The key features of the Project would include:

- Construction, operation and maintenance of a BESS adjacent to the existing Mason Park STSS. The BESS would be comprised of containerised Lithium Iron Phosphate chemistry (LiFePO_4) battery units (112 Megapacks) and associated infrastructure, including inverters and 56 medium voltage (MV) transformers. The Project would have a 200 MW maximum power output capacity with 2-hour duration (i.e. 400 MWh)
- Connection of the BESS via a 33 kV underground cable from a combined switch room and control building to the Mason Park STSS
- Ancillary infrastructure including:
 - A combined switch room and control building
 - Eight RMU
 - An onsite workshop facility
 - One auxiliary transformer
 - A backup diesel generator
 - Two spaces for onsite car parking
- Other ancillary infrastructure, including, fire suppression, stormwater management, security fencing, noise barriers, lighting, and CCTV.

1.4 Project location and description

1.4.1 Regional context

The Project is located within the Strathfield Local Government Area (LGA), approximately 13 kilometres (km) west of Sydney's Central Business District (CBD). **Figure 1-1** shows the location of the Project within its broader regional context.

The Strathfield LGA has an area of around 14 km² and is bordered by Burwood LGA to the east, Parramatta to the north-west and Cumberland LGA to the west. The Strathfield LGA has an estimated population of 45,594 (Australian Bureau of Statistics, 2021).

Major transport routes within the local area include the M4 Western Motorway, which borders the site to the south, and the Hume Highway (A22) approximately 4 km to the south of the site at its nearest point. Public transport nearby the site includes Olympic Park train station, approximately 1 km to the north, and North Strathfield train station, around 1 km to the east. Buses provide service to the local area including the Direct Factory Outlet (DFO) Homebush retail site on Underwood Road, approximately 400 metres (m) to the north-east.

1.4.2 Project location

For the purpose of this EIS, the definitions used to describe the physical boundaries of the Project are as follows:

- The **site** comprises the area of land owned by Ausgrid, comprised of Lot 1, DP 1218218, covering an area of 6.2 hectares (ha). The address is 10 Homebush Bay Drive, Homebush, NSW 2140. Existing features of the site include the Mason Park STSS in the northern portion, associated overhead powerlines, John Holland/CPB Training Academy (leased on Ausgrid property), vehicle parking, and a vacant vegetated parcel of land in the south-east of the site. The Project would be located in the central portion of the site, to the south of the Mason Park STSS
- The **Project Area** is located within the site and constitutes the development footprint i.e. the area that will be physically disturbed for construction and operation of the Project. The Project Area is 3.39 ha
- The **Construction Footprint** represents the area occupied by the Project during construction. The Construction Footprint is 3.39 ha
- The **Operational Footprint** represents the area occupied by the Project's permanent operational infrastructure. The Operational Footprint is 1.34 ha.

The extent of the site, the Project Area, the Construction Footprint and the Operational Footprint is shown on **Figure 1-2**.

The site is bordered by the M4 Western Motorway to the south and Homebush Bay Drive to the north. Immediately to the south of the site, the Access Road off the Western Motorway on-ramp (eastbound) provides access to the WestConnex Fulton Hogan Egis Motorway Control Centre office and warehouse (the MCC).

The Project is located in land zoned as 'SP2 Infrastructure (Electricity Supply)' under the *Strathfield Local Environment Plan 2012* (Strathfield LEP).

1.4.3 Related development

The Project is located adjacent to the existing Mason Park STSS. The BESS would connect to the STSS via a 33 kV underground cable.

To prepare its infrastructure for new and changing customer connections as part of the renewable energy transition, Ausgrid plans to install high voltage (HV) connection infrastructure at the Mason Park STSS. These works would be assessed and determined by Ausgrid separately in accordance with Part 5 of the EP&A Act. The area subject to the HV connection infrastructure works is shown in **Figure 1-2**.

1.5 Site constraints

Several easements have been identified within or adjacent to the site. These are in the process of being relinquished or modified by Ausgrid for the purposes of the Project, where required.

Vegetation present within the Project Area, comprising of planted native and exotic vegetation, will require removal to accommodate the Project. Impacts on biodiversity are detailed in **Section 6.3**.

An agreement is required for the traffic associated with the Project to access the site via the Access Road to the MCC. The agreement will ensure that access is not impeded either by vehicles or equipment. Further details on this agreement are provided in **Section 2.7**.

The site constraints are shown in **Figure 1-3**.



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FIGURE 1-3:
SITE CONSTRAINTS

Legend

-  The site
-  Project Area
-  Existing driveway
-  Existing Mason Park STSS
-  Existing electricity transmission/distribution tower
-  Existing easement for electricity purposes (including transmission lines), rights of way, drainage, and underground cables
-  Existing vegetation
-  Motorway
-  Primary road
-  Local road

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1.6 Purpose and structure of this EIS

The purpose of this EIS is to provide a detailed description of the Project, the existing environment and the potential direct, indirect and cumulative impacts arising from its construction and operation. The EIS also identifies measures and strategies to be implemented to avoid, minimise, mitigate, offset and/or monitor potential impacts. The structure of this EIS is outlined in **Table 1-2**.

This EIS has been prepared to address the SEARs issued by the Secretary on 20 November 2024. These requirements, including how they have been addressed, are outlined in **Appendix A**.

Table 1-2: Structure and content of the EIS

Chapter	Description
Summary	Concise description of the proposed works, environmental assessments, and findings of the EIS.
Chapter 1.0: Introduction	Provides a brief description of the Project and relevant background information.
Chapter 2.0: Strategic context	Provides the strategic context and explains the need for the Project.
Chapter 3.0: Project description	Provides a summary of the Project, including the key components of the Project, design requirements and alignments.
Chapter 4.0: Statutory context	Outlines the statutory requirements and approvals required to support the Project.
Chapter 5.0: Community and stakeholder engagement	Outlines the consultation activities undertaken to date, key issues raised and how these have been addressed.
Chapter 6.0: Assessment of environmental impacts	Provides the results of the environmental assessments and outlines appropriate mitigation measures.
Chapter 7.0: Justification and conclusion	Provides a conclusion to the EIS, including justification for the Project and whether the Project achieves the objectives.
Chapter 8.0: References	Summarises the supporting material that was referenced in preparing this EIS.

The EIS is supported by several appendices, as listed in **Table 1-3**.

Table 1-3: EIS appendices

Appendix	Description	Author
A	SEARs compliance table	AECOM
B	Statutory compliance table	AECOM
C	Community engagement table	AECOM
D	Proposed mitigation and management measures	AECOM
E	Biodiversity Development Assessment Report	Anderson Environment & Planning
F	Aboriginal Cultural Heritage Assessment Report	Apex Archaeology
G	Preliminary and Detailed Site Investigation Report	Alliance Geotechnical
H	Visual Impact Assessment	Aurecon
I	Noise and Vibration Impact Assessment	Assured Environmental
J	Traffic Impact Assessment	Amber Traffic
K	Water Impact Assessment	GHD

Appendix	Description	Author
L	Preliminary Hazard Analysis	Planager
M	Social and Economic Impact Assessment	Aurecon
N	Embodied Carbon Calculations and Technical Note	AECOM
O	Estimated Development Cost	AECOM

2.0 Strategic context

2.1 Project benefits

The Project is expected to create benefits at community level, State level and across the wider NEM, which extends across eastern and southern parts of Australia. These benefits include:

- Supporting the energy transition
- Improve grid stability for NSW
- Job creation and investment.

2.1.1 Supporting the energy transition

Presently, a significant portion of the NEM's electricity is generation from fossil fuel sources. In 2023, fossil fuel generation contributed around 65% of total electricity generation, made up of coal (46%), gas (17%) and oil (2%) (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024).

The NSW and Australian Governments have introduced legislation and strategies intended to guide the energy sector towards an increased proportion of electricity generation from renewable sources. This aligns with Australia's commitment under the Paris Agreement (Australian Energy Market Operator (AEMO), 2022) to achieve net zero emissions by 2050.

Since 2012, ten large coal-fired power stations have retired, with the most recent being AGL's Liddell Power Station which closed in April 2023. Retirements have been announced for all but one of the remaining coal-fired fleet, with approximately half expected to close by 2035 and the rest by 2051 (AEMO, 2024). However, AEMO's *2024 Integrated System Plan (2024 ISP)* (AEMO, 2024) (further described in **Section 2.4.10**) forecasts that the remaining coal fleet will close two to three times faster than those announcements (AEMO, 2024). The closure of these generators will require a substantial increase in the introduction of new renewable energy generation into the NEM.

BESSs are becoming an integral part of the NEM in light of the withdrawal of coal-fired generation, given their increasingly important role providing firming capacity to support intermittent renewable generation and improving the strength and reliability of the network.

The delivery of a BESS would provide additional energy storage capacity to support the broader increase in renewable energy generation across the NEM, directly addressing projected shortfalls.

2.1.2 Improving grid stability for NSW

The energy landscape in the grid is evolving, with fundamental changes required to avoid potential projected future supply shortfalls.

AEMO have been charged with delivering Energy Security Target (EST) Monitor Reports, to assess whether the grid's firming capacity is projected to be met as forecast by *the Electricity Infrastructure Investment Act 2020*. The most recent EST Monitor Report was released in October 2023. Based on existing and committed future projects, it predicts that there will be a breach in capacity (i.e. a shortfall in generation to meet anticipated demand) from 2025-26 until the forecasting period ends in 2032-33 (AEMO, 2023). By 2032-33 the shortfall in capacity is projected to be 676 MW, which coincides with projected closures of coal-fired power stations.

Energy storage technologies such as BESSs play a crucial role by providing firming capacity, facilitating increased penetration of renewable energy and enhancing grid stability. By storing excess energy generated during periods of low demand and high renewable output, BESSs can release energy during higher demand times or when renewable sources are less productive, such as during heatwaves or storms. This capability helps to balance supply and demand, reducing the risk of power outages and maintaining a consistent electricity supply.

Additionally, in the event of natural disasters or other emergencies, BESSs can provide critical backup power to essential services and infrastructure by providing rapid response to grid disturbances, as well as absorbing or dispatching power as needed to stabilise voltage and frequency. This flexibility is essential for ensuring that the grid remains resilient and reliable.

2.1.3 Job creation and investment

The construction of the Project would bring investment in the local and regional economy, as well as flow-on benefits for local businesses and the community of the Greater Sydney region.

The EDC for the Project is \$215 million (**Appendix O**). Major components of this total include the purchase of the battery units and associated components, as well as civil, electrical and cable construction activities.

The Project would also deliver direct economic benefit to the local area and the broader region through job creation. During the construction phase, which is anticipated to occur over a period of around 22 months, up to 100 Full-Time Equivalent (FTE) roles would be created. These jobs would also provide a secondary boost to the local economy by increasing the demand for services needed by construction workers.

Once operational, the Project would provide up to five part-time roles, equating to one FTE role, which would provide a direct ongoing economic benefit to the local economy.

The combination of temporary construction jobs and permanent operational roles would contribute to diversifying the local job market, offering new career pathways and promoting economic resilience in the area.

2.2 Project alternatives

Ausgrid has considered a range of options to meet the Project's strategic need and objectives. As part of the consideration of the constraints and opportunities present within the site, the following alternatives were considered:

- The 'do nothing approach'
- Site location alternatives
- BESS technology and provider alternatives.

2.2.1 The 'do nothing' approach

The 'do nothing' option has been considered as it represents the least possible change and maintains the existing environment. Doing nothing would involve not constructing or operating the Project. This option would avoid potential adverse environmental impacts associated with the construction and operation of the Project and would retain the site in its current state.

However, the 'do nothing' option would result in the Project's benefits not being realised. Specifically, the 'do nothing' option would neglect the opportunity to deliver substantial storage capacity to the distribution network to enable the continued growth of renewable energy within Australia's energy system.

This option would also not support the transformation of the energy grid to meet Australia's net zero commitments and the electrification and decarbonisation of the economy. Doing nothing would also fail to provide grid-scale storage at a pace that is faster, lower cost and has less environmental and community impacts than comparable projects on greenfield sites.

As such, the 'do nothing' approach is not considered a feasible option.

2.2.2 Location alternatives

In selecting a location for the BESS, Ausgrid completed a detailed site selection process, including rating potential alternative locations based on key selection criteria, including environmental, social and technical parameters.

A criterion was the location of the BESS in relation to the distribution network. By locating grid-scale storage on the distribution network close to customers, Ausgrid is able to deliver network resilience during extreme weather and network events and potentially help to defer network investment over time. Additionally, constructing the Project in proximity to an existing Ausgrid substation has the benefit of containing the impacts of the Project to an existing operating industrial location.

Environmental and amenity factors were also considered for each location, noting the sensitivities in proximity to each location.

Alternative sites were discounted based on:

- Environmental impacts and/or
- The potential increased costs associated with acquiring property and/or
- The increased extent of connection infrastructure between the BESS and the substation.

2.2.3 Alternative configurations

As described in **Section 1.5**, the selected Project Area has undergone refinements to further enhance its suitability. The Project Area has been adjusted to avoid existing easements and utility infrastructure within the site, as well as minimise potential biodiversity impacts. The Project has also been designed to utilise an existing driveway to access the Project Area.

2.2.4 Alternative BESS technology vendors

Ausgrid undertook a review and evaluation of the available solutions in the market to select a BESS Original Equipment Manufacturer (OEM). This technical assessment considered efficiency, system reliability, inverter readiness and integrator compatibility. More than 20 vendors were considered as part of this process. Vendors were assessed and shortlisted based on a multi-criteria analysis (MCA). This assessment prioritised the following aspects of the BESS technology:

- **Inverters:** the inverters convert the stored energy into electricity that can be readily used in households and commercial properties. The ability of the inverter to quickly perform this process was the highest priority
- **Integrators:** the integrators are responsible for combining the various components of the BESS technology to ensure they operate together. This factor was given a high weighting in the MCA process.

Following this assessment, Tesla was identified by Ausgrid as their preferred OEM for the Project, as their design would be more space-efficient than other vendors and performed highly on the inverter and integrator assessments. Tesla also has significant experience in this market, being the largest current provider of BESS technology for utility-scale projects within the NEM.

2.3 Site suitability

The selected site possesses key attributes that make it an optimal location for the development of a BESS.

Firstly, its proximity to the existing electricity transmission network and high electricity demand centres ensures efficient energy distribution and minimises transmission losses.

Secondly, the capacity of the existing transmission network supports the integration of the BESS without requiring significant infrastructure upgrades. The area of land available is sufficient to accommodate a BESS and associated infrastructure and is suitably zoned. The land surrounding the Project comprises compatible existing land uses including a mix of industrial and commercial uses, sporting facilities at Sydney Olympic Park, and major arterial roads.

Finally, the availability of a skilled construction and operational workforce in the region ensures the Project can be constructed and maintained effectively.

Considering these attributes and given the Project is situated on land owned by Ausgrid, the site is highly suitable for the development and operation of a BESS.

2.4 Consistency with government plans and policies

The construction and operation of the Project would facilitate Australia's ongoing transition towards renewable energy sources, as described in **Section 2.1**. The development would align with the objectives of numerous plans and policies at the international, commonwealth, state, and regional levels. A summary of these plans and policies is provided as follows.

2.4.1 United Nations Framework Convention on Climate Change (The Paris Agreement)

The *United Nations Framework Convention on Climate Change* (UNFCCC) Paris Agreement (the Paris Agreement) (United Nations, 2015) is an international agreement for addressing global climate change. The agreement commits the participating parties to greenhouse gas (GHG) reduction targets in a step-phase approach. Developed countries are charged with establishing a precedence and standard for the rest of the world and are also encouraged to provide financial and other resource assistance to those who require it.

Australia is a signatory to the Paris Agreement, with this being enacted in Australian law through the *Climate Change Act 2022* (Australian Government, 2022b). The *Climate Change Act 2022* legislates the Australian Government's responsibility to reduce GHG emissions by providing a set of short and long-term targets, using 2005 GHG levels as a reference point. Key targets include the reduction of emissions by 43% below 2005 levels by the year 2030, moving to net-zero emissions nationally by 2050. The plan for reaching these targets is established in *Australia's Long-Term Emissions Reduction Plan* (Australian Government Department of Industry Science and Resources (DISER), 2021), as detailed in **Section 2.4.2**.

To achieve these targets, Australia's renewable energy generation will need to increase substantially. BESS technology is expected to play a crucial role in enhancing the effectiveness and reliability of renewable energy sources by balancing supply and demand. BESS technology is therefore integral to the transition towards a more sustainable and resilient energy future and achievement of Australia's Paris Agreement commitments.

2.4.2 Australia's Long-Term Emissions Reduction Plan

Australia's whole-of-economy Long-Term Emissions Reduction Plan (DISER, 2021) is focused on technology and sets out how Australia will achieve net zero emissions by 2050. One of the key principles of the plan is keeping energy prices down with affordable and reliable power. The plan outlines how the Australian Government will:

- Drive down the cost of low emissions technologies (including battery storage)
- Deploy these technologies at scale
- Help regional industries and communities seize economic opportunities in new and traditional markets
- Work with other countries on the technologies needed to decarbonise the world's economy.

The *Technology Investment Roadmap* (DISER, 2020) (TIR) is the foundation of the *Long-Term Emissions Reduction Plan* and sets a process to develop and deploy low emissions technologies (including battery storage). By prioritising government investment, it aims to make these emerging technologies cost competitive with existing high emission technologies. Importantly, the TIR includes a requirement to prepare Low Emissions Technology Statements (LETS) (DISER, 2022), which review, refine and evaluate the government's investment in low carbon emission technologies.

The current LETS (2022) includes energy storage as an existing priority technology for government investment. Specifically, the LETS indicates that broad deployment of electrical energy storage will facilitate further integration of solar and wind energy in the NEM. The LETS states that energy storage will provide network security services and a source of reliable, dispatchable electricity.

The Project would help reduce electricity prices during peak demand periods for consumers in the Ausgrid distribution network. As the Project intends to provide a source of reliable, dispatchable electricity, it would be consistent with the principles of the *Long-Term Emissions Reduction Plan*.

2.4.3 Net Zero Plan

The Australian Government established the *Net Zero Plan* (DCCEEW, 2023) (NZP) to guide the transition to the legislated net zero emissions target by 2050. The NZP achieves this by setting out the government's guidelines and priorities to reduce emissions and support investment in low emissions and renewable activities.

The plan incorporates six sectoral emissions reduction plans that capture the full breadth of the economy: electricity and energy, transport, industry, agriculture and land, resources, and the built

environment. The NZP combines these individual plans to support the Australian Government's aim for a climate resilient nation.

The Project supports the NZP by facilitating an increase in the supply of renewable energy to the NEM, which contributes to the target of achieving a net zero Australia.

2.4.4 NSW Climate Change Policy Framework

The NSW Government developed the *NSW Climate Change Policy Framework* (NSW Office of Environment and Heritage (OEH), 2016) as a response to the Australian Government's commitments under the Paris Agreement. This framework outlines the NSW Government's commitment to achieving net zero emissions across the state by 2050.

The framework responds to our changing climate by making NSW more resilient to the impacts of climate change through the provision of opportunities for the introduction of alternative energy sources to the NEM.

The Project supports the overall goals of the framework as it increases the resilience of the NEM by allowing renewable energy to be stored until demand requires it to be released to consumers. This is also beneficial in the event of power outages that may occur during extreme climate-related events, further bolstering the climate resilience of the NEM.

2.4.5 NSW Net Zero Plan Stage 1: 2020-2030

The *NSW Net Zero Plan Stage 1: 2020-2030* (DPIE, 2020e) outlines how NSW aims to achieve net zero emissions by 2050. The priorities of this plan include:

- Drive uptake of proven emissions reduction technologies
- Empower consumers and businesses to make sustainable choices
- Invest in the next wave of emissions reduction innovation
- Ensure the NSW Government leads by example.

Combined with the *NSW Electricity Infrastructure Roadmap* (DPIE, 2020c) (refer to **Section 2.4.8**) the *NSW Net Zero Plan* will help generate 9,000 jobs and up to \$37 billion in private investment.

The Project helps meet the goals in *NSW Net Zero Plan Stage 1: 2020-2030* through the provisions of technology that can store renewable energy into the NEM, at periods of peak demand. The Project also demonstrates NSW leading by example through the implementation of energy efficient technology.

2.4.6 NSW Transmission Infrastructure Strategy 2018

The *NSW Transmission Infrastructure Strategy* (NSW DPE, 2018) aims to address the need for the State to enhance the capacity of the electricity grid by connecting various energy sources. This strategy was developed to address the following five driving principles:

- Lower energy bills for NSW households and businesses
- A technology neutral approach to new energy generation projects
- Private sector-led investment in transmission and generation
- Regional economic growth and increased job opportunities
- Ongoing secure and reliable energy to power the NSW economy.

The *NSW Transmission Infrastructure Strategy* sets out a plan to facilitate private sector investment in priority transmission infrastructure projects, which can deliver least-cost energy to customers by 2040 and beyond. The strategy forms part of the NSW Government's broader plan to make energy more affordable, secure investment in new power stations and network infrastructure, and ensure new technologies deliver benefits for consumers.

The Project would improve the reliability of electricity supply through periods of high demand, helping to facilitate lower-cost electricity which benefits consumers. The construction and operation of the Project diversifies industry and would provide additional job opportunities in the Greater Sydney region. The Project therefore aligns with the principles of the *NSW Transmission Infrastructure Strategy*.

2.4.7 NSW Electricity Strategy 2019

The *NSW Electricity Strategy* (NSW DPIE, 2019b) is the NSW Government's plan for a reliable, and sustainable electricity future that supports a growing economy. This strategy is designed to complement the *NSW Transmission Infrastructure Strategy*, and the work of the NEM's regulatory bodies.

The strategy outlines three approaches for the NSW Government to meet these objectives:

- Support the market to deliver reliable electricity at the lowest price, while protecting the environment
- Set an EST to ensure that the State has sufficient generation capacity to cope with unexpected generator outages during periods of peak demand, such as during heat waves, and
- Ensure the State has sufficient power to deal with an electricity emergency if one arises.

The strategy outlines the cheapest and most efficient way to develop a modern and complex energy system to replace coal-fired generators is to build a mix of low-cost renewables, gas-fired generators and other storage options, such as batteries and pumped hydro. The strategy also outlines the projected changing patterns of electricity usage, with more consumers and businesses utilising solar generation.

It is noted that the peak supply of solar energy, during the middle of the day, does not align with peak demands, which continue into the evening. The implementation of electricity storage allows electricity prices to be managed for consumers, whilst aiding the NSW Government's plan for reliable and sustainable electricity supply for the future.

2.4.8 NSW Electricity Infrastructure Roadmap 2020

The *NSW Electricity Strategy* (NSW DPIE, 2019b) is intended to be implemented through the *NSW Electricity Infrastructure Roadmap* (NSW DPIE, 2020c). The Roadmap envisions a modern electricity system in NSW built on the following five pillars:

1. *"Driving investment in regional NSW: supporting our regions as the State's economic and energy powerhouse."*
2. *Delivering energy storage infrastructure: supporting stable, long-term energy storage in NSW.*
3. *Delivering Renewable Energy Zones: co-ordinating regional transmission and renewable generation in the right places for local communities.*
4. *Keeping the grid secure and reliable: backing the system with gas, batteries or other reliable sources as needed.*
5. *Harnessing opportunities for industry: empowering new and revitalised industries with cheap, reliable and low emissions electricity".*

The Project is in keeping with the vision of the *NSW Electricity Infrastructure Roadmap* in that it:

- Represents a private regional investment, delivers energy storage
- Is appropriately zoned and uses existing transmission infrastructure
- Provides security to the NEM, and
- Provides cost effective and reliable electricity with negligible additional emissions.

2.4.9 Renewable Energy Target

The *Renewable Energy Target* (RET) is a scheme established by the Australian Government that aims to deliver an extra 33,000-gigawatt hours (GWh) of electricity from renewable sources, every year from 2020 to 2030.

In 2019, the Clean Energy Regulator (CER) announced that Australia had met the RET more than a year ahead of schedule. Despite this, the scheme will continue to require high-energy users to meet their obligations under the policy until 2030.

Although the Project would not generate renewable energy, it will facilitate the introduction of a greater amount of renewable energy to the NEM.

2.4.10 2024 Integrated System Plan

The 2024 ISP is a whole-of-system plan that provides a coordinated generation and transmission investment plan to transition the NEM over the next 30 years. AEMO updates the ISP every two years, with the most recent ISP for the NEM being published in June 2024. Under the 'Step Change' scenario, identified in the 2024 ISP as the most likely scenario, the NEM will need to cater for significant investment in generation capacity, storage and transmission augmentation as coal generation withdraws - a process that is occurring two to three times faster than anticipated (refer to **Section 2.1.1**).

The ISP sets out an optimal development path for reliability and affordability, which comprises the following:

- Transition to renewable generation
- Actionable and other network investments
- Storage and gas to firm renewables.

The Project supports the ISP optimal development path by increasing the ability to store energy within the NEM.

2.4.11 State Infrastructure Strategy 2022-2042

The *NSW State Infrastructure Strategy 2022-2042* (Infrastructure NSW, 2022) (SIS) builds on the NSW Government's major long-term infrastructure plans, as initially outlined within *NSW State Infrastructure Strategy 2012* (Infrastructure NSW, 2012). The SIS outlines the government's priorities for the next 20 years, and highlights that ongoing investment is required to keep pace with population growth, ensure competitiveness of NSW industry and meet the government's social and economic goals.

Some of the relevant objectives and strategic directions of the SIS include:

- Embedding energy reliability and resilience
- Achieve an orderly and efficient transition to net zero
- Adopting new technologies to improve infrastructure efficiency
- Boosting economy-wide productivity
- Supporting sustainable growth and development.

The SIS highlights the need for reliable and resilient infrastructure. The Project would address this through the provision of backup power during outages and by stabilising the grid.

The Project would support the transition to net zero by enabling the storage and use of renewable energy, reducing reliance on fossil fuels.

The Project would also contribute to the reduction in energy costs and improvement in the economic competitiveness of NSW, which aligns with the strategy's goals.

2.4.12 Greater Sydney Region Plan – A Metropolis of Three Cities

The *Greater Sydney Region Plan – A Metropolis of Three Cities* (Greater Sydney Commission, 2018) aims to improve the connectedness of residents to the necessities they need to live a healthy and happy life by transforming Greater Sydney into three cities:

- The Western Parkland City
- The Central River City
- The Eastern Harbour City.

The document envisions a boost in Greater Sydney's liveability, productivity and sustainability while the region continues to grow. One of the key pillars of this approach is Sustainability, with objective 33 stating the need for 'A low-carbon city (that) contributes to net zero emissions by 2050 and mitigates climate change'.

The Project would facilitate NSW's transition away from coal-fired electricity, enabling more efficient use of renewable energy connected to the NEM. This would help address objective 33 of the *Greater Sydney Region Plan – A Metropolis of Three Cities* by assisting Greater Sydney's move to net zero emissions by 2050.

2.4.13 Strathfield 2040 - Local Strategic Planning Statement

The *Strathfield 2040 – Local Strategic Planning Statement* (Strathfield Council, 2020) (Strathfield LSPS) addresses the land use needs of the LGA for the next 20 years (2020-2040). This policy identifies the priorities of local land use and considers future local employment opportunities, housing, transport and environmental management options. The planning priorities that policy focuses on are:

- Infrastructure and Collaboration
- Liveability
- Productivity
- Sustainability.

The planning priorities of the Strathfield LSPS that are relevant to the Project are Infrastructure and Collaboration, Liveability and Sustainability. The detail of these priorities and how the project aligns with them is outlined in **Table 2-1**.

Table 2-1: Relevant priorities from Strathfield LSPS and Project alignment

Focus area	Priorities	Action	Alignment
Infrastructure and Collaboration	P4: Digital infrastructure enables our community, businesses and service providers to grow.	A26: Work collaboratively with utility providers to identify smart technology solutions across the LGA to support future asset provision and management.	The Project would comprise smart technology in the form of a BESS within the LGA.
Liveability	P6: Development balances growth with best practice planning and infrastructure provision to deliver sustainable, liveable and well-designed neighbourhoods.	A42: Develop controls in <i>Strathfield Development Control Plan 2022</i> (DCP 2022) to ensure new high-density development and development in centres provides the appropriate infrastructure for its residents, including the undergrounding of electricity and cables, use of renewables and access for emergency and service vehicles.	The Project would provide important infrastructure within the LGA, improving the reliability of electricity supply through periods of high demand.
Sustainability	P16: A healthy built environment delivers sustainable and resource efficient outcomes.	A103: Promote the use of renewable energy storage in the DCP 2022.	The Project would facilitate increased penetration of the NEM by renewable energy through the provision a means to store and release energy at appropriate times.

2.4.14 Strathfield 2035 – Community Strategic Plan

The *Community Strategic Plan 'Strathfield 2035'* (Strathfield Council, 2022a) (CSP) provides long term direction for the Strathfield LGA and alignment of the Council's resources to achieve environmental, economic and social prosperity for the local community. The CSP is based on five broader inter-related themes which identified priorities for creating a sustainable, connected, and vibrant community by 2035.

The themes and goals relevant to the Project are:

- **Connectivity:** Goal 1.1 aims to achieve sustainable growth supported by well-planned and accessible infrastructure and services. The Project would contribute to this goal by delivering high quality and strategically located local infrastructure to support the sustainable growth of the community. Implementing the Project would enhance the resilience and reliability of electricity supply, which is crucial for supporting the current and future community and its needs.
- **Community Wellbeing:** Goal 2.3 aims to promote and build community resilience, capacity and self-reliance. The Project would help to facilitate community resilience by supporting a stable energy supply. Reliable energy is essential for both residential comfort and the operation of local businesses and therefore contributes to the overall wellbeing of the community.

By contributing to these goals, the Project aligns to the CSP.

2.5 Key features of the site and surrounds

2.5.1 Surrounding land uses and sensitive receivers

The Project is located in land zoned as 'SP2 Infrastructure (Electricity Supply)' under the Strathfield LEP. The surrounding land use is largely industrial and commercial, with limited sensitive receivers. Land use zones are shown in **Figure 2-1**.

2.5.1.1 Residential

The nearest residential property is located approximately 72 m south-east of the site on Verley Drive, on land zoned 'R3 Medium Density'. Other residences are located on Wentworth Road South, Coleman Avenue and Cartwright Avenue to the east of the site. Nearby residential receivers are shown in **Figure 2-2**.

2.5.1.2 Infrastructure

The site is bordered to the south by an existing driveway to the MCC, which is zoned as 'SP2 Infrastructure (Electricity Supply)'. The M4 Western Motorway is located further to the south, with Homebush Bay Drive to the north. Both roads are located in land zoned 'SP2 Infrastructure (Classified Road)'.

2.5.1.3 Industrial and commercial

The land directly to the north-east of the site is occupied by DFO Homebush, which contains commercial and retail services, as well as car parking. This land is zoned as 'E3 Productivity Support'.

To the north of Homebush Bay Drive, the land is zoned 'B4 Mixed Use' and comprises the sporting facilities forming part of the Sydney Olympic Park precinct, including Accor Stadium, Engie Stadium and Ken Rosewall Arena.

2.5.1.4 Recreational and conservation land

There is no recreational or conservation land within or adjacent to the site.

The nearest recreational zone is Wentworth Reserve, located approximately 150 m south-east of the site, zoned 'RE1 Public Recreation'. Other recreational areas within 1 km of the site include Bicentennial Park, Mason Park, Bressington Park, Bill Boyce Reserve and Powells Creek Reserve.

The Mason Park Wetlands, located approximately 550 m to the north-east of the site, are zoned 'C2 Environmental Conservation'. Lake Belvedere in Bicentennial Park, located approximately 370 m to the north, is zoned as 'C3 Environmental Management'.

The Badu Mangroves Wetlands are located within Bicentennial Park, around 1.2 km to the north of the site.



Legend

-  The site
-  Project Area

- B4 - Mixed Use
- C2 - Environmental Conservation; C2, Environmental Management
- C3 - Environmental Management
- E3 - Productivity Support
- E4 - General Industrial
- MU1 - Mixed Use
- R3 - Medium Density Residential
- R4 High Density Residential
- RE1 - Public Recreation
- SP1 - Special Activities
- SP2 - Infrastructure

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2.5.2 Environmental context

The environmental context of the site is shaped by its urban and industrial surroundings, as well as its proximity to significant infrastructure and natural features.

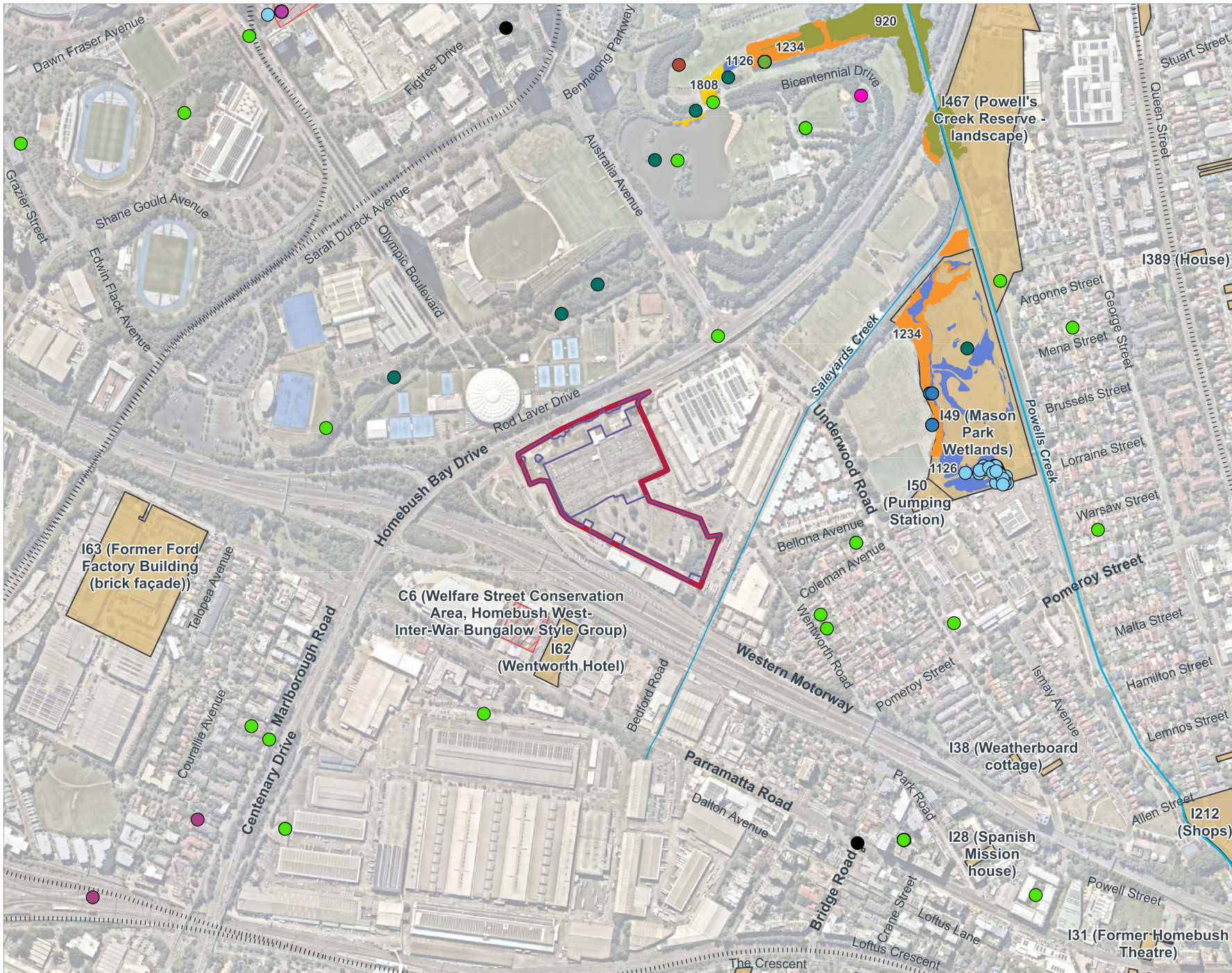
The site is located near the intersections of Homebush Bay Drive, the M4 Western Motorway, and Parramatta Road, which makes it highly accessible but also means there is significant existing traffic and traffic noise.

Whilst the site and its surrounds are primarily industrial in nature, comprising commercial and light industrial properties and energy infrastructure, the site is also located near to recreational spaces such as Bicentennial Park, and areas of biodiversity value, including Mason Park Wetlands. Several drains, channels and creeks are located within 500 m of the site.

Due to the urban nature and disturbance associated with former land uses, no previously registered Aboriginal sites have been identified within the site and there is low potential for archaeological remains. The nearest historic heritage features are located beyond the M4 Western Motorway approximately 160 m south of the site.

Overall, the environmental context of the site and its surrounds reflects a mix of industrial activity, significant transport infrastructure, and energy infrastructure, with green spaces further afield.

Environmental constraints surrounding the site are shown in **Figure 2-2**.



AECOM



FIGURE 2-2:
ENVIRONMENTAL CONSTRAINTS

Legend

- The site
- Project Area
- Heritage**
 - General conservation area
 - General heritage item

BioNet Threatened Species Records

- Black Falcon
- Curlew Sandpiper
- Downy Wattle
- Eastern Osprey
- Greater Sand-plover
- Green and Golden Bell Frog
- Grey-headed Flying-fox
- Koala
- Large Bent-winged Bat
- Latham's Snipe
- Little Tern
- Narrow-leaved Wilsonia
- White-bellied Sea-Eagle
- White-fronted Chat
- White-throated Needletail
- Yellow Gum

Native Vegetation Plant Community Types

- 1126 - Coastal Sand Apple-Black-butt Forest
- 1234 - Sydney Turpentine-Iron-bark Forest
- 1808 - Sydney Coastal Dry Sclerophyll Forests
- 920 - River-flat Eucalypt Forest on Coastal Floodplains
- Watercourses

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2.6 Cumulative impacts

The *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022a) require consideration of the cumulative impacts of the Project when considered alongside other existing and planned projects.

A search of the NSW Department of Planning, Infrastructure and Housing (DPHI) Major Projects website was undertaken on 21 March 2025 to identify other state significant projects within the vicinity of the Project that may contribute to cumulative impacts. A search was also conducted of the Strathfield Council Application Tracker for Development Applications (DA) within 1 km of the Project. The following 10 projects were identified:

- Construction of a warehouse and distribution centre at 179-181 Parramatta Rd, Homebush West 2140 NSW – Application reference: DA 10.2024.128.1
- Homebush Bay Drive and Australia Avenue, Homebush intersection upgrade
- Sydney Metro West – Application reference: SSI-22765520
- Homebush Build-to-Rent – Application reference: SSD-54964971
- Sydney Olympic Park Sites 2A and 2B - Serviced apartment tower and commercial – Application reference: SSD-21356591
- Parramatta Light Rail Stage 2 – Application reference: SSI-10035
- Sydney Olympic Park - new primary school at 15 Carter Street, Lidcombe – Application reference: SSD-68087460
- Mixed use development with in-fill affordable housing at 2-6 Pilgrim Ave Strathfield – Application reference: SSD-75438470
- Meriden School Aquatic Centre at 12-16 Margaret Street, Strathfield – Application reference: SSD-59020210
- 9 Burroway Road, Wentworth Point - Mixed Use Development – Application reference: SSD-72816207.

A detailed assessment of cumulative impacts has been undertaken in **Section 6.12**.

2.7 Agreements

Construction and operation of the Project will be undertaken on property that is owned by Ausgrid, however access to the Project Area is proposed via an existing driveway to the MCC, which borders the site to the south.

Ausgrid have held positive discussions with Fulton Hogan Egis/WestConnex (Transurban) around the use of the existing driveway as the Access Road for the Project and mutual agreement is expected to be reached. The agreement will ensure that access is not unduly impeded for either party.

3.0 Project description

3.1 Project overview

Ausgrid proposes to construct, operate and maintain a 200 MW (2-hour duration, i.e. 400 MWh at the point of connection) BESS adjacent to the existing Mason Park STSS, in Homebush, NSW (the Project). The Project would comprise a BESS to store energy from the grid, releasing it during periods of high demand. The BESS would also perform other ancillary services for the grid.

Key features of the Project are summarised in **Table 3-1** and shown in **Figure 3-1**.

Table 3-1: Project summary

Feature	Description
The Project	- Construction, operation, and maintenance of a BESS with a 200 MW maximum power output capacity with 2-hour duration (i.e. 400 MWh) - Containerised battery units (112 Megapacks) and associated infrastructure, including inverters and 56 MV transformers - A 33 kV underground cable connection from the containerised battery units to the Mason Park STSS - A combined switch room and control room building - Eight RMU - An onsite workshop facility - One auxiliary transformer - A backup diesel generator - Two spaces for onsite car parking - Other ancillary infrastructure including fire suppression, stormwater management, 2.4 m high boundary security chain wire fencing, noise barriers, lighting and CCTV.
The site	The site is located in Lot 1 of DP 1218218 being 10 Homebush Bay Drive, Homebush, NSW 2140. The Project would be located in the central portion of the property.
Disturbance area	The total area of disturbance within the site would be approximately 3.39 ha.
Access	Access to the Project is proposed via an existing driveway to the MCC, from the M4 Western Motorway on-ramp (eastbound), via Homebush Bay Drive (the Access Road). The Access Road would require traffic management measures to control site entry and exit for construction vehicles.
Grid connection	The Project would be connected to the NEM through the Mason Park STSS via a 33 kV underground cable.
Estimated Development Cost	The total EDC for the Project would be \$215 million.
Operational life expectancy	The BESS is intended to operate for 50 years with component replacements. At the end of this period the BESS would be decommissioned and the site rehabilitated. Any extension to the life of the BESS would be subject to a separate approval at the time.
Operational workforce	The BESS would operate 24 hours a day, seven days a week as an unmanned facility. Staff activity at the site would be limited to planned and unplanned maintenance only.

**FIGURE 3-1:
INDICATIVE PROJECT
LAYOUT**

Legend

- The site
- Project Area
- Operational Footprint
- Proposed underground 33kV grid connection
- HV connection infrastructure (subject to separate approvals process)
- Access Road
- Laydown area
- Ancillary facilities
- Containerised battery unit
- Internal site road
- Site entry
- Site exit
- Noise wall

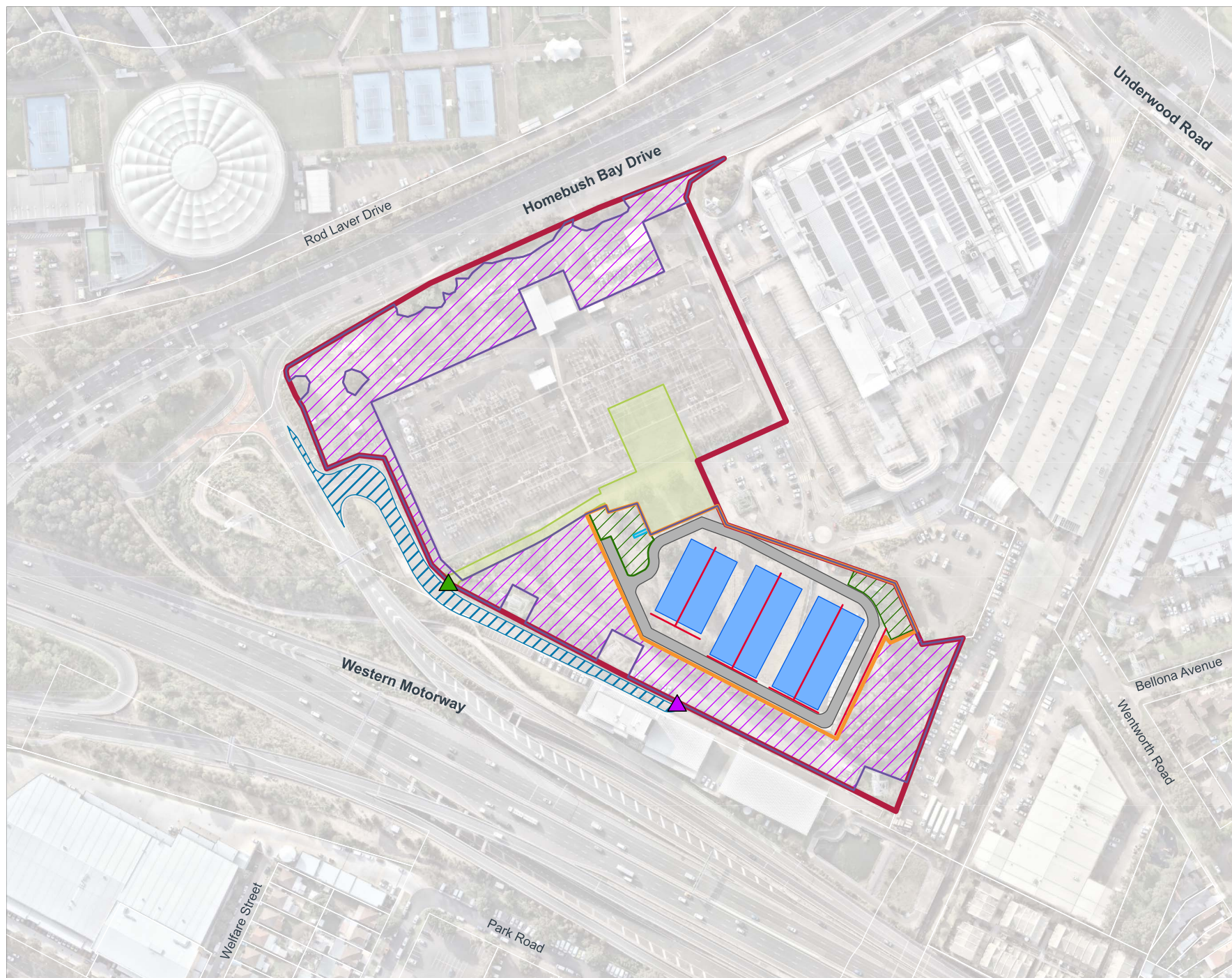
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3.2 Project description

3.2.1 Battery Energy Storage System

The registered capacity of the BESS with AEMO would be 400 MWh. To achieve this registered capacity at the point of connection, the BESS technology would consist of a series of containerised lithium iron phosphate (LiFePO₄) battery units (112 Megapacks) with a total capacity of 431 MWh, to account for losses in the system.

These would stand at a height of approximately 2.75 m, with a footprint of 1.65 m by 8.8 m and would be mounted on a compacted gravel base, screw piles or a concrete slab. A containerised battery unit (Tesla megapack) is shown in **Figure 3-2**.

The prefabricated containerised battery units (containing the battery cells, inverters and cooling systems) would be arranged in a series of rows, as shown in **Figure 3-3**. This would minimise cable run lengths and maintain appropriate separation distances, as per the manufacturer's requirements, to manage fire risks and provide access for maintenance.

The units would have a minimum back-to-back separation distance of 460 millimetres (mm) with a clearance of 2.44 m in front of each unit to facilitate ongoing maintenance access.

The units would connect to 56 MV transformers, eight RMUs and control systems. In addition, they would be connected to a battery management system (BMS), which would:

- Prevent overcharging, overheating and current surges into and out of the BESS
- Maintain voltage levels and automatically cut-out the BESS in the event of electrical shorts.

A combined switch room and control building (30 m x 5 m height), as well as an onsite workshop facility would be located within the Project's Operational Footprint. The workshop would be used to repair and maintain the BESS components and ancillary infrastructure. A typical operations building is shown in **Figure 3-5**.

An indicative Project layout is provided in **Figure 3-1** and an indicative render showing the BESS is shown in **Figure 3-4**.



Figure 3-2: Tesla Megapack



Figure 3-3: A typical BESS site



Figure 3-4: An indicative graphic render of the Project showing BESS and surrounding noise walls from the south-east



Figure 3-5: A typical operations building

3.2.2 Services and infrastructure

Table 3-2 summarises the existing infrastructure within proximity of the site as well as the augmentation of this infrastructure that would be required to facilitate the Project. Existing infrastructure is shown in **Figure 1-3**.

Table 3-2: Site infrastructure

Infrastructure	Detail
Stormwater	New stormwater drainage infrastructure would be constructed to service the Project.
Potable water	An existing potable water supply within the site connects to the existing substation. A new potable water metered connection would be installed for the Project. During construction, potable water would be supplied by imported truck supply.
Sewer	There is an existing sewer connection to the Mason Park STSS. However, a new connection would be sought for the Project.
Electricity	Ausgrid would install a new metered electricity connection at the site.
Telecommunications	The site would utilise the existing Ausgrid fibre from the adjacent Mason Park STSS and a secondary connection via the National Broadband Network (NBN) or cellular 4G.
Fire services	Fire water would be provided onsite via fire hydrants. Any additional fire water requirements from the Fire Safety Study (to be prepared during detailed design) will be incorporated prior to construction.
Security	The existing substation is currently fenced, and access controlled. There is also signage around the perimeter. A 2.4 m high chain wire security fence would be constructed around the perimeter of the Project. This would be augmented with security gates to facilitate authorised access only. CCTV would also be installed.

Infrastructure	Detail
Access and circulation	The Access Road (as outlined in Table 3-1) would require traffic management measures to control access by construction vehicles to the Project Area. The internal site roads, which would enable vehicular access during operation of the Project, are shown in Figure 3-1 .
Parking and workforce	Section 3.3.3.3 and Section 3.4.3 outline parking and workforce requirements during construction and operation, respectively.

3.2.3 Project sequencing

The Project will move through various phases during construction, as outlined in **Figure 3-6**. These phases are described in more detail in **Sections 3.3.3** and **3.3.4**.

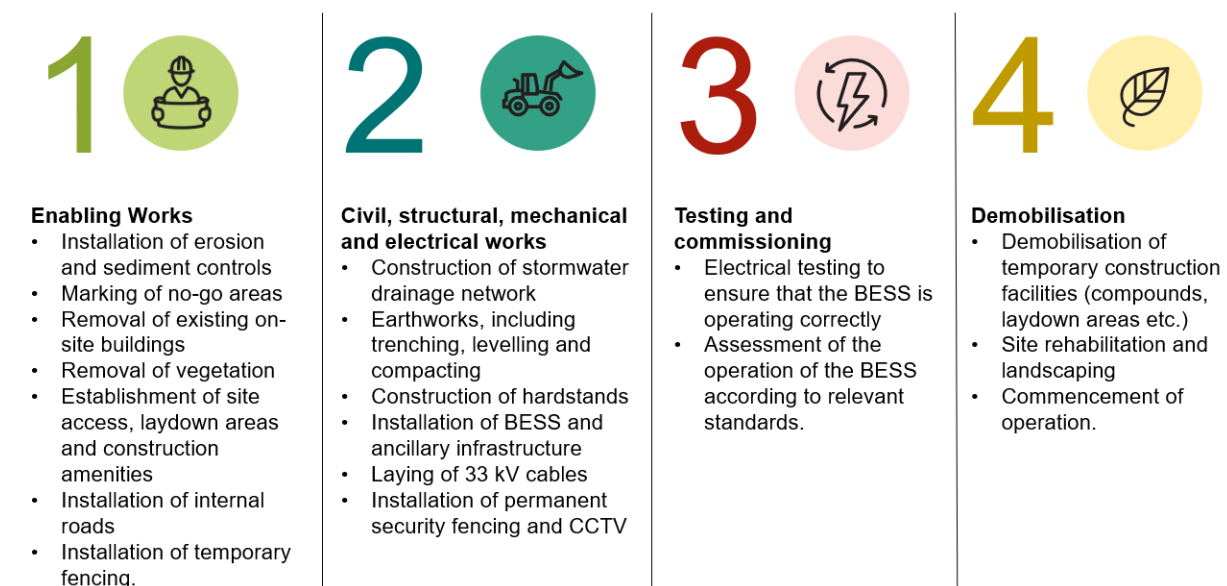


Figure 3-6: Project sequencing

3.2.4 Environmental constraints

Latter chapters in this EIS provide further detail on the environmental constraints within the site and surrounds; these constraints have shaped the design of the Project. The key environmental constraints are shown in **Figure 2-2**.

The design of the Project has been shaped by the following environmental considerations:

- Results of the PHA
- Potential for noise impacts on sensitive receptors
- Biodiversity values within the site
- Water quality from stormwater runoff
- Impacts on traffic.

3.3 Project construction

3.3.1 Overview

Table 3-3 provides an overview of the construction works.

Table 3-3: Construction overview

Construction	
Construction activities	Construction would involve: • Enabling works • Civil, structural, mechanical and electrical works • Testing and commissioning • Demobilisation. Construction laydown areas would be provided within the Project's Construction Footprint.
Plant and equipment	The indicative plant and equipment would include: Enabling works: • Front end loaders • Dump trucks • Road trucks • Water trucks • Excavators • Graders • Compactors • Light vehicles. Civil, structural, mechanical and electrical works: • Front end loaders • Road trucks • Graders • Concrete trucks and pumps • Dump trucks • Excavators • Bobcats • Compactors and rollers • Elevated work platforms • Cranes • Concrete saws and grinders • Water trucks • Light vehicles • Backhoe • Generators. Testing and commissioning: • Elevated work platforms • Cranes • Generators • Light vehicles. Demobilisation: • Water trucks • Compactors • Backhoe • Light vehicles.
Construction duration	It is anticipated that construction of the Project would commence in late 2025 and be completed by Q2 2027 (approximately 22 months). However, these dates are subject to change pending equipment lead times and availability.
Construction workforce	Up to 100 construction workers (at peak) would be required. These workers would be preferentially sourced locally where appropriate skillsets are available.

Construction	
Construction hours	Proposed construction would occur during standard working hours as outlined in the <i>Interim Construction Noise Guideline</i> (NSW Department of Environment and Climate Change, 2009) (ICNG), being: - Monday to Friday 7.00 am to 6.00 pm - Saturday 8.00 am to 1.00 pm - No works on Sundays and Public Holidays. Activities that may be required to be completed outside of those standard hours would be completed in accordance with an Out of Hours Work procedure and may include (but not be limited to): - Electrical commissioning and testing - Emergency situations where work is required to prevent harm to persons or property.
Construction traffic volumes	Up to 134 light vehicles and 20 heavy vehicles per day at peak.

3.3.2 Materials, stockpiling and laydown areas

Prior to construction commencing, stockpiling and laydown areas would be confirmed, along with locations specified for the following:

- Spoil handling and storage area(s)
- Dangerous goods storage area(s)
- Workshop and equipment storage area(s)
- Onsite parking area(s)
- Construction compound including site offices and staff amenities
- Site access and egress.

Temporary construction laydown areas would be required within the Project's Construction Footprint. These areas would provide a location to store plant, materials and equipment during construction, and may be covered with temporary roofing to protect stored equipment.

The likely location of the construction laydown areas is indicated on **Figure 3-1**. As the land is generally flat in these areas, no earthworks would be required to construct the laydown areas. A hardstand layer would be applied that would be removed once construction is complete.

3.3.3 Construction stages

3.3.3.1 Enabling works

Enabling works would be carried out to prepare the site for construction and would generally include:

- Establishment of site access, laydown areas and construction amenities (including temporary offices, lunchrooms, storage areas and washrooms)
- Installation of erosion and sediment controls and marking out of no-go areas
- Removal of existing onsite buildings
- Clearing of vegetation within the Project Area
- Installation of temporary fencing
- Establishment of temporary construction services including diesel generators
- Installation of temporary site drainage and underground services.

3.3.3.2 Civil, structural, mechanical and electrical works

Following the enabling works, the following works would be required:

- Construction of internal site roads, consisting of either compacted gravel or road base
- Earthworks and site levelling to form a suitable pad for the battery units and ancillary infrastructure
- Appropriate foundations for the battery enclosures, MV transformers and ring main units
- Delivery and installation of BESS facility components
- Internal fit out of the switch room and control room building
- Stormwater drainage
- Installation of noise barriers.

The proposed 33 kV cable from the BESS to the HV connection infrastructure at the Mason Park STSS would be installed below ground. The construction of the cable connection would include:

- Excavation of a cable trench
- Laying of cables within trench
- Connecting the cables to the HV infrastructure
- Backfilling of trench and rehabilitation of the cable easement.

Soils along the route of these trenches would be excavated and stockpiled nearby, or within designated construction laydown areas for the Project. Excavation would be completed in a progressive manner to minimise the amount of material stockpiled and to reduce the potential for erosion.

3.3.3.3 Construction workforce and traffic

Access to the Project is proposed via an existing driveway to the WestConnex Fulton Hogan Egis MCC, from the M4 Western Motorway on-ramp (eastbound), via Homebush Bay Drive (the Access Road). Subject to agreement, the Access Road would be used during construction and for ongoing maintenance once the Project is operational. The Access Road would require traffic management measures to control site entry and exit for construction vehicles, as detailed in **Section 6.7**.

Up to 20 heavy vehicles per day would require access to the Project Area during construction. These vehicles may arrive and leave at any point during the day, but most likely would arrive in the early morning.

Parking would be provided within the site for heavy vehicles. Following arrival, heavy vehicles would remain on site until no longer required, then they would depart. Sufficient parking would be provided onsite for staff during construction to ensure vehicles do not park on the surrounding road network. While not proposed at this stage, a shuttle bus program, managed by a local bus company, may be considered to transport some of the construction workforce to and from the site for a portion of the construction phase, if necessary. Further details would be included in a Construction Traffic Management Plan (CTMP), prepared as part of the Construction Environmental Management Plan (CEMP).

3.3.4 Post construction works

3.3.4.1 Testing and commissioning

Commissioning works would include electrical testing to ensure that the BESS is operating correctly. This would include assessment of the operation of the BESS according to relevant standards.

3.3.4.2 Demobilisation

Prior to operation, all temporary construction equipment and facilities would be removed, and all unoccupied disturbed land would be rehabilitated in accordance with the existing nature of the site.

Table 3-3 outlines the equipment required for commissioning and demobilisation.

3.3.5 Construction program

An indicative schedule for construction is provided in **Table 3-4**.

Table 3-4: Indicative construction schedule

Task/stage	Date/duration
Enabling works	Late 2025 – 1 to 3 months
Civil, structural, mechanical and electrical works	Late 2025 – 6 to 12 months
Testing and Commissioning	Mid to late 2026 – 12 to 18 months
Demobilisation	Mid to late 2027 – 1 to 3 months

3.4 Operation

3.4.1 Operational activities

During operation, activities would include:

- Operation, maintenance, testing and management of the BESS and its associated infrastructure
- General office activities
- Receipt of goods
- Waste removal
- General site maintenance (e.g. mowing).

3.4.2 Operational plant and equipment

Table 3-5 provides an indicative list of operational plant and equipment.

Table 3-5: Indicative plant and equipment during operation

Equipment to be used during operation	
Light vehicles	Elevated work platforms
Whipper snippers	Tractors
Chainsaws	Generators

3.4.3 Operational workforce and hours

The Project would operate 24 hours a day, seven days a week as an unmanned facility. The BESS would be managed remotely and staffed as required during both planned and unplanned maintenance periods. The Project would provide up to five part-time roles, equating to one FTE, during operation.

Adequate parking would be provided onsite for the operation of the Project with two spaces to be provided to accommodate the operational staffing requirements.

3.5 Decommissioning

The BESS is intended to have an operational life of up to 50 years, with component replacement occurring throughout this period. Any extension of this life would be subject to additional approvals at the time, if necessary. During decommissioning above ground components would be removed and recycled where possible, and the land rehabilitated. The containerised battery units would either be disposed of, repurposed or recycled at a licensed disposal facility.

3.6 Estimated Development Cost

The total EDC for the Project is \$215 million, as detailed in the Estimated Development Cost Report in **Appendix O**.

4.0 Statutory context

4.1 Introduction

This chapter outlines the relevant statutory requirements for the Project. Specifically, it identifies:

- The relevant planning pathway under which consent is sought
- Relevant state approvals beyond the EP&A Act, including those that are not required for SSD projects (section 4.41 of the Act), and those that cannot be refused and must be substantially consistent with the approved SSD project (section 4.42 of the Act)
- Mandatory matters for consideration, including relevant state and local environmental planning instruments (EPIs)
- Relevant Commonwealth approvals.

A summary of the statutory requirements for the Project is provided in **Table 4-1** with further detail provided in **Section 4.1.1** to **Section 4.3.5**. A detailed assessment of the statutory requirements is provided in the relevant sections of the environmental impact assessment (**Chapter 6.0**) and a statutory compliance table is provided in **Appendix B**.

Table 4-1: Summary of statutory requirements

Category	Requirement
Power to grant approval	The Project is considered SSD under the EP&A Act as it satisfies the SSD requirements of section 2.6 of the Planning Systems SEPP. Being SSD, the Project would be assessed under Part 4, Division 4.7 of the EP&A Act (refer to Section 4.2.2). Under section 4.5(a) of the EP&A Act, the consent authority for the Project would be the Minister for Planning and Public Spaces or the Independent Planning Commission (IPC). The IPC would be the consent authority in the event that more than 50 public objections to the application are received, or the local council objects, or a reportable political donation has been made by the proponent in the two years prior to application being lodged.
Permissibility	The definition of 'electricity generating works' under Section 2.35 of the Transport and Infrastructure SEPP includes 'electricity storage'. The Project meets this definition and is therefore considered to be 'electricity generating works' for the purpose of this policy. The Project is located on land zoned 'SP2 Infrastructure (Electricity Supply)' under the Strathfield LEP. 'Electricity generating works' are permissible with consent under the Strathfield LEP within this land use zone. Section 2.36(1) of the Transport and Infrastructure SEPP also provides for 'electricity generating works' to be carried out by any person with consent on land within a prescribed non-residential zone. 'SP2 Infrastructure (Electricity Supply)' land is included in the definition of a prescribed non-residential zone under section 2.35 of the Transport and Infrastructure SEPP. As such permissibility for the Project is also achieved through the application of section 2.36 of the Transport and Infrastructure SEPP, which prevails to the extent of any inconsistency with the LEP.
Other approvals	There are no other approvals required for the completion of the Project.
Pre-condition to exercising the power to grant consent	Pre-conditions to exercising the power to grant development consent include consideration of matters discussed in further detail in Section 4.1.1 , and Table 4-2 .

Category	Requirement
Mandatory matters for consideration	Section 4.15 of the EP&A Act requires the consent authority to consider the following relevant matters: • Relevant EPIs • Relevant development control plans (DCPs) • Any planning agreement that has been or will be entered into the regulations • Likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality • Suitability of the site for the development • Public interest. These and other relevant matters are considered in Sections 4.3.2, 4.3.3 and 4.3.4.

4.1.1 Pre-conditions to grant development consent

Pre-conditions for the consent authority to exercise the power to grant development consent for the Project are provided in **Table 4-2**.

Table 4-2: Pre-conditions to granting development consent

Statutory reference	Pre condition	Relevance	Chapter/Section/Appendix in EIS
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> – section 3.7	Section 3.7 of the <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> (Resilience and Hazards SEPP) requires that relevant circulars and guidelines be considered when determining if a development is potentially hazardous or offensive. If a development is determined to be either, or both, potentially hazardous or offensive, a Preliminary Hazards Analysis (PHA) must be prepared.	The Project has not been assessed as potentially hazardous or potentially offensive development; however, the SEARs require that a PHA be prepared. The PHA concluded that the Project does not pose any potential offsite risk. Mitigation measures to minimise risk are included in Section 6.9 and Appendix D.	Section 6.9 Appendix L Appendix D
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> – section 4.6	Section 4.6 of this policy requires that before determining an application for development consent, the consent authority must consider whether the land is contaminated and if so, they must consider a report prepared by the applicant outlining the findings of a preliminary investigation of the land. This report must be prepared in accordance with the contaminated land guidelines.	The Preliminary and Detailed Site Investigation Report prepared for the Project has not identified any potentially contaminated locations within the Project Area that are above the human health criteria. A land use, soils and contamination assessment has been conducted as part of this EIS.	Section 6.5 Appendix G

Statutory reference	Pre condition	Relevance	Chapter/Section/Appendix in EIS
<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>	Section 2.119(2) of this policy specifies that the consent authority must not grant consent to development on land that has a frontage to a classified road unless certain conditions are satisfied.	The Project is bordered by Homebush Bay Drive to the north and the M4 Western Motorway on-ramp to the west. Both roads are classified roads under the <i>Roads Act 1993</i> . As such, the requirements under clause 2.119 of the Transport and Infrastructure SEPP have been considered. A Traffic Impact Assessment (TIA) prepared for the Project addresses the matters of consideration under this clause.	Section 6.7 Appendix J
<i>State Environmental Planning Policy (Sustainable Buildings) 2022</i> – section 3.2	Section 3.2 of the <i>State Environmental Planning Policy (Sustainable Buildings) 2022</i> (Sustainable Buildings SEPP) seeks to encourage non-residential developments to be designed in accordance with sustainability objectives. When deciding whether to grant development consent, the consent authority must consider the development's application of energy efficiency and waste reduction principles, as well as the use of renewable resources.	The Project's application of energy efficiency and waste reduction principles and renewable resources have been considered in this EIS. The embodied carbon emissions attributable to the Project have been quantified.	Section 6.11 Appendix N
Strathfield LEP	The Strathfield LEP sets out the environmental planning provisions applicable to the Strathfield LGA, including land use zoning.	The requirements of the Strathfield LEP have been considered in this EIS.	Section 4.3.3

4.2 Environmental Planning and Assessment Act 1979

4.2.1 Overview

The EP&A Act and EP&A Regulation provide the framework for land use planning and development control in NSW. The EP&A Act and the EP&A Regulation are supported by a number of EPIs, including SEPPs and LEPs.

Part 4 of the EP&A Act establishes a framework for the assessment of development that requires consent and categorises development as either '*exempt development*', '*complying development*', '*development that requires consent*', or '*prohibited development*'. The term '*development*' is defined under section 1.5 of the EP&A Act.

4.2.2 Planning approval pathway

The Project meets the definition of 'development' under Section 1.5 of the EP&A Act as it involves the use of land and the erection of a building. BESS are considered electricity storage and are defined as 'electricity generating works' under the Transport and Infrastructure SEPP, being a building or place used for the purpose of electricity storage.

'Electricity generating works' are permissible with consent under the Strathfield LEP within land zoned 'SP2 Infrastructure (Electricity Supply)'. Section 2.36(1) of the Transport and Infrastructure SEPP states that development for the purpose of 'electricity generating works' may be carried out by any person with consent on land within a prescribed non-residential zone. The Project is located in a prescribed non-residential zone under section 2.35 of the Transport and Infrastructure SEPP. On this basis, the Project is permissible with development consent.

Section 4.36 of the EP&A Act defines development that is SSD and notes that development can be declared as such by an EPI. Under the Planning Systems SEPP, 'electricity generating works' are deemed to be SSD if they have an EDC of more than \$30 million. The Project will have an EDC in excess of \$30 million and is therefore considered SSD.

In line with section 4.5 of the EP&A Act, the consent authority for the Project would be the NSW Minister for Planning and Public Spaces or the IPC. The IPC would become the consent authority in the event that more than 50 public objections to the application are received, Strathfield Council objects, and/or the applicant has made reportable political donations in the two years prior to submitting the application.

As noted in section 4.40 of the EP&A Act, SSD applications are evaluated and determined in line with the requirements of section 4.15 of the EP&A Act. Matters for consideration specified in this section include relevant EPIs, likely impacts to the built and natural environment and social and economic impacts, submissions made on the application, site suitability and the public interest. These matters have been considered and presented in this EIS (see **Section 4.3**).

4.3 Mandatory considerations

Relevant mandatory considerations for the Project are summarised within **Table 4-3** and described further in **Section 4.3.2**.

Table 4-3: Mandatory considerations

Statutory document	Section reference	Mandatory consideration	Section in EIS
Considerations under the EP&A Act and EP&A Regulation			
<i>Environmental Planning and Assessment Act 1979</i>	Section 1.3	Relevant objects of the Act	Section 7.2
	Section 1.5	The definition of the term 'development'	Section 4.2
	Section 4.12	(8) A development application for SSD is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the regulations.	This EIS

Statutory document	Section reference	Mandatory consideration	Section in EIS
	Section 4.15	(1) Matters for consideration – general In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:	
		a) The provisions of – i) any relevant environmental planning instruments, and [...] iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates.	This EIS chapter and the EIS generally
		b) The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.	Chapter 6.0
		c) The suitability of the site for the development.	Section 1.3.2
	Section 4.40	e) The public interest	Chapter 7.0
		SSD applications are to be evaluated in accordance with section 4.15 requirements	Section 4.2.2
		Authorisations that are not required for SDD	Table 4-4
		Authorisations that cannot be refused for SSD and must be applied consistently	Table 4-4
	Section 4.5	Designation of consent authority	Section 4.2.2
<i>Environmental Planning and Assessment Regulation 2021</i>	Section 24	(1) A development application must – a) Be in the approved form, and b) Contain all of the information and documents required by: i) The approved form, and ii) The Act of this Regulation, and c) Be submitted on the NSW planning portal	This EIS will be submitted via the NSW planning portal and has been prepared in the approved form
	Section 190	(1) An EIS must contain the following information –	
		a) The name, address and professional qualifications of the person who prepared the statement,	Certification page
		b) The name and address of the responsible person	Table 1-1
		c) The address of the land – (1) To which the development application relates, or (2) On which the activity or infrastructure to which the statement relates will be carried out,	Table 1-1

Statutory document	Section reference	Mandatory consideration	Section in EIS
		d) A description of the development, activity or infrastructure,	Chapter 3.0
		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	Table 4-3
		(2) The person preparing the statement must have regard to -	
		a) For State significant development – the <i>State Significant Development Guidelines</i>	Section 1.1 and the EIS generally
		(3) An environmental impact statement must also contain a declaration by the person who prepared the statement of the following -	
		a) the statement has been prepared in accordance with this Division, and b) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure, and c) the information contained in the statement is not false or misleading.	Certification page
	Section 192	(1) an environmental impact statement must contain the following -	
		a) a summary of the environmental impact statement	Summary
		b) a statement of the objectives of the development, activity or infrastructure,	Section 1.2
		c) an analysis of feasible alternatives to the carrying out of the development, activity or infrastructure, considering its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Section 2.2.2
		d) an analysis of the development, activity or infrastructure, including -	
		i) a full description of the development, activity or infrastructure, and	Chapter 3.0
		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, and	Section 2.5 Chapter 6.0

Statutory document	Section reference	Mandatory consideration	Section in EIS
		iii) the likely impact on the environment of the development, activity or infrastructure, and	Chapter 6.0 Appendix E to Appendix N
		iv) a full description of the measures to mitigate adverse effects of the development, activity or infrastructure on the environment, and	Chapter 6.0 Appendix D
		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,	This chapter (Chapter 4.0) Appendix B
		e) a compilation, in a single section of the EIS, of the measures referred to in paragraph (d)(iv),	Appendix D
		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 7.0
Mandatory relevant considerations under EPIs			
State Environmental Planning Policy (Planning and Systems) 2021	Section 2.6	(1) Whether the development is SSD.	Section 4.3.2
	Section 2.7	Consideration must be given to whether the Independent Planning Commission is a consent authority of the SSD	Section 4.3.2
	Section 2.10	Applicability of the Development Control Plans	Section 4.3.2
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Part 2.3	Identifies non-rural areas applicable to Chapter 2 (Vegetation in non-rural areas)	Section 4.3.2
	Section 2.6	(1) Clearing of non-rural vegetation without obtaining a permit from council (2) Clearing of native vegetation in a non-rural area that exceeds the biodiversity offsets scheme threshold	Section 4.3.2 Section 2.2 Appendix E
State Environmental Planning Policy (Resilience and Hazards) 2021	Section 2.10	Consideration on the impacts of the Project on the physical, social and cultural environments.	Chapter 6.0
	Section 2.10	Consideration of whether the Project has proposed reasonable mitigation measures	Chapter 6.0
	Section 3.2	Whether the development is potentially hazardous or offensive	Section 6.9 Appendix L
	Section 3.7	Consideration must be given to current circulars or guidelines published by DPHI relating to hazardous or offensive development	Section 6.9 Appendix L

Statutory document	Section reference	Mandatory consideration	Section in EIS
	Section 4.6	(1) A consent authority must consider whether the land to be developed is contaminated (2) For a change of use on any of the land, the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned	Section 6.4 Appendix G
<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>	Section 2.36	Permissibility of Project with consent with consideration to its land use zone	Section 4.3.2.4
	Section 2.48	The impact on the electricity transmission network	Section 4.3.2.4
	Section 2.119	Consideration to development on land that has a frontage to a classified road.	Section 4.3.2 Section 6.7 Appendix J
<i>State Environmental Planning Policy (Sustainable Buildings) 2022</i>	Section 3.2	(1) Consider whether the Project can minimise resource waste and intake and maximise renewable output (2) Quantified embodied carbon emissions for non-residential development	Section 6.11 Appendix N
<i>Strathfield Local Environmental Plan 2012</i>	Part 2 - Land Use Table	Land use zones and objectives	Section 2.4.2 Section 4.3.2
	Clause 4.3	Height of buildings	Section 4.3.3
	Clause 4.4	Floor space ratio	Section 4.3.3
	Clause 5.10	Heritage conservation	Section 4.3.3
	Clause 5.21	Flood planning	Section 4.3.3
	Clause 6.1	Presence of acid sulfate soils (ASS)	Section 4.3.3
Mandatory relevant considerations under other NSW Legislation			
<i>Aboriginal Land Rights Act 1983</i>	Section 166	Consider the presence of claimable Crown Land	Section 6.4
<i>National Parks and Wildlife Act 1974</i>	Section 90	The requirement of an Aboriginal Heritage Impact Permit (AHIP)	Section 4.3.2 Appendix F
<i>Water Management Act 2000</i>	Section 91	The distance of the Project to rivers, lakes and estuaries	Section 4.3.2 Section 6.8 Appendix K
<i>Protection of the Environment Operations Act 1997</i>	Chapter 3	Consider the need for an environment protection licence	Section 4.3.2

Statutory document	Section reference	Mandatory consideration	Section in EIS
<i>Contaminated Land Management Act 1997</i>	Section 60	Consider the level of contamination of the site	Section 6.4 Appendix G
<i>Biodiversity Conservation Act 2016</i>	Section 7.9(2)	Consider the need for a Biodiversity Development Assessment Report (BDAR)	Section 6.2 Appendix E
<i>Biosecurity Act 2015</i>	Entirety of the Act	Consider the presence of pests, diseases and weeds within the Project Area	Section 6.2 Appendix E
<i>Roads Act 1993</i>	Section 138	Consider whether the Project will impact roadways	Section 6.7 Appendix J
<i>Heritage Act 1977</i>	Entirety of the Act	Consider the presence of heritage items	Section 6.3 Section 6.11.1
Mandatory considerations under Commonwealth Legislation			
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Entirety of the Act	Consider whether declarations have been made to protect the site.	Section 4.3.5 Section 6.3 Appendix F
<i>Airports Act 1996 and Airports (Protection of Airspace) Regulations 1996</i>	<i>Airports Act 1996 Part 12</i>	Consider the location of the Project in relation to airports	Section 4.3.5
	<i>Airports (Protection of Airspace) Regulations AC 139-07(2)</i>	Consider the height of structures or equipment used in the Project and the distance of those to surrounding airports	Section 4.3.5
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Section 18	Consider the level of impact the Project will have on Matters of Environmental Significance (MNES)	Section 6.2
<i>Native Title Act 1993</i>	Entirety of the Act	Consider the presence of possible native title or native title claims that may be affected by the Project	Section 4.3.5.4

4.3.1 Authorisations under sections 4.41 and 4.42 of the EP&A Act

Sections 4.41 and 4.42 of the EP&A Act identify authorisations that are not required for a SSD, and authorisations that cannot be refused, if necessary, for carrying out a SSD, respectively. These authorisations, and their applicability to the Project are outlined in **Table 4-4**.

Table 4-4: Relevant approvals under sections 4.41 and 4.42 of EP&A Act

Approval	Comment
Authorisations that are not required under section 4.41 of the EP&A Act	
A permit under section 201, 205 or 219 of the <i>Fisheries Management Act 1994</i>	A permit under the <i>Fisheries Management Act 1994</i> is not required for this Project.
An approval under Part 4, or an excavation permit under section 139 of the <i>Heritage Act 1977</i>	An approval under the <i>Heritage Act 1977</i> is not required for this Project.
An Aboriginal heritage impact permit under section 90 of the <i>National Parks and Wildlife Act 1974</i>	An Aboriginal heritage impact permit is not required for this Project.
A bush fire safety authority under section 100B of the <i>Rural Fires Act 1997</i>	A bushfire safety authority under the <i>Rural Fires Act 1997</i> is not required for this Project.
A water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the <i>Water Management Act 2000</i> .	A water management approval or an activity approval are not required for the Project under the <i>Water Management Act 2000</i> .
Authorisations that cannot be refused under section 4.42 of the EP&A Act	
An aquaculture permit under section 144 of the <i>Fisheries Management Act 1994</i>	The Project would not involve aquaculture. Therefore, no aquaculture permit would be required.
An approval under the <i>Coal Mine Subsidence Compensation Act 2017</i> , section 22	The Project is not located within a mine subsidence district. An approval under section 22 of the <i>Coal Mine Subsidence Compensation Act 2017</i> would not be required.
A mining lease under the <i>Mining Act 1992</i>	The Project does not include any mining activities. A mining lease would not be required.
A production lease under the <i>Petroleum (Onshore) Act 1991</i>	The Project would not involve petroleum production.
An environment protection licence (EPL) under Chapter 3 of the <i>Protection of the Environment Operations Act 1997</i> (for any of the purposes referred to in Section 43 of that Act)	The Project would not include any scheduled activities under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) and as such an EPL is not required.
A consent under section 138 of the <i>Roads Act 1993</i>	The Project will not require works within road reserve areas and therefore would not require approval under the <i>Roads Act 1993</i> .
A licence under the <i>Pipelines Act 1967</i>	No pipelines would be required for the Project and therefore a licence would not be required.

4.3.2 State Environmental Planning Policies

State Environmental Planning Policies (SEPPs) relevant to the Project are discussed in detail in the following sections.

4.3.2.1 State Environmental Planning Policy (Planning Systems) 2021

The Planning Systems SEPP applies to the whole of NSW.

Chapter 2 (State and Regional development) of the Planning Systems SEPP identifies and regulates development that is significant to the State. Part 2.2 of this policy relates to development that is declared SSD. Pursuant to section 2.6(1) of this policy, development is declared to be SSD for the purposes of the EP&A Act if:

- (a) The development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the [EP&A] Act, and
- (b) The development is specified in Schedule 1 or 2 [of the Planning Systems SEPP].

As discussed in **Section 4.2.2**, the Project is declared as SSD under section 2.6 of the Planning Systems SEPP. Furthermore, section 2.10 of this SEPP states that DCPs do not apply to SSD projects.

4.3.2.2 State Environmental Planning Policy (Biodiversity and Conservation) 2021

The following chapters of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation SEPP) are relevant to the Project:

Chapter 2 Vegetation in non-rural areas

Chapter 2 of the Biodiversity and Conservation SEPP relates to vegetation in non-rural areas.

The Biodiversity and Conservation SEPP applies to Strathfield LGA and land use zones contained under section 2.3, which includes land zoned 'SP2 Infrastructure (Electricity Supply)'.

Section 2.6(1) of this policy states that '*a person must not clear vegetation in any non-rural area of the State to which Part 2.3 applies without the authority conferred by a permit granted by the council*'. In addition, section 2.6(2) states that '*a person must not clear native vegetation in any non-rural area of the State that exceeds the biodiversity offset scheme threshold without the authority conferred by an approval of the Native Vegetation Panel under Part 2.4*'.

Part 2.3 of the Biodiversity and Conservation SEPP applies to vegetation in any non-rural area of the State that is declared by a development control plan to be vegetation to which that part applies. As detailed in section 2.10 of the Planning Systems SEPP, the Project constitutes SSD and as such DCPs do not apply. By extension, the requirement to consider vegetation under DCP 2022 is not applicable.

4.3.2.3 State Environmental Planning Policy (Resilience and Hazards) 2021

The objective of Resilience and Hazards SEPP is to provide a state-wide planning approach to resilience and hazards. The following chapters of this policy are relevant to the Project:

Chapter 3 Hazardous and offensive development

Chapter 3 of the Resilience and Hazards SEPP outlines the approach to planning and assessing the risks and hazards associated with the development of potentially hazardous or offensive industry. The Resilience and Hazards SEPP outlines matters for consideration for a project which are linked to its safety and pollution control performance. Chapter 3 applies to all projects that fall under the policy's definition of '*potentially hazardous industry*' or '*potentially offensive industry*'.

For projects classified as '*potentially hazardous industry*' the policy establishes a comprehensive test by way of a preliminary screening assessment and PHA to determine the risk to people, property and the environment. This preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant offsite effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site, or transport to and from the site.

In response to the SEARs, a PHA has been prepared to assess potential hazards and risks associated with the Project. The PHA is provided in **Appendix G** and summarised in **Section 6.9**.

Chapter 4 Remediation of Land

Chapter 4 of the Resilience and Hazards SEPP provides a State-wide planning approach for the remediation of contaminated land and aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or the environment. Chapter 4 restricts consent authorities from issuing development consent on land that may be contaminated, unless the consent authority is satisfied that the land in question is suitable for the development proposed to be carried out or would be suitable if appropriate remediation is undertaken.

A search of the NSW Environment Protection Authority (NSW EPA) Contaminated Land Register under section 58 of the *Contaminated Land Management Act 1997* (CLM Act) and the list of NSW contaminated sites notified to the EPA under section 60 of the CLM Act was undertaken as part of the Preliminary and Detailed Site Investigation on 9 September 2024. The search did not identify the site as being contaminated or requiring contamination regulation.

Section 6.4 discusses the risk of existing contamination within the Project Area and the potential for the Project to result in new contamination.

4.3.2.4 State Environmental Planning Policy (Transport and Infrastructure) 2021

The objective of Chapter 2 of the Transport and Infrastructure SEPP is to facilitate the effective delivery of infrastructure across the State.

The site is zoned 'SP2 Infrastructure (Electricity Supply)' under the Strathfield LEP. The Project is characterised as 'electricity generating works', which is permissible with consent in this land use zone. This land use zone is also defined as a 'prescribed non-residential zone' for the purpose of considering the permissibility of 'electricity generating works' in the Transport and Infrastructure SEPP. Section 2.36 of this policy provides that the Project is permissible with consent on the basis of the site's existing land use zoning.

Section 2.48 of this policy relates to determination of development applications that are likely to affect an electricity transmission or distribution network. Specifically, section 2.48(1) states that:

This section applies to a development application... for development comprising or involving any of the following:

- (a) The penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,*
- (b) Development carried out-*
 - a. Within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or*
 - b. Immediately adjacent to an electricity substation, or*
 - c. Within 5m of an exposed overhead electricity power line.*
- (c) [not relevant]*
- (d) Development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.*

Before determining an application to which section 2.48 relates, the consent authority must:

- (a) Give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and*
- (b) Take into consideration any response to the notice that is received within 21 days after the notice is given.*

As the Project would potentially trigger one or more of the above thresholds it is expected the consent authority would consult with the relevant electricity supply authority (which is the same as the applicant).

Section 2.119 of the Transport and Infrastructure SEPP relates to development in or adjacent to road corridors and road reservations. This section restricts the consent authority from granting consent to development on land that has a frontage to a classified road, unless certain conditions are met.

As mentioned in **Section 3.1**, the Project Area borders Homebush Bay Drive to the north and the M4 Western Motorway on-ramp to the west. These are classified roads under the *Roads Act 1993*. As such the requirements of section 2.119 of this policy have been considered in the TIA in (**Appendix J**) and summarised in **Section 6.7**.

4.3.2.5 State Environmental Planning Policy (Sustainable Buildings) 2022

The Sustainable Buildings SEPP aims to improve the overall sustainability of buildings in NSW, including through the recording and monitoring of relevant metrics and the implementation of improved techniques to improve energy, GHG, water and thermal performance.

Section 3.2(1) of this policy provides the following requirements for non-residential development:

In deciding whether to grant development consent to non-residential development, the consent authority must consider whether the development is designed to enable the following:

- (a) the minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials*
- (b) a reduction in peak demand for electricity, including through the use of energy efficient technology*
- (c) a reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design*
- (d) the generation and storage of renewable energy*
- (e) the metering and monitoring of energy consumption*
- (f) the minimisation of the consumption of potable water.*

Furthermore section 3.2(2) indicates that development consent must not be granted unless the consent authority is satisfied with the embodied emissions relating to the development have been quantified.

The Project would provide energy storage. Waste, energy consumption and water use during construction and operation have been considered in **Section 6.11**. The estimated embodied carbon emissions relating to the Project have been quantified in **Appendix N**.

4.3.3 Strathfield Local Environmental Plan 2012

The site is located on land that is zoned 'SP2 Infrastructure (Electricity Supply)' under the Strathfield LEP. The objectives of this land use zone are:

- *To provide for infrastructure and related uses*
- *To prevent development that is not compatible with or that may detract from the provision of infrastructure*
- *To ensure that development does not have an adverse effect on adjoining land.*

As stated in **Section 4.2.2**, the Project is characterised as 'electricity generating works', which is permissible with consent in this land use zone under the Strathfield LEP. Permissibility for the Project is also achieved through the application of section 2.36 of the Transport and Infrastructure SEPP, which prevails to the extent of any inconsistency with the LEP.

The principal development standards and other local provisions under the LEP have been considered in **Table 4-5**.

Table 4-5: LEP provisions

LEP Provision	Compliance
Clause 4.3 Height of buildings	The site does not have a maximum building height under the LEP. As such, this principal development standard does not apply to the Project.
Clause 4.4 Floor space ratio	The site does not have a floor space ratio under the LEP. As such, this principal development standard does not apply to the Project.

LEP Provision	Compliance
Clause 5.10 Heritage conservation	The site is not mapped under the LEP to contain any objects, items or sites of heritage significance. A search of the Aboriginal Heritage Information System (AHIMS) database (DCCEEW, 2024) and a site walkover did not identify any registered Aboriginal sites within the site, as detailed in the Aboriginal and Cultural Heritage Report (ACHAR) in Appendix F and summarised in Section 6.3 .
Clause 5.21 Flood planning	A Planning Certificate requested and received from Strathfield Council (included in Appendix K) identified the site as being within a flood planning area. Flooding impacts are included in the Water Impact Assessment (WIA) in Appendix K and summarised in Section 6.8 .
Clause 6.1 Acid sulfate soils	The site is mapped under the LEP as being potentially affected by Class 2 and 5 ASS. Section 6.4 of the EIS considers matters relevant to this clause.

4.3.4 Other relevant NSW Legislation

4.3.4.1 *Aboriginal Land Rights Act 1983*

The *Aboriginal Land Rights Act 1983* (ALR Act) was established to return land in NSW to Aboriginal peoples through lodging claims for certain Crown land. The Act, administered by the NSW Department of Aboriginal Affairs is a compensatory regime, which recognises that land is of spiritual, social, cultural and economic importance to Aboriginal people.

The ALR Act establishes the NSW Aboriginal Land Council (NSWALC) and a network of over 120 Local Aboriginal Land Councils (LALCs) and requires these bodies to:

- Take action to protect the culture and heritage of Aboriginal persons in the LALC's area, subject to any other law
- Promote awareness in the community of the culture and heritage of Aboriginal persons in the LALC's area.

LALCs constituted under the ALR Act can make claims in respect of 'claimable Crown land'. The Registrar of the ALR Act must maintain the Register of Aboriginal Land Claims under section 166 of the ALR Act. All land claims that have been made under the ALR Act are recorded in the Register.

The site is owned by Ausgrid and there are no active Aboriginal Land Claims over the Project Area.

4.3.4.2 *National Parks and Wildlife Act 1974*

The *National Parks and Wildlife Act 1974* (NPW Act), administered by NSW DCCEEW, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Chief Executive responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined as follows:

- *An Aboriginal object is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of the area that compromises NSW, being habitation before concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains)*
- *An Aboriginal place is a place so declared by the Ministers under section 84 of the NPW Act because in the opinion of the Minister, the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.*

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them and includes a 'strict liability offence' for such harm. A 'strict liability offence' does not require someone to know that it is an Aboriginal object or place they are harming to be prosecuted. Defences against the 'strict liability offence' in the NPW Act include the carrying out of certain 'Low Impact Activities', prescribed in clause 58 of the *National Parks and Wildlife Amendment Regulation 2019*, and the demonstration of due diligence.

An AHIP is required under section 90 of the NPW Act before harming or desecrating an Aboriginal object, otherwise, such action is an offence under the NPW Act. Despite this, under section 4.41 of the EP&A Act, an AHIP is not required for SSD. Instead, potential impacts to Aboriginal heritage are typically managed under an ACHAR, required under relevant conditions of consent.

An ACHAR has been completed for the Project and is provided in **Appendix F** and summarised in **Section 6.3**.

4.3.4.3 Water Management Act 2000

The *Water Management Act 2000* (WM Act) aims to ensure that water resources are conserved and properly managed for sustainable use benefiting both present and future generations. The Act also provides formal means for both the protection and enhancement of the environmental qualities of waterways and their in-stream uses, as well as to providing for the protection of catchment conditions.

Freshwater sources in NSW are managed via water sharing plans (WSP) established under the WM Act. Key rules within a WSP specify when licence holders can access water and how water can be traded.

The Project Area is covered by the WSP for the Greater Metropolitan Region Groundwater Sources 2023, established in accordance with section 50 of the WM Act.

Water supply during construction is expected to be externally sourced and delivered to the site via a water tanker, or via a new potable water connection installed for the Project and therefore a licence under this Act is not required.

The WM Act specifies certain activities as controlled activities when carried out on waterfront land. This is defined as within 40 m of the banks of a river, lake or estuary (or as prescribed by the regulations). The Project is not within 40 m of a river, lake or estuary, and therefore a controlled activity approval is not required under section 91 of the WM Act. The nearest watercourses to the site are Saleyards Creek, an ephemeral open drainage channel of shallow depth, located 100 m east of the site and Powells Creek, highly modified watercourse, located approximately 600 m north-east of the site. The potential for the Project to affect waterways is discussed in **Section 6.8**.

The WM Act also provides for the need to obtain an aquifer interference approval under certain circumstances. Section 4.41 of the EP&A Act does not remove the requirement for obtaining an aquifer interference approval, however this is only relevant if there is more than 3 megalitres (ML) of water extracted from an aquifer in a year. The Project will not extract groundwater and therefore an aquifer interference approval will not be required.

4.3.4.4 Protection of the Environment Operations Act 1997

The objectives of the POEO Act include to rationalise, simplify, and strengthen the regulatory framework for environment protection. Chapter 3 and Schedule 1 of the POEO Act outlines the specific circumstances under which an EPL must be obtained for a development.

Clause 17 of Schedule 1 lists general electricity works as a scheduled activity where they exceed the capacity to generate 30 MW. However, the Project only stores electricity rather than generating it, and therefore an EPL is not required for the Project.

4.3.4.5 Contaminated Land Management Act 1997

The general objective of the CLM Act is to establish a process for investigating and (where appropriate) remediate land that the NSW EPA considers to be contaminated enough to require regulation under Division 2 of Part 3 of the Act.

A search of the NSW EPA Contaminated Land Register, undertaken as part of the Preliminary and Detailed Site Investigation on 9 September 2024, confirmed that the Project Area is not listed as a notified contaminated site under the CLM Act.

The Preliminary and Detailed Site Investigation Report, provided in **Appendix G** details the risk of existing contamination within the site and potential for the Project to result in contamination impacts to any receiving environments. The results are summarised in **Section 6.4**.

4.3.4.6 Biodiversity Conservation Act 2016

The purpose of the *Biodiversity Conservation Act 2016* (BC Act) is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future.

Section 7.9(2) of the BC Act states that a development application for SSD is to be accompanied by a BDAR (as defined under section 7.1 of the BC Act), unless both the Planning Secretary and the Environment Agency Head determine that the proposed development is not likely to result in a significant impact on biodiversity values.

A BDAR has been prepared for the Project in accordance with the Biodiversity Assessment Method (BAM) 2020. The BDAR is included in **Appendix E** and summarised in **Section 6.2**.

The BDAR outlines the measures that have been incorporated into the Project's design or would be implemented during construction and operation of the Project, to avoid, reduce or offset impacts on biodiversity values.

The BDAR includes an outline of the biodiversity credits required to offset the impacts of the Project.

On the basis that the mitigation measures provided in **Section 6.2.5** and **Appendix D** are implemented, the Project is considered consistent with the objectives of the BC Act.

4.3.4.7 Biosecurity Act 2015

The *Biosecurity Act 2015* manages the risk of biosecurity risks across the State in an integrated manner.

The Act includes a general biosecurity duty for all individuals who deal with plants known or likely to pose a biosecurity risk. This includes a duty to prevent, eliminate or minimise the risk posed by a prohibited matter (priority weed) as outlined in Schedule 2 of the Act so far as is reasonably practicable.

Section 6.2 considers weeds declared as priority weeds in the Strathfield LGA that occur within and surrounding the site and provide measures to manage this.

4.3.4.8 Roads Act 1993

An objective of the *Roads Act 1993* is to confer certain functions (in particular, the function of carrying out road work) on Transport for NSW and on other roads authorities. Section 7 defines the respective road authorities depending on the classification of the road. Of relevance to this Project is Homebush Bay Drive and M4 Western Motorway On-ramp, which are classified roads under the *Roads Act 1993*.

Section 138 of the outlines that a person must not erect a structure or carry out a work in, on or over a public road otherwise than with the consent of the appropriate road's authority. The Project would not require works within road reserve areas. As such, approval under section 138 would not be required.

4.3.4.9 Heritage Act 1977

The *Heritage Act 1977* aims to promote an understanding of heritage, encourage conservation and provide for protection of NSW State heritage. Heritage significance can relate to historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values of a place, building, work, relic, moveable object or precinct.

No items of heritage significance were identified within the site. Two local heritage items listed under the Strathfield LEP were identified around 160 m and 180 m to the south-west of the Project, however these are not expected to be affected by the Project and as such the provisions of this Act are not relevant to the Project.

4.3.5 Commonwealth Legislation

4.3.5.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) provides for the preservation and protection of places, areas and objects of particular significance to Indigenous Australians. The ATSIHP Act can override state and territory laws in situations where a state or territory has approved an activity, but the Commonwealth Minister prevents the activity from occurring by making a declaration to protect an area or object.

No declarations relevant to the site have been made under the ATSIHP Act.

4.3.5.2 Airports Act 1996 and Airports (Protection of Airspace) Regulations 1996

The *Airports Act 1996* (Airports Act) and the *Airports (Protection of Airspace) Regulation 1996* (Airports Regulation) establish a framework for the protection of airspace at and around airports.

The site is located approximately 11.5 km north-east of Sydney (Kingsford Smith) Airport, which meets the definition of a 'core regulated airport' to which Part 12 of the Airports Act applies.

Tall structures can impact on flight paths to and from airports. Guidance related to the operation of cranes and tall structures in the vicinity of airports and aerodromes is provided by the Civil Aviation Safety Authority (CASA), pursuant to AC 139-07(2) – *CASA Advisory Circular – Reporting of Tall Structures* (Civil Aviation Safety Authority, 2021) (Advisory Circular). The Advisory Circular provides instructions to seek approval from the Air Base Command Post (ABCP) to erect a crane or tall structure (exceeding 30 m above ground level (AGL)) within 15 km of the airport. The Advisory Circular requires that applicants provide an application to the ABCP at least two business days prior to the intended use of a crane or the erection of a tall structure.

The Project would involve the temporary use of tall equipment such as cranes during construction. Despite the Project being located within 15 km of Sydney (Kingsford Smith) Airport, the tall structures proposed to be used would not exceed 30 m AGL and therefore an application to the ABCP would not be required.

4.3.5.3 Environmental Protection and Biodiversity Conservation Act 1999

Section 18 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires a proponent of a development or activity to obtain approval from the Commonwealth Minister for the Environment and Water when undertaking an activity which is likely to cause a significant impact to a MNES. MNES include threatened species or ecological communities listed under the EPBC Act, among others.

If the Project is likely to result in a significant impact to a MNES, a referral to the Commonwealth Minister for the Environment and Water would be required to determine whether the Project is a controlled action or if it can be undertaken in a particular manner to adequately mitigate potential impacts. If the Project constitutes a controlled action, it will be subject to further assessment before a determination can be made by the Commonwealth Minister for the Environment and Water regarding whether it can be carried out, including under certain conditions.

A search of the EPBC Act Protected Matters Search Tool (PMST) (DCCCEW, 2025) was undertaken on 9 January 2025 for MNES within 5 km of the site. The search identified the matters as outlined in **Table 4-4**. Further details are included in **Appendix E**.

Table 4-6: Results of the EPBC Act PMST

Matter	MNES within 5 km of the site
World heritage properties	None
National heritage places	None
Wetlands of International Importance (listed under the Ramsar Convention)	None
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	11
Listed Threatened Species	9
Listed Migratory Species	56

The BDAR (as summarised in **Section 6.2** and provided in **Appendix E**) has identified threatened or migratory biodiversity listed under the EPBC Act that may be potentially affected by the Project. The BDAR outlines that the Project is not expected to significantly impact on any MNES and therefore a referral would not be required.

4.3.5.4 Native Title Act 1993

The *Native Title Act 1993*, as amended, provides recognition and protection of native title for Aboriginal peoples and Torres Strait Islanders.

Native title is recognised where the rights and interests of over land or waters where Aboriginal and Torres Strait Islander practiced traditional laws and customs prior to the arrival of European settlers, and where these traditional laws and customs have continued to be practiced.

The *Native Title Act 1993* also makes provision for Indigenous Land Use Agreements (ILUA) to be formed, as well as a framework for notifying native title stakeholders for certain future acts on land where native title has not been extinguished.

The National Native Title Tribunal (NNTT) was established to mediate native title claims made under this Act. Three registers are maintained by the NNTT, as follows:

- National Native Title Register
- Register of Native Title Claims
- Register of Indigenous Land Use Agreement.

Searching the NNTT registers allows identification of potential Aboriginal stakeholders who may wish to participate in consultation. A search of all three registers via Native Title Vision (NNTT, 2025) did not identify any claims over the site.

5.0 Community and stakeholder engagement

5.1 Introduction

This chapter summarises the engagement activities undertaken by Ausgrid throughout the development of the Project and this EIS. Engagement commenced with AEMO in July 2024 and with the community and stakeholders in August 2024. Ausgrid propose to continue consultation throughout the development of the Project.

Consultation of the Project has been guided by Ausgrid's commitment to establishing and maintaining authentic relationships with interested stakeholders and the community. Throughout this process Ausgrid has aimed to demonstrate a commitment to transparency, accountability and meaningful community engagement that adequately informs the community, solicits relevant feedback and contributes to shaping the design and development of the Project.

5.2 Engagement objectives and approach

5.2.1 Engagement purpose and objectives

The purpose of the engagement undertaken for the Project was to provide information about the Project's scope and benefits, outline potential social and environmental impacts, and understand community sentiment and concerns.

The engagement objectives for the Project included:

- Building awareness and understanding of the Project and its benefits alongside broader business commitments with key stakeholders
- Informing Project design and mitigation measures for potential social and environmental impacts by seeking to understand community sentiment and concerns
- Seeking early stakeholder involvement in the development of the Project's design and delivery strategy.

5.2.2 Engagement principles and approach

The specific approach to engagement for this Project was underpinned by Ausgrid's five key engagement principles: Accountable, Inclusive, Collaborative, Dynamic, and Transparent. Ausgrid's engagement principles are set out in the following:

- *Ausgrid's Community Engagement Handbook* (Ausgrid, 2023a)
- *Environmental Handbook NS174c* (Ausgrid, 2023b)
- *Engagement Framework 2024-2029 Regulatory Proposal* (Ausgrid, 2022).

The approach to engagement for this Project was also designed to align with the following:

- Consultation requirements as set out in the Project SEARs
- *Undertaking Engagement - Guidelines for State Significant Projects* (DPHI, 2024)
- *Community Participation Plan* (DPIE, 2019a)
- *IAP2 Public Participation Spectrum* (International Association for Public Participation, 2015)
- Lessons learned from other large electrical infrastructure projects undertaken by Ausgrid across NSW.

5.2.3 Community participation objectives

State significant projects, by their nature, are likely to affect a diverse range of stakeholders. To effectively engage, Ausgrid has adhered to DPHI's community participation objectives, as per the *Community Participation Plan* (DPIE, 2019a). The objectives and how the engagement undertaken for this Project addresses them are detailed in **Table 5-1**.

Table 5-1: Community participation objectives

Objectives	Actions	How it is addressed
Open and inclusive	Keep the community informed	Newsletters were distributed to the local community to inform them about the Project, potential impacts, promote participation in upcoming engagement opportunities and provided methods to provide their input. Letters were delivered to adjacent properties, to inform about the Project. Community input collected through engagement at information sessions, meetings, online survey and through the Project inbox.
	Promote participation	
	Seek community input and accurately capture community views	
	Build strong partnerships with the community participation	A Community Reference Group will be established in the next phase to provide feedback on future phases, as required. The Community Reference Group may also be consulted on program-wide initiatives such as a social value framework.
	Incorporate culturally appropriate practices when engaging Aboriginal Torres Strait Islander and culturally and linguistically diverse communities	Aboriginal and Torres Strait Islander consultation was undertaken in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (NSW Department of Environment, Climate Change and Water (DECCW), 2010a), which establishes the requirements for consultation with Aboriginal stakeholders as part of the heritage assessment process to determine potential impacts of proposed activities on Aboriginal objects and places. Newsletters and factsheets were provided at information sessions and online in community language (Simplified Chinese) to accommodate the largest group of non-English speakers. About half of the community speak English only, or well.
Easy access	Conduct community participation initiatives in a safe environment	Community engagement was conducted at local centres including Strathfield Library and Innovation Hub, Homebush Train Station and Mason Park. Online platforms (dedicated Project webpage and online survey) facilitated inclusive participation and accessibility by making information and feedback mechanisms available at a time and place that best suits community.
	Outline in advance how and when the community can participate	All communication materials have provided detail on how the community can express their views and to continue to be engaged throughout the process.
	Use best practice community participation techniques	The engagement process adheres to best practice guidelines outlined in Section 5.2.2 .
	Make relevant information available in plain English and translate information when engaging linguistically diverse communities or people living with disabilities	The information that was distributed and communicated with the community and other key stakeholders was in plain English and used images to communicate clearly. The Project newsletter and factsheets were translated into simplified Chinese and made available on the Project webpage.

Objectives	Actions	How it is addressed
	Incorporate visual representations to clearly illustrate possible impacts of a proposal	Maps showing the property boundary, footprint of the Project, and local landmarks (roads) were used to help describe the Project to the community.
	Ensure information is accessible for groups who find it difficult to participate in usual community participation activities	The engagement process included a variety of methods for community members to provide feedback i.e. phone calls, email, online survey website with factsheets and newsletters, outlined in Table 5-5 .
	Stage events at convenient times and locations	Community engagement was conducted at local centres including Strathfield Library and Innovation Hub, Homebush Train Station and Mason Park.
Relevant	Establish what things can be discussed	Items discussed during engagement are outlined in Table 5-6 .
	Ensure as many community members as possible can participate	Various opportunities for engagement were provided to cater for people of all abilities and individual circumstances. These activities are outlined in Table 5-5 .
	Recognise previous community input on the project and similar issues	The approach to engagement is guided by Ausgrid's <i>Community Engagement Handbook</i> , which is informed by Ausgrid's experiences engaging with community on infrastructure projects. Community feedback about similar projects informed the development of communications material.
	Tailor activities to the: - context, which could include location, type of application, stage of the assessment process, previous engagement undertaken; and - scale, nature and known impacts for the proposal	The extent and purpose of each engagement activity is outlined in Table 5-5 .
	Adjust activities (if necessary) in response to community interest and participation preferences	The Project name was changed based on local council feedback. The engagement methods were changed from online to in-person at local community venues, in response to very low interest in a webinar and to increase participation.
Timely	Start community participation as early as possible, and continue for an appropriate period	Engagement began in July 2024 and has continued until April 2025.
	Provide regular project updates to the community	Newsletters are distributed to local community members at key milestones and interested parties can access the Project website.
	Ensure the community has reasonable time to provide input	Community was able to provide input across 6 months.

Objectives	Actions	How it is addressed
	Facilitate ongoing discourse with local community networks	Section 5.5 and Section 5.5.2 outlines the opportunities for future community consultation and engagement.
	Consider holidays and other community events when setting dates for engagement initiatives	Engagement activities were not conducted during any local holiday periods and were outside any significant holiday periods.
Meaningful	Always explain at the end of projects how community views were considered when reaching decisions	Section 5.4.1 discusses how the community views were used to inform mitigation measures. At key milestones, an update will be distributed to community members explaining what was heard and how feedback was considered in the Project.
	Be clear about what aspects of a plan, project or proposal the community can inform	Communications material and conversations clearly articulated the purpose, scope and location of the Project and sought feedback on potential impacts on the environment and local community.
	Have planners and decision makers engage directly with the community	Representatives from the Project team attended information sessions, and stakeholder meetings, and engaged directly with community, near neighbours and stakeholders.
	Ensure responses to community input are relevant and proportionate	As outlined in Section 5.4.1 , community input was assessed in this EIS and used to inform the Project's mitigation and management measures, as necessary.
	Give genuine and proper consideration to community input	As outlined in Section 5.4.1 , community input was assessed in this EIS and used to inform the Project's mitigation and management measures, as necessary.
	Keep accurate records of community input and participation activities	Records of community input have been retained, and results are summarised in Appendix C .
	Review the effectiveness of community participation initiatives regularly	Engagement was reviewed at the end of each stage. Review following submission of the Scoping Report resulted in expansion of the letterbox drop area to reach a wider area of the local community.
	Integrate community input into the evaluation process	Community input was collated and any concerns raised have been assessed in this EIS and, as necessary, addressed through the Project's mitigation and management measures. Key issues identified by community members are outlined in Section 5.4.1 .
	Comply with statutory obligations, protect privacy and respect confidentiality	The engagement undertaken complies with all statutory obligations which are detailed in Chapter 4.0 . Details of community members who were consulted and provided input were omitted from any and all documented feedback.

5.2.4 Stages of the engagement process

The engagement process for the Project has been based on four distinct stages:

- **Scoping report consultation:** Early communication to introduce the Project and collect initial feedback on the Project
- **EIS preparation:** Collect community feedback on the Project to inform the development of the EIS
- **EIS exhibition:** Notify and outline the detail of the Project to the community and stakeholders and to collect feedback via the submissions process
- **Ongoing engagement:** Keep stakeholders informed about Project approval and construction.

5.2.5 Consistency with DPHI guidelines

Table 5-5 outlines the consistency of the Project's engagement process with the *Undertaking Engagement – Guidelines for State Significant Project* (DPHI, 2024) guidelines.

Table 5-2: Consistency of engagement process with DPHI guidelines

DPHI guidance	EIS approach
Plan early	Ausgrid developed a Community and Stakeholder Engagement Plan at the Project outset to guide engagement throughout early planning and the EIS development.
Engage as early as possible	Engagement efforts commenced in July 2024, with letters of introduction distributed to key stakeholders. Other early engagement activities included a briefing with Strathfield Council, as well as phone calls and emails to arrange briefings with immediate neighbours and Members of Parliament (MPs).
Ensure engagement is effective	The engagement approach provided community and stakeholders with information about the Project and its potential impacts, by using a range of communication tools, including meetings, newsletters, website and factsheets. All material was in plain English and used visual communications where possible to explain technical concepts, making the project information inclusive and accessible for the community. The Project newsletter and factsheets were translated into simplified Chinese and made available on the Project webpage. The approach provided information up front for community and stakeholders to understand, ahead of participating in information sessions, meetings or online survey to provide their feedback. There has been ongoing engagement with neighbouring stakeholders to establish a productive working relationship and understand concerns and opportunities relating to impacts and mitigation measures.
Ensure engagement is proportionate to the scale and impact of the Project	The engagement process has included consultation with numerous stakeholders that have an interest or would be otherwise impacted by the Project. Stakeholders included local MPs and Strathfield Council, to immediate neighbours and local businesses in the vicinity of the Project, interested community members, and relevant First Nations parties. A variety of communication and engagement tools were used to inform these stakeholders on the opportunities that the Project presents for the region, as well as provide opportunity for feedback. The engagement process adopted is in line with other SSD BESS projects and is proportional to the Project's scale and likely impacts.

DPHI guidance	EIS approach
Be innovative	The engagement strategies and communication tools identified were tailored to the stakeholders and community surrounding the Project. The combination of face-to-face and online tools were used. In-person information sessions were in local centres to increase engagement reach through intercepting local residents and providing convenient and accessible venues for interested community members. Face-to-face meetings with key stakeholders and near neighbours provided opportunities to build productive relationships and trust with the Project team. Online tools (survey and dedicated Project email and phone line) were used to collect community feedback in a way that is convenient and easy to participate in.
Be open and transparent about what can be influenced	Ausgrid was up front in all interactions with the stakeholders about what feedback they were seeking. Communications material clearly articulated what could be influenced and why Ausgrid was seeking community and stakeholder feedback. Feedback collected is outlined in Section 5.4.1 . Further details are included in Appendix C .
Implement the community participation objectives	To engage effectively, the community participation objectives were implemented (see Section 5.2.1). Table 5-3 shows how the community participation objectives were addressed through the engagement process.

Engagement for SSD projects needs to consider the requirements for effective engagement techniques, as set out in *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024). **Table 5-3** details how the Project addresses these matters.

Table 5-3: Requirements for effective engagement

Objective	How this has been addressed during engagement
Identify the people or groups who are interested in or are likely to be affected by the project	Prior to engagement, stakeholders were mapped and consideration was given to who would be potentially impacted by, and interested in, the Project.
Use appropriate engagement techniques. This includes: - considering the accessibility of how information is delivered - the avoidance of technical language and jargon so information can be easily interpreted by the audience - the adoption of non-written forms of engagement, where needed	Appropriate engagement techniques were identified to effectively engage people and seek their feedback on the Project. Communications materials were designed to ensure they were accessible to a broad audience, written in plain English and used visual tools to explain technical concepts, simply. The Project newsletter and factsheets were translated into simplified Chinese and made available on the Project webpage.
Ensure the community are provided with safe, respectful and inclusive opportunities to express their views	A broad variety of different engagement methods have been offered and undertaken, providing people from different backgrounds methods of engagement that suit them.
Involve the community, councils and government agencies early in the development of the proposal, to enable their views to be considered in project planning and design	Engagement for the Project commenced prior to the scoping stage and has continued to date. This has covered a broad cross section of stakeholders, including near neighbours, local community, Strathfield Council and government agencies. Stakeholder feedback has been considered, and key concerns have been assessed in this EIS and, as necessary, addressed through the Project's mitigation and management measures.

Objective	How this has been addressed during engagement
Be innovative in their engagement approach and tailor engagement activities to suit the: • context (e.g. sensitivity of the site and surrounds) • scale and nature of the project and its impacts • level of interest in the project.	The communication and engagement techniques used have been designed to be proportional to the scale and nature of the Project and its impacts. Communication has responded to the level of interest shown by the community and other stakeholders.
Provide clear and concise information about what is proposed and the likely impacts for the relevant people or group they are engaging with	Communication materials used plain English, maps and infographics and included newsletters, factsheets and information boards. This material is also accessible on the project webpage.
Make it easy for the community to access information and provide feedback	Newsletters, outlining the Project, impacts and how to provide feedback, were distributed to local residents and businesses. Near neighbours were door-knocked. All communications materials have included QR codes and links to webpages where all project information is housed. Feedback has been collected through direct conversation at in-person events, online survey and emails to a dedicated Project inbox.
Clearly outline how and when the community can be involved in the process	All communication materials have provided detail on how the community can express their views and to continue to be engaged throughout the development proceed.
Seek to understand issues of concern for all affected people and groups and respond appropriately to those concerns	A variety of key stakeholders were reached out to (refer to Section 5.3) to ensure all voices were heard. Concerns raised by the key stakeholders are outlined in Section 5.4.1 and detailed further in Appendix C.
Provide feedback about how community and stakeholder views were used to shape the project or considered in making decisions	Feedback included concerns around visual amenity, noise, traffic, access, hazards and general environmental impacts. While no changes to Project infrastructure are needed, mitigation and management measures to address impacts have been considered and are included in Appendix D.
Be able to demonstrate how the demography of the area affected has been considered in how and what engagement activities have been undertaken.	A community profile was developed. Based on this, communications materials were developed using plain English and visual communications to support accessibility. The Project newsletter and factsheets were translated into simplified Chinese and made available on the Project webpage. All material was made available online and pop-ups were held in local community venues to intercept a wide cross-section of the local community.

5.3 Stakeholders engaged

A stakeholder mapping exercise was carried out to identify stakeholders, landholders and the local community that would be likely to have an interest or be affected by the Project. A full list of the stakeholders engaged is provided in **Table 5-4**.

Table 5-4: Stakeholders engaged

Category	Stakeholder
Immediate neighbours	- DFO Homebush - Fulton Hogan Egis WestConnex
Adjacent properties/landowners	- Police Citizens Youth Clubs (PCYC) NSW - Homebush Business Village - Oscar Auto Solutions - Homebush Cakes - Midfield Trading Co - Sneaking Kitchen - Abyss Solutions - Made By Cow - Microrentals - Cloud Online Backup Solutions - Basketball NSW - Swimming NSW - Optus Business Centre Sydney Inner West - BPT Intercoms
Sensitive receivers – within 400 m of the Project	Kinda-Mindi Early Learning, Flemington
Sensitive receivers – more than 400 m from the Project	Childcare - Papilio Early Learning, North Strathfield - Montessori North Strathfield - Lighthouse Childcare North Strathfield - Only About Children, Concord
	Places of Worship - Our Lady of the Assumption, Homebush - St Dominics Catholic Church, Homebush West - Korean Presbyterian Church, Strathfield - Ukrainian Autocephalic Orthodox Church Intercession of the Holy Virgin, Strathfield - St Anne's Anglican Church, Strathfield
	Educational facilities - Victoria Avenue Public School, Concord - Homebush Public School - Homebush West Public School - Homebush Boys High School
Elected officials	Local Government - Strathfield Council - Canada Bay Council
	State Government Office of Stephanie Di Pasqua MP, State Member for Drummoyne
	Federal Government Office of Sally Sitou MP, Federal Member for Reid
Regulatory and planning agencies	- DPHI - AEMO

Category	Stakeholder
State Government agencies	• Office of the Register Aboriginal Land Rights Act • Heritage NSW • Transport for NSW • Ambulance NSW • Fire and Rescue NSW
Utilities	• Transgrid • APA Group
Local Aboriginal Land Council	• Metropolitan LALC
Traditional Owners and Aboriginal Groups	• Dharug Custodian Aboriginal Corporation • Didge Ngunawal Clan • Ngambaa Cultural Connections • Thomas Dahlstrom • Long Gully Cultural Services • Pearl Dipoma

5.4 Engagement undertaken

The Project sought to employ numerous avenues for consultation and feedback to ensure a broad and inclusive approach to engagement. **Table 5-5** provides an overview of the engagement activities undertaken to date, including the specific stakeholders and community members engaged. A detailed table of the engagement activities undertaken is provided in **Appendix C**.

Table 5-5: Overview of engagement undertaken

Feedback mechanism	Description	Engaged stakeholder/s	Stage	Summary
Briefings and meetings (formal and informal)	Briefings provided an opportunity to inform council and other key stakeholders on any updates to the Project as well as providing an initial platform for any feedback or concerns on the potential risks and impacts. Virtual meetings were organised to accommodate those who could not attend in-person sessions, ensuring inclusivity and accessibility.	- Elected officials - Regulatory and planning agencies - Utilities	- Scoping report consultation - EIS preparation	10 meetings held
Pop-up events	Ausgrid hosted three pop-up information sessions to provide opportunities for direct engagement with the Ausgrid Project team, as follows: Thursday 21 November 2024, 10am – 12pm at Strathfield Library and Innovation Hub, 65 Rochester Road, Homebush Tuesday 26 November 2024, 7am – 9am at Homebush Train Station Forecourt, Loftus Crescent, Homebush Saturday 30 November, 9:30am – 11:30am at Mason Park, Underwood Road, Homebush. The sessions allowed community members to ask questions, share feedback, and learn more about the Project's local benefits and potential impacts in a face-to-face setting.	- Adjacent properties/landowners - Sensitive receivers	EIS preparation	3 community pop-ups held 21 community members attended

Feedback mechanism	Description	Engaged stakeholder/s	Stage	Summary
Emails	Targeted emails were sent to stakeholders, providing detailed information about the engagement process and inviting them to participate. Ongoing email communication allowed stakeholders to digitally engage and Ausgrid to respond to inquiries, provide updates, and maintain an open line of communication with stakeholders. They are beneficial to those who were unable to attend in-person or online briefings.	• Adjacent properties/landowners • Sensitive receivers – within 400 m • Elected officials • Regulatory and planning agencies • State government agencies • Agency stakeholders • Utilities • LALC • Government agencies.	• Scoping report consultation • EIS preparation	• 21 stakeholders engaged via email
Phone calls	Direct conversations with stakeholders through phone calls helped gather feedback and address concerns personally and promptly.	• Elected officials • Community members • Adjacent properties/landowners • Sensitive receivers – within 400 m	• Scoping report consultation • EIS preparation	• 8 phone calls made
Door knocking and letterbox drops	Personalised outreach efforts involved visiting local residents and businesses to engage directly and collect their input, ensuring they were aware of and involved in the engagement process. Community newsletters were distributed in September 2024, November 2024 and April 2025, both electronically and in print, to keep stakeholders informed about the Project and upcoming engagement events.	• Adjacent properties/landowners • Sensitive receivers – within 400 m • Sensitive receivers – more than 400 m • Residential community • State government agencies • Elected officials.	• Scoping report consultation • EIS preparation	• 94 homes door knocked • 18 door knock conversations held • 45 ‘Sorry we missed you’ contact cards delivered • 26,900 newsletters delivered, providing three Project updates
Online surveys	An open communication platform where all members of the public could access information and engage with Ausgrid directly to give their opinion on the Project.	• All members of the public	• Scoping report consultation • EIS preparation	• 11 surveys completed

Feedback mechanism	Description	Engaged stakeholder/s	Stage	Summary
	Surveys were distributed to stakeholders to gather comprehensive feedback and insights on various aspects of the Project, helping to shape its direction and implementation.			
Dedicated Project webpage	A dedicated webpage which provides Project information, an online survey and contact information.	All members of the public	- Scoping report consultation - EIS preparation	1,900 page views 949 unique visitors 1,111 document downloads
Online webinar	An online webinar was planned for 17 October 2024 to provide more information about the Project and introduce the Project team to interested local community members.	All members of the public	Scoping report consultation	Only one registration was received, and the webinar was cancelled. The registrant was offered a phone call to discuss the Project

5.4.1 Key issues raised by stakeholders

Table 5-6 outlines the key issues that were raised during the engagement process and where they have been addressed in the EIS. Key issues raised during engagement have been assessed in this EIS and, as necessary, addressed through the Project's mitigation and management measures.

Table 5-6: Key issues raised during engagement

Issue category	Issues raised	Who raised the issue	Where addressed in the EIS
Environmental impacts	An interest was shown in the Geotechnical studies undertaken due to history of site	Strathfield Council	Section 6.4
	Preference for alternative energy sources	Local residents	Chapter 2.0
	Interest in nature-positive strategies	- Community members (not specified) - Survey responses	Chapter 3.0
	Concerns around environmental impacts generally	- Office of Stephanie di Pasqua MP - Regulatory and planning agencies - Community members (not specified)	Chapter 6.0
Noise and vibration	Concerns around noise and vibration impacts	- Immediate neighbours - Office of Stephanie di Pasqua MP - Community members (not specified) - Survey responses - Local residents	Section 6.6
Biodiversity	Impact on local wildlife and desire for vegetation to be retained	Community members (not specified)	Section 6.2
Traffic disruption	Local traffic impacts and congestion	- Immediate neighbours - Local residents - Survey responses	Section 6.7
Power outages	Concerns raised about potential power outages	- Immediate neighbours - State Government agencies	Chapter 3.0
Site access	Concerns raised about accessing the site and the use of the shared driveway	Immediate neighbours	Chapter 3.0
Visual impact	Concerns around how the Project will impact the visual aesthetic	Survey responses	Section 6.5
Economic	Interest in the economic benefits	Office of Stephanie di Pasqua MP	Section 6.10
Hazardous materials and risk	Concerns raised about fire risk management, the presence of toxins	Office of Stephanie di Pasqua MP	Section 6.9

Issue category	Issues raised	Who raised the issue	Where addressed in the EIS
	and materials leaching into the ground	- Community members (not specified) - Local residents - Survey responses	
Electricity cost	Impacts on the cost of electricity	- Community members (not specified) - Survey responses	Chapter 3.0
Site location	Concerns around the residential location of the Project	Community members (not specified)	Chapter 3.0
	Consideration for adequate battery unit separation distances in site design	- Regulatory and planning agencies - Survey responses	
Communication	Interest in engagement efforts	Office of Stephanie di Pasqua MP	This chapter (Chapter 5.0)
		Community members (not specified)	
BESS strategy	Supporting the BESS strategy and connections process	- Regulatory and planning agencies - Utilities - Community members (not specified)	Chapter 2.0
	Wanted to understand the difference between BESS and personal batteries	Local residents	Chapter 3.0

5.5 Future consultation and engagement

5.5.1 EIS exhibition period

During the EIS exhibition period stakeholders will be able to view and download electronic copies of the EIS on the DPHI Major Projects website (<https://www.planningportal.nsw.gov.au/major-projects>). Submissions may be made directly through the website, or by email or letter directly to Ausgrid.

A third community newsletter will also be distributed to residents and businesses in mid-2025. This newsletter will outline the key feedback received from community and stakeholders during the preparation of the EIS, key findings from technical studies and the next steps in the planning and approvals pathway. This will include a notification about the process for providing a formal submission on the EIS.

Table 5-7 provides detail on the engagement activities Ausgrid proposed to undertake during the EIS exhibition period.

Table 5-7: Proposed future consultation and engagement activities

Activity	Engagement method	Purpose	Target stakeholder group
Stakeholder letters	Stakeholder letters	- Announce EIS exhibition period and invite feedback via Planning Portal - Offer briefing or meeting to continue to discuss concerns, issues and opportunities.	- Immediate neighbours - Local government and elected officials - Government agencies - First Nations
Website update	Website – update content	- Announce EIS exhibition period and invite feedback via Planning Portal - Promote engagement activities and key dates.	All stakeholders
Door knocking	Distribute community newsletter	- Provide update on EIS status - Encourage formal feedback via Planning Portal.	Adjacent properties
Stakeholder meetings, as required	- Face-to-face meetings - Phone calls - Briefing packs	- Provide update on previous issues, questions raised, and overview of relevant EIS content - Understand concerns, issues and risks - Encourage formal feedback via Planning Portal.	- Immediate neighbours - Local government and elected officials - Government agencies - First Nations
Preparation of submissions report	- Publish media release on the Project website - Update the Project webpage - Send email to stakeholders and registered community members.	Outline and summarise the community input and make that information available to the public.	- Immediate neighbours - Local government and elected officials - Adjacent properties - Sensitive receivers - First Nations - Local community

5.5.2 Ongoing engagement

Ausgrid aims to continue community engagement throughout the development and construction of the Project. Ausgrid will continue to engage with stakeholders, including Strathfield Council, immediate neighbours, Transport for NSW, Fire and Rescue NSW and First Nations stakeholders, to provide updates and gather further input as required.

Open communication channels will be maintained through the dedicated Project webpage, phone line and email, and community newsletters to keep stakeholders informed about Project progress and developments.

6.0 Assessment of environmental impacts

6.1 Overview

This section documents a range of environmental assessments. These assessments identify potential environmental impacts that may result from the Project and identify measures to manage or mitigate these impacts as appropriate.

Potential impacts were determined for the following environmental matters:

- Biodiversity
- Aboriginal heritage
- Land use, soils and contamination
- Visual amenity
- Noise and vibration
- Traffic and transport
- Surface water, groundwater and flooding
- Hazards and risk
- Social and economic
- Other issues:
 - Non-Aboriginal heritage
 - Waste
 - Air quality
 - Embodied carbon emissions.

6.2 Biodiversity

6.2.1 Secretary Environmental Assessment Requirements

Table 6.2-1 sets out the SEARs relevant to biodiversity and where the requirements have been addressed in this EIS.

Table 6.2-1: Relevant SEARs - biodiversity

Relevant SEARs	Where addressed
Biodiversity	
The EIS must address the following specific matters:	
• an assessment of the biodiversity values and the likely biodiversity impacts of the Project in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (NSW) (BC Act) in accordance with the <i>Biodiversity Assessment Method (BAM) 2020</i> and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must: - be prepared using the approved BDAR template; - document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; - assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades;	A BDAR has been prepared and is included in Appendix E . The BDAR is summarised in this section (Section 6.2).

Relevant SEARs	Where addressed
- include an assessment for serious and irreversible impacts (SAII) in accordance with Section 9.1 of the BAM; - include a strategy to offset any residual impacts of the development in accordance with the BC Act; and - be finalised by an accredited assessor as BAM-compliant within 14 days of submission; unless BCS and DPHI determine the proposed development is not likely to have any significant impacts on biodiversity values;	
• an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the <i>Fisheries Management Act 1994</i>, and a description of the measures to avoid, minimise and rehabilitate impacts;	Potential impacts to listed aquatic threatened species are discussed in Section 6.2.4 and Appendix E .
• a cumulative impact assessment of biodiversity values in the region from nearby developments; and	Cumulative impacts are discussed in Section 6.12 .
• if an offset is required, details of the measures proposed to address the offset obligations.	Biodiversity offsets are discussed in Section 6.2.4.4 and Appendix E .

6.2.2 Methodology

A BDAR was prepared by Anderson Environment & Planning (2025) to assess potential biodiversity impacts associated with construction and operation of the Project. The BDAR is included in **Appendix E** and summarised in this section.

The BDAR has been prepared to meet the requirements of the Biodiversity Assessment Method 2020 (BAM) (DPIE, 2020) established under Section 6.7 of the BC Act. The Streamlined Assessment Module for small areas has been used, as outlined in **Appendix E**. The small area module used as the clearing threshold for small area developments, as prescribed in the BAM, is not exceeded by the Project.

The area assessed by the BDAR includes the Project Area and land located within 1.5 km of the Project, covering a total area of approximately 884 ha, as shown in **Figure 6.2-1**.

FIGURE 6.2-1:
BDAR ASSESSMENT AREA



Legend

- The site
- Project Area
- BDAR assessment area

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The BDAR methodology for the Project included:

- Desktop searches, including a review of existing literature and datasets, to identify landscape features, understand the likelihood of occurrence of ecological communities and threatened flora and fauna species within the BDAR assessment area and inform field surveys
- Use of the vegetation integrity assessment within the BAM to designate vegetation zones
- Flora and fauna field surveys to assess the presence of threatened species within proximity of the Project Area
- Flora and fauna habitat constraints assessments
- Identification of measures to mitigate any potential impacts on biodiversity from the Project.

6.2.2.1 Desktop searches

A desktop search and review of existing information relevant to the BDAR assessment area was undertaken. Information was obtained from the following sources:

- *NSW BioNet Atlas* (DPIE, 2025e) – a review of fauna and flora records within a 100 km² search area of the Project Area
- *Protected Matters Search Tool (PMST)* (DCCCEW, 2025) – a review of fauna and flora records within 5 km of the Project Area
- *NSW BioNet Threatened Biodiversity Data Collection* (DPIE, 2025f)
- *NSW State Vegetation Type Map (SVTM)* (DPIE, 2024b)
- Aerial Photograph Interpretation (API) for the BDAR assessment area (Google 2024, SIX Maps and historical)
- Current and historical photographs of the Project Area
- *Biodiversity Assessment Method* (DPIE, 2020a)
- Biodiversity Assessment Method Calculator (BAM-C) (DPIE, 2020b)
- *Biodiversity Assessments and Calculation of the Scheme Entry Requirements* (DPIE, 2025a)
- *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities. Working Draft* (Department of Environment and Conservation, 2004)
- eSPADE: Soil Profiles and Data (DPIE, 2025c)
- *BAM – Important Areas Map* (DPIE, 2025b)
- PlantNET NSW (Royal Botanic Gardens and Domain Trust, 2025)
- Anecdotal records.

6.2.2.2 Field surveys

Ground-truthing of the desktop searches was conducted between June 2024 and February 2025. The field surveys undertaken are outlined as follows.

Native vegetation surveys

Flora surveys were conducted in July and October 2024, and February 2025 to ground-truth native vegetation, determine plant community types (PCTs) and condition classes, classify vegetation communities, and meet relevant survey guidelines.

Plot-based vegetation integrity surveys were undertaken to determine the extent of native vegetation and to populate the BAM-C. Vegetation integrity plots (BAM Plots) avoided ecotones and disturbed areas within the Project Area where possible and were located in parts of the vegetation zones that were most representative. In total, six BAM Plots were surveyed across the Project Area with at least one representing each identified vegetation zone (detailed further in **Section 6.2.3.5**).

Threatened flora surveys

Habitats and microhabitats were assessed in June, July, and October 2024 and February 2025 to identify specific habitats and microhabitats for threatened species within the Project Area. Exclusions were made based on habitat constraints, geographic limitations, or microhabitat requirements.

Flora transects were conducted in October 2024 and February 2025 to ensure comprehensive coverage of the Project Area and facilitate incidental observations of flora. Transects were carried out in accordance with the *NSW Guide to Surveying Threatened Plants* (DPIE, 2020d).

Threatened fauna surveys

Habitat assessment for fauna was undertaken in June, July, and October 2024 and February 2025 which involved analysis of specific habitats that could be used by threatened species such as hollows, koala feed trees, watercourses and rocky outcrops and other features that could be utilised by threatened species.

No threatened fauna species were identified for inclusion as candidate species and therefore no targeted threatened species surveys were required. General species surveys were conducted in October 2024 and February 2025. Observations were undertaken during field surveys and any incidental sightings or evidence of fauna species, such as scratches, scats, diggings and tracks of any resident or migratory species were recorded. Searches were also conducted for whitewash, regurgitation pellets and prey remain from owls, chewed *Casuarina* cones from black cockatoos and chewed fruit remains from frugivorous birds.

6.2.3 Existing environment

6.2.3.1 Landscape features

A summary of the landscape features of the Project Area is provided in **Table 6.2-2**.

Table 6.2-2: Landscape features

Landscape features	Description
Interim Biogeographic Regionalisation for Australia (IBRA) bioregions and subregions	The BDAR assessment area is entirely within the Sydney Basin IBRA Bioregion, and Cumberland IBRA Subregion.
Rivers, streams, estuaries, and wetlands	There are no rivers, streams or wetlands in the Project Area, and the surrounding urban landscape offers little connectivity to nearby water systems, such as Powells Creek, Haslams Creek or the Badu Mangroves Wetlands. While Powells Creek provides some ecological value, it is highly modified and degraded, with limited native aquatic life and barriers to fish passage present. A small landscape depression occurs in the east of the Project Area that is periodically inundated and contains a high cover of the aquatic plant <i>Typha orientalis</i> , amongst native sedges and ferns.
Habitat connectivity	The Project Area is located in a highly urbanised area dominated by residential, commercial and industrial developments, with major roads acting as significant barriers to fauna movement. Larger vegetated areas, such as those within Sydney Olympic Park to the north of the Project Area, are fragmented and lack direct connectivity. Small patches of nearby urban greenery and roadside vegetation provide only marginal connectivity for highly mobile species, such as birds or insects, but are insufficient for sustaining most terrestrial fauna.
Geological features	There are no recorded karst, caves, crevices, cliffs, rocks or other geological features of significance within or adjoining the Project Area.
Areas of outstanding biodiversity value	The Project Area is not located within, or in close proximity to, an area of outstanding biodiversity value.

Landscape features	Description
NSW (Mitchell) landscape	The Project Area is located within the Ashfield Plains NSW Landscape which is characterised by undulating hills and valleys on horizontal Triassic shale and siltstone, with occasional quartz sandstones. The northern portion of the Project Area occurs in the Port Jackson Basin NSW Landscape, a deep elongated harbour with steep cliff margins on horizontal Triassic quartz sandstone.

6.2.3.2 Non-native vegetation

The Project Area includes areas dominated by non-native vegetation, including exotic grasses, graminoids, forbs, subshrubs and invasive environmental weeds. Non-native (exotic) vegetation identified includes:

- *Lantana camara* (Lantana)
- *Celtis occidentalis* (Common Hackberry)
- *Triadica sebifera* (Chinese Tallow Tree)
- *Morus alba* (White Mulberry)
- *Cenchrus clandestinus* (Kikuyu Grass)
- *Cyperus eragrostis* (Tall Flatsedge)
- *Megathyrsus maximus* (Guinea Grass)
- *Bidens Pilosa* (Cobbler's Pegs)
- *Sida rhombifolia* (Arrowleaf Sida)
- *Araujia sericifera* (Moth Vine).

The extent of exotic vegetation within the Project Area is shown in **Figure 6.2-2**.

6.2.3.3 Native vegetation

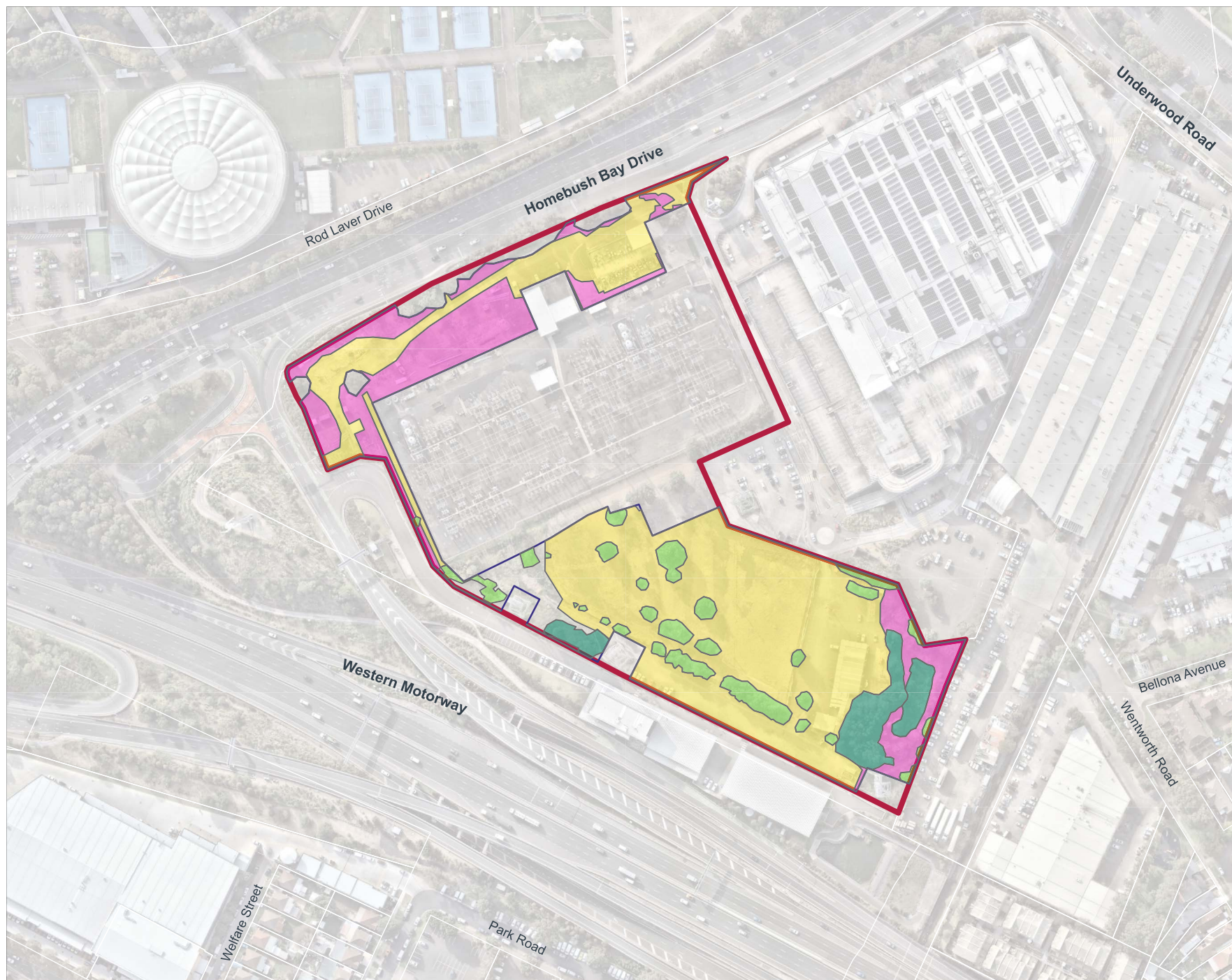
Based on a review of SVTM and aerial imagery, native vegetation cover within the BDAR assessment area was estimated to be 102.81 ha, representing approximately 11.63% of the total vegetation cover.

The SVTM identified the entirety of the Project Area as 'not-classified'. However, ground-truthing of the vegetation during field surveys identified multiple distinct areas of native vegetation within the Project Area, mainly consisting of 'Planted Native' vegetation, in accordance with Appendix D of the BAM.

The total extent of native vegetation recorded in the Project Area during field surveys was estimated to be 0.6 ha. The planted native vegetation within the Project Area (0.26 ha) comprises a mixture of endemic and non-endemic vegetation. Species identified include planted *Casuarina glauca* (Swamp Oak) and *Casuarina cunninghamiana* (River Oak). The remaining native vegetation (0.34 ha) identified within the Project Area is described in the following section.

Figure 6.2-2 shows the total extent of native vegetation (including planted native vegetation) recorded within the Project Area during field surveys.

FIGURE 6.2-2:
GROUND-TRUTHED VEGETATION
COVER IN PROJECT AREA



Legend

-  The site
-  Project Area
-  Non-native vegetation
-  Infrastructure
-  Planted native vegetation
-  Native vegetation

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6.2.3.4 Native Plant Community Types

Native PCTs are based on (but not limited to) floristic composition and their location within the landscape such as elevation, landforms and soil types.

The identification of the PCT or the most likely PCTs occurring within the Project Area has been undertaken in accordance with the NSW PCT classification, as described in the BioNet Vegetation Classification system.

Native PCTs cover a total of 0.34 ha of the Project Area.

A summary of the PCTs identified is provided in **Table 6.2-3** and shown in **Figure 6.2-3**.

Table 6.2-3: PCTs identified within the Project Area

PCT ID	PCT name	Extent within Project Area (ha)	Vegetation formation	Vegetation class	Description
3962	Coastal Floodplain Phragmites Reedland	0.05	Freshwater Wetlands	Coastal Freshwater Lagoons	This PCT is located within a constructed artificial drainage swale in the eastern portion of the Project Area. The vegetation zone contains a dense ground layer with a sparse emergent shrub layer and no developed canopy. This constructed wetland vegetation reflects a dominance of native aquatic and mesic species but faces significant pressure from invasive species in both the shrub and ground layers. Dominant species include <i>Casuarina glauca</i> , <i>Typha orientalis</i> , <i>Machaerina articulata</i> , <i>Schoenoplectus validus</i> , <i>Lepironia articulata</i> and <i>Hypolepis muelleri</i> .
4023	Coastal Valleys Riparian Forest	0.29	Forested Wetlands	Coastal Floodplain Wetlands	This PCT is found in patches throughout the Project Area, exhibiting varying conditions. Degraded vegetation zones occur along the western boundary and within the eastern portion of the Project Area. Highly degraded areas are located beneath the powerline easement that intersects the western boundary. The canopy contains <i>Casuarina glauca</i> and <i>Acacia melanoxylon</i> in the eastern patch with <i>Eucalyptus tereticornis</i> , <i>Eucalyptus sideroxylon</i> and <i>Casuarina glauca</i> in the western patch. A highly modified area in the southern portion of the Project Area contains a small stand of trees including <i>Eucalyptus tereticornis</i> and <i>Casuarina glauca</i> . The PCT is heavily modified, has low species diversity and is subject to periodic inundation.

6.2.3.5 Vegetation zones and integrity

Three vegetation zones were identified for assessment that could reasonably be assigned to the identified PCTs. Each vegetation zone has a patch size of less than 5 ha. No hollow bearing trees were present in any of the identified zones.

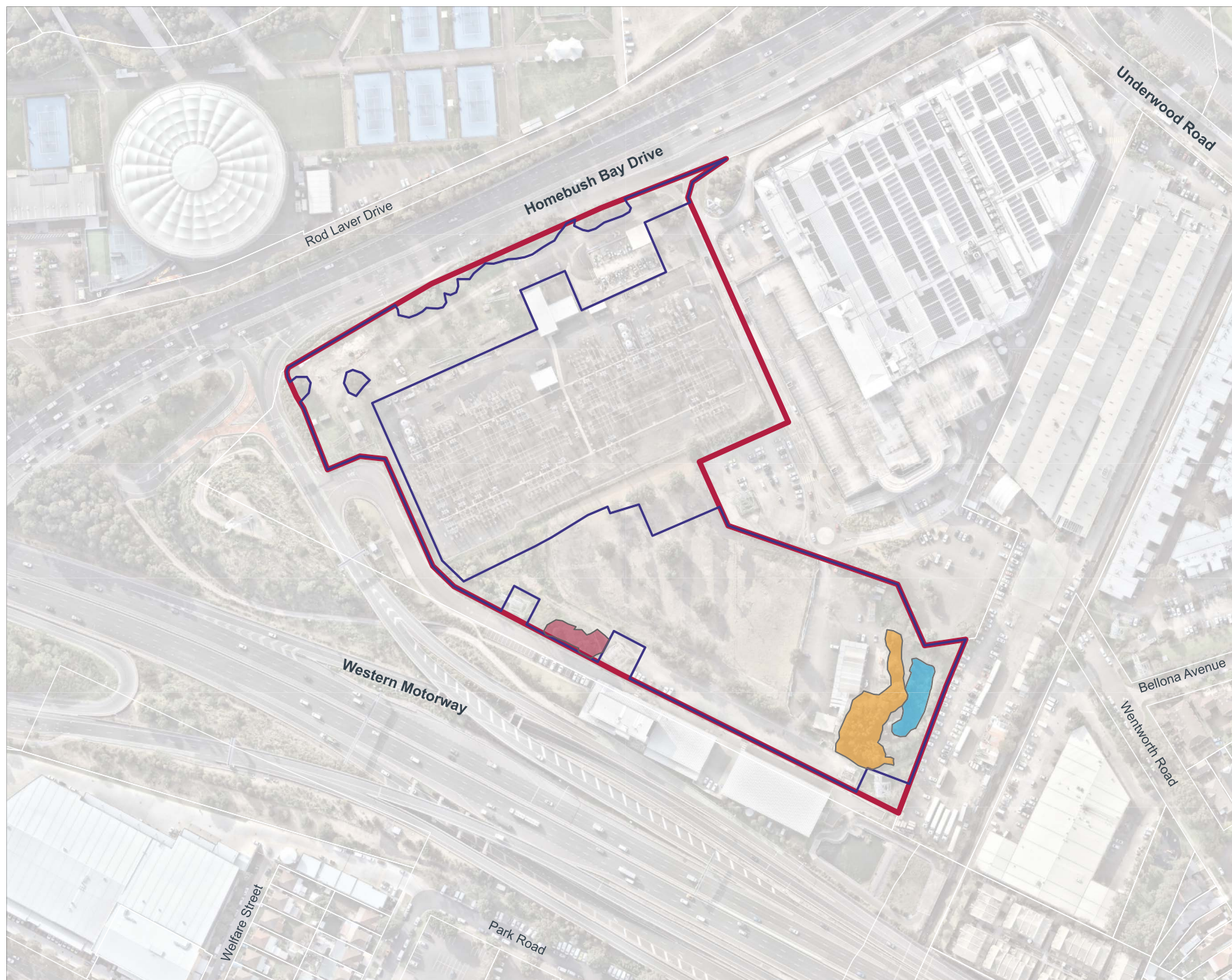
Vegetation integrity is a metric developed as part of the BAM that represents the degree to which the composition, structure and function of the vegetation type at a site differs from the best-on offer condition (DCCEEW, 2025).

The vegetation zones within the Project Area and their associated vegetation integrity scores are provided in **Table 6.2-4** and shown in **Figure 6.2-3**.

Table 6.2-4: Vegetation zones and integrity scores

Vegetation zone ID	Area within Project Area (ha)	Composition condition score	Structure condition score	Function condition score	Vegetation integrity score
PCT 3962 Good: <i>Coastal Floodplain Phragmites Reedland</i>	0.05	77	86.7	N/A	81.7
PCT 4023 Degraded: <i>Coastal Valleys Riparian Forest</i>	0.17	20	20.9	81.9	32.5
PCT 4023 Highly Degraded: <i>Coastal Valleys Riparian Forest</i>	0.12	11.7	27.9	15.2	17.1

FIGURE 6.2-3:
PLANT COMMUNITY TYPES
AND VEGETATION ZONES



Legend

-  The site
-  Project Area
-  PCT 4023 - Coastal Valleys
Riparian Forest - Highly Degraded
-  PCT 3962 - Coastal
Floodplain Phragmites
Reedland - Good
-  PCT 4023 - Coastal Valleys
Riparian Forest - Degraded

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6.2.3.6 Threatened Ecological Communities

A protected matters search, undertaken by Anderson Environment & Planning (2025), identified 11 threatened ecological communities (TECs) under the EPBC Act occurring or potentially occurring within 5 km of the Project Area, as outlined in **Table 6.2-5** and shown in **Figure 6.2-4**.

Table 6.2-5: Summary of EPBC Act TECs potentially occurring within the Project Area

EPBC Act TECs	Listing status
Subtropical and Temperate Coastal Saltmarsh	Vulnerable
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	Endangered
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered

Vegetation within the Project Area was found to represent two threatened TECs listed under the NSW BC Act. These are outlined in **Table 6.2-6**.

Table 6.2-6: Summary of BC Act TECs within the Project Area

BC Act TECs	Profile ID	Listing status	Associated vegetation zone	Extent within Project Area (ha)
Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	10945	Endangered	PCT 4023 - Degraded	0.29
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	10929	Endangered	PCT 3962 - Good	0.05

6.2.3.7 Alignment with listed TECs

EPBC Act listed TECs

Vegetation classified as PCT 4023 meets the specified characteristics, whereas PCT 3962 lacks a canopy cover of at least 10%. However, the EPBC Act listing also establishes minimum condition thresholds, including a required patch size of at least 0.5 ha. The largest patch size identified within the Project Area is 0.29 ha and therefore the TECs identified do not meet the condition thresholds and do not qualify for protection under the EPBC Act.

BC Act listed TECs

PCT 3962 is associated with the following BC Act listed Endangered Ecological Communities:

- *Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Coastal Freshwater Wetlands)
- *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregion* (Swamp Oak Forest).

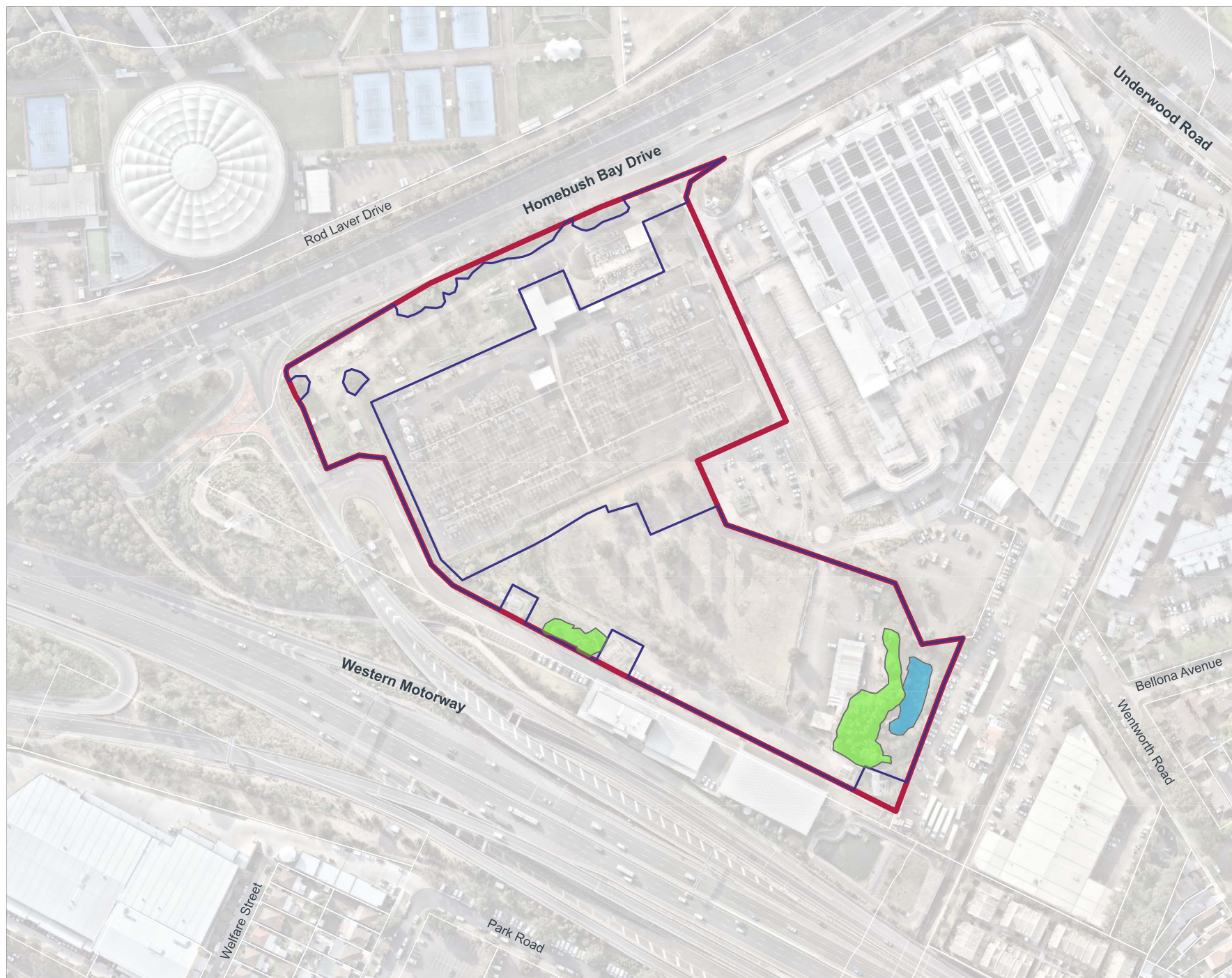
Coastal Freshwater Wetlands, listed by the Threatened Species Scientific Committee (TSSC) in 2010 (TSSC, 2010), is characterised by periodic or semi-permanent inundation with freshwater, sometimes influenced by minor salinity. Found below 20 m elevation, these wetlands typically form in depressions, drainage lines and lakes of coastal floodplains. The ecological community predominantly features herbaceous plants, with notable species including *Typha orientalis* (Cumbungi), while woody vegetation is sparse and ecotonal. Its structure and species composition vary based on hydrological conditions, nutrient levels and salinity. Despite its degraded condition due to its location on an urbanised site, the area retains sufficient abiotic and biotic features to align with Coastal Freshwater Wetlands TEC. Key attributes, such as its occurrence in a low-lying depression below 20 m elevation, appropriate geological conditions, and the presence of diagnostic species like *Typha orientalis*, *Juncus usitatus*, *Lepironia articulata* and *Schoenoplectus validus* support its classification within this ecological community.

Swamp Oak Forest, listed by the TSSC in 2011 (TSSC, 2011), is a unique ecological community predominantly found on coastal floodplains with saline or sub-saline groundwater. It generally occurs below 20 m (rarely above 10 m) elevation. It is characterised by a dense to sparse canopy of *Casuarina glauca* and an understorey of diverse forbs, sedges, and grasses, with vegetation structure influenced by salinity and hydrology. This community once occupied extensive floodplains but has been reduced to less than 30% of its original extent due to land clearing, agricultural development and urbanisation. While the site's species and some characteristics align with the TEC, the Coastal Freshwater Wetlands TEC provides a better match due to similar abiotic factors, particularly the site's location on a semi-permanently inundated floodplain, which supports the presence of similar species.

PCT 4023 is associated with the BC Act listed Endangered Ecological Community: *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Swamp Oak Forest). This TEC is characterised by grey-black clay-loams and sandy loams with saline or sub-saline groundwater. It occurs in waterlogged or periodically inundated flats, drainage lines, lake margins, and estuarine fringes, typically forming open forests, woodlands, or reedlands. Dominated by *Casuarina glauca*, the community's composition varies with waterlogging, salinity and latitude, and includes a range of plant species such as *Acmena smithii*, *Melaleuca* species and various grasses and sedges. Once widespread along floodplains, its extent has dramatically decreased due to land clearing for agriculture and urban development, with less than 30% of its original range remaining. The vegetation zone 'PCT 4023 Degraded' possess sufficient attributes to qualify as this TEC. These include the presence of *Casuarina glauca* and suitable abiotic conditions such as its proximity to a drainage area. However, the degraded grassland area is not considered commensurate with this TEC due to the lack of periodic inundation and the absence of a canopy layer of *Casuarina glauca*.

Further detail describing the PCTs alignment with BC Act and EPBC Act listed TECs are provided in **Appendix E**.

FIGURE 6.2-4:
THREATEND ECOLOGICAL
COMMUNITIES



Legend

-  The site
-  Project Area
-  PCT 3962 = BC Act (E)
Freshwater Wetlands on
Coastal Floodplains of the
NSW North Coast, Sydney
Basin and South East Corner
Bioregions
-  PCT 4023 = BC Act (E)
Swamp Oak Floodplain Forest
of the NSW North Coast,
Sydney Basin and South East
Corner Bioregions (Swamp
Oak Forest)

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6.2.3.8 Threatened species

The EPBC Act protected matters search identified a total of 91 threatened species and 56 migratory species that may occur in, or relate to, areas within 5 km of the Project Area. Further details are provided in **Appendix E**.

A total of 27 ecosystem or dual credit species were identified for consideration, of which two flora species and five fauna species were identified by the BAM-C for further assessment, as detailed in **Table 6.2-7**.

BioNet records indicated that two of these species had been previously recorded within the BDAR assessment area. However, none of the identified predicted species credit species were retained for further assessment, due to the reasons stated in **Table 6.2-7**.

Table 6.2-7: Predicted species credit species

Scientific name	Common name	Listing status	Reason for exclusion
Flora			
<i>Gyrostemon thesioides</i>	-	Endangered (BC Act)	Habitat degraded – species is a fire-opportunist, with recruitment occurring from soil-stored seed bank following fire. Project Area lacks a native seedbank and appropriate fire regime for this species.
<i>Deyeuxia appressa</i>	-	Endangered (BC Act and EPBC Act)	Habitat degraded - species not been observed since 1942 and is likely extinct in the wild. Project Area is highly modified and lacks a native seedbank.
Fauna species			
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered (BC Act and EPBC Act)	Habitat constraint – Project Area is not mapped as important habitat.
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered (BC Act and EPBC Act)	Habitat constraint – Project Area is not mapped as important habitat.
<i>Lathamus discolor</i>	Swift Parrot	Endangered (BC Act) Critically Endangered (EPBC Act)	Habitat constraint – Project Area is not mapped as important habitat.
<i>Miniopterus australis</i>	Little Bent-winged Bat	Critically Endangered (BC Act) Endangered (EPBC Act)	Habitat constraint – Project Area is not within proximity to caves or other habitat feature known or suspected to be used for breeding.
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Vulnerable (BC Act)	Habitat constraint – Project Area is not within proximity to caves or other habitat feature known or suspected to be used for breeding.

No threatened flora or fauna species listed under the BC Act or EPBC Act were recorded during field surveys in the Project Area and therefore no targeted threatened species surveys were required.

6.2.4 Impact assessment

The Project has the potential to result in direct, indirect and prescribed impacts on biodiversity values. The majority of impacts on biodiversity would occur during construction, arising from the clearing of native vegetation.

An assessment of the biodiversity impacts during construction and operation is provided in the following sections.

6.2.4.1 Construction

Direct impacts

The Project has aimed to avoid and minimise biodiversity impacts where possible; however, construction of the Project would result in direct impacts to biodiversity which cannot be avoided due to design requirements such as asset protection zones, spatial constraints, and proximity to existing electrical infrastructure.

The impacts identified are considered to be representative of a worst-case scenario, accounting for all permanent loss of vegetation required to facilitate the Project.

The primary direct impact of the Project to biodiversity would be the removal of vegetation. In total, 0.8 ha of native vegetation is proposed to be removed within the Project Area to facilitate the installation of the Project. Details of the native vegetation to be cleared are provided in **Table 6.2-8**.

Table 6.2-8: Summary of direct biodiversity impacts during construction

Direct impact	BC Act status	EPBC Act status	Serious and irreversible impact entity	Area to be cleared (ha)
Removal of PCT 3962 – Good	Endangered	Does not conform to EPBC Act criteria	No	0.05
Removal PCT 4023 – Degraded	Endangered	Does not conform to EPBC Act criteria	No	0.17
Removal of PCT 4023 – Highly Degraded	Does not conform to BC Act criteria	Does not conform to EPBC Act criteria	No	0.12
Removal of planted native vegetation	Does not conform to BC Act criteria	Does not conform to EPBC Act criteria	No	0.26

Construction will result in the direct loss of 0.26 ha of planted native vegetation and 0.17 ha of PCT 4023 – Highly Degraded, which do not conform to BC Act or EPBC Act TEC criteria.

In total, 0.22 ha of the vegetation proposed to be removed is associated with the Coastal Freshwater Wetlands TEC (associated with vegetation zone PCT 3962 – Good) and Swamp Oak Forest TEC (associated with vegetation zone PCT 4023 – Degraded), both of which are listed as endangered under the BC Act. Of this, only 0.05 ha of vegetation associated with PCT 3962 has been assessed to be in 'good' condition.

Construction is expected to alter the vegetation integrity scores of the native vegetation on site identified as PCT 3962 and PCT 4023. A reduction in vegetation integrity score indicates disturbance. The complete removal of PCT 3962 and PCT 4023 means that their vegetation integrity scores would reduce to zero. **Appendix E** contains further details.

No threatened species listed under the BC Act or EPBC Act are expected to be affected by construction.

No species were found to be likely to be placed at risk of serious and irreversible impacts (SAIL) under the BC Act.

Indirect impacts

Indirect impacts as a result of construction on habitat viability were assessed. Identified impacts are associated with sedimentation and erosion, weeds, pathogens, noise, vibration, light and increased human activity and disturbance, as detailed in **Table 6.2-9**.

Indirect impacts during construction can be effectively managed with the implementation of appropriate mitigation measures, as set out in **Section 6.2.5**.

Table 6.2-9: Summary of indirect biodiversity impacts during construction

Indirect impact	Impacted entities	Location of impact	Frequency	Duration	Likelihood and consequences
Indirect impacts adjacent to vegetation associated with construction works	Planted native vegetation	Within Project Area	Dust, noise, and other indirect impacts associated with construction	Short-term	Likely within Project Area.
Weed invasion and edge effects	Adjacent native vegetation	Along disturbed edges	Occasional introduction of weeds	Ongoing	High likelihood due to edge exposure. Weeds will be managed through routine monitoring and targeted weed control.
Pests and pathogens	Native flora and fauna	Surrounding Project Area	Potential introduction via machinery and materials	Short to long-term	Possible risk of pest and pathogen spread due to imported materials. Biosecurity protocols will be implemented.
Noise, light and vibration	Nearby fauna	Immediate surroundings	Intermittent disturbances during construction	Short-term	Temporary impacts from machinery and lighting.
Sedimentation and erosion	Adjacent watercourses and soil stability	Areas downslope of construction activities	Increased erosion risk during ground disturbance	Short-term	Likely to occur, but appropriate erosion control measures such as sediment traps and silt fencing would mitigate impacts.
Increased human activity and disturbance	Local fauna and vegetation	Adjacent vegetation and open spaces	More movement of personnel, maintenance activities	Periodic (also applicable during operation)	Low to moderate likelihood. Regular monitoring and adherence to environmental management plans will minimise impacts.

Prescribed impacts

Prescribed impacts, as defined under Clause 6.1 of the *Biodiversity Conservation Regulation 2017*, include indirect impacts that extend beyond direct vegetation removal. These impacts may affect threatened species, ecological communities, and important habitat features such as non-native vegetation, artificial structures, and hydrological systems.

The prescribed impacts relevant to this Project are outlined as follows.

Human-made structures

The Project requires the removal of the existing John Holland/CPB Training Academy (demountable building) and minor infrastructure within the Project Area.

No threatened fauna species have been identified that are likely to utilise these structures, and their removal is expected to have localised and temporary impacts with no significant effect on biodiversity, as the areas in which these are located provide minimal habitat value.

Non-native vegetation

To construct the Project, a total of 0.69 ha of non-native vegetation is required to be removed. This vegetation provides low ecological value and is not key habitat for threatened species. No threatened flora or fauna species were identified to be using this vegetation and therefore its removal is unlikely to result in significant biodiversity impacts.

Impacts to waterbodies, water quality, and hydrological processes

There is the potential for indirect impacts to a small ephemeral depression identified within the east of the Project Area. However, this temporary waterbody is isolated from larger hydrological networks and is not critical habitat for threatened species. No aquatic-dependent threatened entities were recorded, and the area is unlikely to support significant biodiversity values. Regardless, standard erosion and sediment control measures will be implemented to prevent indirect impacts on water quality.

Impacts to habitat connectivity

The Project is not expected to affect habitat connectivity or cause fragmentation of a functional ecological corridor. This is due to the high level of urbanisation in the surrounding area, limiting habitat connectivity. Any habitat use is likely limited to highly mobile fauna, such as some bird species that may occasionally pass through the area.

As some prescribed impacts are unavoidable due to Project constraints, mitigation measures have been incorporated to reduce their extent. Further details are provided in **Section 6.2.5**.

6.2.4.2 Operation

Direct impacts

There is not expected to be any direct impacts during operation of the Project.

Indirect impacts

Indirect impacts identified during operation are associated with weed invasion, heat island effect and increased human activity and disturbance. Further details are provided in **Table 6.2-10**.

The indirect impacts during operation can be effectively managed with the implementation of appropriate mitigation measures set out in **Section 6.2.5**.

Prescribed impacts

There are no prescribed impacts expected to result from operation of the Project.

Table 6.2-10: Summary of indirect biodiversity impacts during operation

Indirect impact	Impacted entities	Location of impact	Frequency	Duration	Likelihood and consequences
Weed invasion and edge effects	Adjacent native vegetation	Along disturbed edges	Occasional introduction of weeds	Ongoing	High likelihood due to edge exposure. Weeds will be managed through routine monitoring and targeted weed control during operation.
Heat island effect	Surrounding microclimate	Local site and adjacent areas	Increased surface temperatures due to infrastructure	Long-term	High likelihood. Containerised battery units and associated infrastructure may increase local temperatures, potentially affecting adjacent vegetation and fauna.
Increased human activity and disturbance	Local fauna and vegetation	Adjacent vegetation and open spaces	More movement of personnel, maintenance activities	Periodic	Low to moderate likelihood. Regular monitoring and adherence to environmental management plans will minimise impacts.

6.2.4.3 Serious and irreversible impacts

The concept of SAIL seeks to protect threatened species and TECs that are most at risk of extinction from development (DEH, 2025).

Based on the BAM-C, no species were identified that are listed as at risk of SAIL. Therefore, the Project would not result in SAIL to SAIL candidate species.

6.2.4.4 Biodiversity offsets

Ecosystem credits are required for the Project to offset the unavoidable residual impacts due to native vegetation clearing. The offset requirements for the Project were calculated using the BAM-C. The results of this assessment indicated that six ecosystem credits are required, as outlined in **Table 6.2-11**.

Table 6.2-11: Impacts that require an offset - ecosystem credits

Ecosystem credits required	Attributes shared with matching credits								
	Vegetation zone	PCT name	PCT vegetation class	PCT vegetation formation	Associated TEC or EC	Offset trading group	Hollow bearing trees present?	IBRA subregion (in which Project is located)	Impact area
2	PCT 3962 - Good	Coastal Floodplain Phragmites Reedland	Freshwater Wetlands	Coastal Freshwater Lagoons	Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	No	Cumberland	0.05
3	PCT 4023 - Degraded	Coastal Valleys Riparian Forest	Forested Wetlands	Coastal Floodplain Wetlands	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	No	Cumberland	0.17
1	PCT 4023 – Highly Degraded	Coastal Valleys Riparian Forest	Forested Wetlands	Coastal Floodplain Wetlands	None	None	No	Cumberland	0.12

6.2.5 Mitigation and management measures

Management and mitigation measures to avoid, minimise, or manage potential biodiversity impacts as a result of the Project are detailed in **Table 6.2-12**.

Measures to prevent indirect impacts on adjacent vegetation, such as soil erosion and sediment controls, water quality management measures and dust suppression, are outlined in **Section 6.4 (Land use, soils and contamination)**, **Section 6.8 (Surface water, groundwater and flooding)**, **Section 6.7 (Traffic and transport)**, and **Section 6.11 (Other issues)** respectively.

Table 6.2-12: Mitigation and management measures – Biodiversity

ID	Mitigation/management measure	Timing
B-1	Light coloured roof surfaces will be incorporated into the detailed design to limit the increase of local temperatures and subsequent effects on adjacent vegetation and fauna, where practicable.	Detailed design Construction Operation
B-2	The following measures will be included and implemented as part of the CEMP: • Protocols to monitor the vegetation condition and habitat values of any retained vegetation within the site • Plans showing areas to be cleared and areas to be protected, including exclusion zones and revegetation areas, where applicable • Protocols for pre-clearance inspections by a suitably qualified ecologist • Protocols for a suitably qualified ecologist or licensed handler to manage and handle unexpected or injured fauna • Biosecurity measures including hygiene protocols, material inspections, and weeds monitoring programs and controls to minimise the potential spread of pests and pathogens.	Pre-construction Construction
B-3	To minimise loss of urban canopy cover, trees will be retained within the site where possible. A Tree Replacement Strategy will be included in the Project's Landscape Plan. Replacement tree planting will be at a ratio of 2:1 to offset losses and support long-term canopy restoration.	Pre-construction Construction Operation
B-4	All workers will receive an environmental induction to ensure awareness of ecological values and the protection measures to be implemented during the Project.	Pre-construction Construction
B-5	Physical barriers and markers will be installed to fence off or mark trees or other vegetation to be retained. Appropriate buffers around protected these trees will be established to avoid structural root zones.	Pre-construction Construction
B-6	Stockpiles will be restricted to designated areas in existing cleared areas to limit soil disturbance, the spread of weeds and clearing of vegetation.	Construction

6.3 Aboriginal heritage

6.3.1 Secretary's Environmental Assessment Requirements

Table 6.3-1 sets out the SEARS relevant to Aboriginal heritage and where the requirements have been addressed in this EIS.

Table 6.3-1: Relevant SEARs – Aboriginal heritage

Relevant SEARs	
Heritage	Where addressed
The EIS must address the following specific matters:	
An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Guide to <i>Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (OEH, 2011) and the <i>Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements.	An ACHAR has been prepared and is provided in Appendix F and is summarised in this section (Section 6.3).
Evidence of adequate consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (ACHCR) (DECCW, 2010).	Detailed within the ACHAR and summarised in this section (Section 6.3) and Chapter 5.0 .

6.3.2 Methodology

An ACHAR has been prepared by Apex Archaeology (2025) to identify the Aboriginal cultural heritage values of the Project Area and assess the potential impact of the Project on those values. The ACHAR is attached in **Appendix F**.

The Aboriginal heritage impacts associated with the Project identified in the ACHAR, and the recommended management and mitigation measures are summarised in this chapter.

The ACHAR was conducted in line with:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (Consultation Requirements)* (DECCW, 2010a) (ACHCR)
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b).

Consultation with Aboriginal stakeholders was undertaken for the Project in accordance with clause 60 of the *National Parks and Wildlife Regulation 2019*, following the four consultation stages set out in the ACHCRs, to consider Aboriginal cultural values, including intangible values.

Consultation began in September 2024 when Aboriginal stakeholders were invited to register their interest in the Project. In total nine Registered Aboriginal Parties (RAPs) registered their interest:

- Dharug Custodian Aboriginal Corporation
- Didge Ngunawal Clan
- Guntawang Aboriginal Resources Incorporated
- Ngambaa Cultural Connections
- Thomas Dahlstrom
- Long Gully Cultural Services
- Pearl Dipoma
- Aragung Aboriginal Cultural Heritage Site Assessments
- Ginninderra Aboriginal Corporation.

The RAPs were provided with relevant information about the Project and the site and were invited to contribute to the Project assessment, the methodologies used in the assessment and provide their feedback.

Responses were received from four RAPs, acknowledging support of the methodologies. One RAP requested that “*any artefacts identified on this property of significance to the First Peoples of this land are gathered and placed in a safe location where they will not come to further harm*”, which was noted in the draft ACHAR. The draft ACHAR was provided to all RAPs for their review of the findings with comments accepted until 26 February 2025. No responses were received from any of the RAPs for the Project. Further details are provided in the ACHAR in **Appendix F**.

A desktop assessment was also carried out to review the landscape context of the Project Area, with specific consideration of its potential for past Aboriginal land use and the likelihood of survival of associated archaeological materials. The assessment included a search of publicly available databases, reports and map data, a review of previous archaeological assessments in the wider region and the preparation of a predictive model for Aboriginal archaeological values within the Project Area.

An archaeological survey was undertaken within the Project Area on 22 November 2024 by two survey participants. Some areas of the site were inaccessible with high grass cover and no visibility, so areas of exposure were targeted as a priority. The survey transect length was 1,075 m with a total survey coverage of approximately 2,104 m².

An Aboriginal Cultural Heritage Significance Assessment was undertaken in accordance with the ACHCRs, the Burra Charter and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*. The assessment of cultural heritage was based on social, historic, scientific and aesthetic values.

6.3.3 Existing environment

This section establishes the present environment of the Project Area in the context of Aboriginal heritage. The landscape and archaeological contexts are important to establish how the land has changed over time, as well as determining the likelihood of undiscovered Aboriginal items to remain within the Project Area.

6.3.3.1 Landscape context

Geology

The Project Area is underlain by Wianamatta Group shales. These rocks are characterised by fine-grained siltstones, shales, and occasional sandstone lenses. The geological characteristics of the Wianamatta Group shales provide limited natural sources of raw materials for Aboriginal stone tool production, although secondary deposits such as river gravels may have been used.

Soil landscapes

The Project Area encompasses two primary soil landscapes: the Blacktown and Birrong soil landscapes, both of which are derived from the Wianamatta Group shales.

The Blacktown soil landscape is characterised by shallow to moderately deep soils, with red and brown podzolic soils dominating the elevated and well-drained areas. In contrast, poorly drained sections of the Blacktown soil landscape exhibit yellow podzolic soils. These soils are significant archaeologically, as their stratigraphy can preserve subsurface cultural deposits, particularly in areas with minimal historical disturbance.

The Birrong soil landscape comprises deep alluvial soils typically found on floodplains. These soils are clay-rich and can preserve organic materials under the right conditions, offering potential for the retention of archaeological evidence, such as artefacts or ecofacts, associated with past Aboriginal use of floodplain environments.

However, the extensive historical disturbance across the site, including land levelling and urban development, has likely compromised the integrity of these soil profiles, reducing their capacity to preserve undisturbed archaeological deposits.

Hydrology

The Project is located approximately 2 km from Haslams Creek, a third-order watercourse under the Strahler stream classification system (Strahler, 1952), and 3.5 km from the Parramatta River, a fourth-order watercourse. These waterways would have been significant for Aboriginal communities, providing essential resources such as fresh water, fish, and riparian vegetation. The Parramatta River served as a major artery for transportation and sustenance in the pre-contact period and likely held cultural and economic importance for the Aboriginal groups of the region.

The relative proximity of the Project to these water sources increases the likelihood of Aboriginal occupation or activity in the broader region. However, the previous ground disturbance within the site has likely disrupted or removed cultural materials associated with these hydrological features, diminishing the potential for intact archaeological deposits.

Flora and fauna

The existing vegetation within the Project Area consists of some native vegetation interspersed with introduced plant species, reflecting the extensive urbanisation and land-use changes in the Homebush region. The existing vegetation includes scattered native trees alongside patches of introduced grasses and weeds typical of disturbed environments (NPWS, 2002).

Much of the original Cumberland Plain Woodland, which once dominated the area, has been cleared or significantly altered. Some of the remaining vegetation in the site consists of native Cumberland Plain Woodland species, including native grasses, shrubs, and trees such as Sydney Blue Gum (*Eucalyptus saligna*), Forest Red Gum (*Eucalyptus tereticornis*), and narrow-leaved ironbark (*Eucalyptus crebra*). These plant species would have supported a range of fauna including kangaroos, wallabies, possums, small birds, reptiles, and amphibians, as well as providing a diversity of food supply for Aboriginal people (i.e. berries, tubers, seeds, leaves and nectar), and used for tools (i.e. implements for canoes and shields and coolamons to carry water).

With the proximity of Haslams Creek and Parramatta River, there would have also been an abundance of aquatic fauna species available as food sources for Aboriginal people. Fish, shellfish and crustaceans would have been a staple part of the diet of Aboriginal people.

6.3.3.2 Ethnohistoric context

Ethnohistorical evidence is based on the reports of colonisers and does not tend to include the Aboriginal perspective, leading to a Eurocentric view of Aboriginality. Additionally, historical records can be contradictory and incomplete regarding the exact tribal boundaries and locations of ceremonial or domiciliary activities of Aboriginal people. Despite this, such records still contain valuable information for establishing past conditions for Aboriginal people.

Information regarding the ways in which Aboriginal people likely used pre-contact landscapes is available through two primary sources: archaeological (i.e., survey and excavation) data and historical records. This section builds on this foundation by summarising relevant ethnohistoric information for the Project Area and environs.

The Project Area is located within the traditional lands of the Wangal people, a clan of the Dharug language group. The Wangal's territory extended along the southern shore of the Parramatta River, from present-day Leichhardt to Auburn, encompassing the Homebush Bay area (Attenbrow, 2010).

The Wangal were one of over 30 Aboriginal groups recorded as living within the broader Sydney area in 1788, each with their own country, practices, and dialects. The Dharug language group extended from the eastern suburbs of Sydney, south to Botany Bay, west to Bathurst, and north to the Hawkesbury River (Eades, 1976).

The Wangal people lived in the Homebush Bay area and likely employed a semi-sedentary lifestyle, establishing camps near the Parramatta River while venturing further afield for hunting, fishing, and gathering. This mobility allowed them to efficiently exploit seasonal resources while maintaining strong connections to their land. The traditional custodians of the Homebush Bay area relied heavily on plants to provide resources for food, tools, and materials, and the fauna supported by the diverse woodland and riparian ecosystems surrounding the Parramatta River. Shelters (referred to as gunyahs) were likely constructed along the Parramatta River from readily available bark, branches and leaves.

A range of stone and other materials have been known to be used by Aboriginal people for flaking to create implements. The types and quality of materials, as well as the methodology used to manufacture these implements are detailed in **Appendix F**.

6.3.3.3 Land use history

Indigenous occupation

In general, Aboriginal land use of an area is based on a number of factors:

- Proximity to permanent water sources
- Proximity to ephemeral water sources
- Ease of travel
- Topography of areas; flatter areas are likely to have more permanent inhabitants.

When Aboriginal occupation of Australia is likely to have first commenced, around 60,000 years ago (Mulvaney and Kamminga 1999; Bowdler et al 2003; Attenbrow 2010), sea levels were around 30-35m lower than present levels, and this further decreased to up to 130m lower than present sea levels (Attenbrow 2010).

The rising of the seas since that time means that many Aboriginal historical artefacts and sites are likely to have been lost or buried offshore. Changing sea levels also resulted in changing ecological systems throughout time, which led to an increase in evidence of Aboriginal habitation from around 6,500 years before present (BP). During the Holocene period, around 6,500 years BP, sea levels increased and stabilised, which meant that coastal Aboriginal groups moved inland (McDonald, 2008).

The Project is located in Homebush Bay within the Cumberland Plain region where there is strong evidence available to support Aboriginal occupation from around 40,000 years ago. The proximity to watercourses in the north and surrounding vegetation provided critical food and water resources and were important for further cultural practices.

Post-contact occupation

Around 1788 an area known as Rose Hill (now Parramatta) was settled by a small group of 11 soldiers and 10 convicts. The land was used for agriculture.

The Homebush region started to be populated from 1793 to free settlers who received land grants. Australia's first horse stud was established in Homebush with a racecourse constructed in 1840, which became the centre of Australian racing until 1859.

The late 19th and early 20th centuries saw Homebush Bay transition from a predominantly agricultural area to an industrial hub. The State Abattoirs were established in 1907, and the State Brickworks shortly after, transforming the area into a centre of industrial activity. These developments significantly altered the natural landscape, including extensive land reclamation and the degradation of local waterways.

The late 20th century saw an increase in urban development, with a dense network of roads, industrial facilities, and residential neighbourhoods dominating the landscape, with minimal remaining natural features.

6.3.3.4 Archaeological context

Previous assessments assist in understanding the archaeological context of the area and in forming predictions for the location of Aboriginal cultural material within a landscape.

6.3.3.5 AHIMS

A search of the AHIMS database (DCCEEW, 2024) was undertaken on 18 December 2024 for previously registered sites and a review of previously completed archaeological assessments. The search encompassed a 1 km buffer of the site, though did not identify previously registered Aboriginal sites within or close to the Project Area.

6.3.3.6 Regional archaeological assessment

A review of previous archaeological work and assessment undertaken by archaeological consultants within the surrounding region of the Project Area was undertaken. However, few studies have been undertaken within the Homebush area, so the search was widened to the surrounding region.

Various archaeological assessments and findings have been previously conducted by different consultants in the region, particularly around Parramatta and Castle Hill, to understand and preserve the archaeological heritage of the region.

These assessments span from 1996 to 2022 and include the identification of cultural lithics, isolated artefacts, and areas with potential archaeological deposits (PADs). Significant findings include the recovery of thousands of cultural lithics from sites such as Charles St and George Street intersection, Parramatta, and at Castle Hill, with some artefacts dating back to 30,000 BP. Other notable assessments include the analysis of edge-ground hatchet heads from the Sydney region and the identification of silcrete outcrops possibly used in trade around Cooks River.

Together, these assessments provide insight into the Sydney region's archaeological and cultural heritage. The findings emphasise the long-standing and dynamic relationship between Aboriginal people and their environment, showcasing their technological ingenuity, cultural practices, and deep connection to the land.

6.3.3.7 Archaeological predictions

Considering the landscape context of the Project Area, as well as the local and regional archaeological data, predictions of the nature, extent and integrity of the Aboriginal archaeological record of the Project Area were made using a predictive model.

Previous archaeological investigations within the broader area suggest that the majority of archaeological material in proximity to waterways, on elevated landforms such as ridges, and within areas of preserved soil stratigraphy. Studies consistently highlight the importance of riverine and estuarine environments, such as those along the Parramatta River and Cooks River, as focal points for Aboriginal activity. These areas provided reliable access to water, abundant food resources, and raw materials, making them key locations for both temporary and long-term settlement.

In terms of the Project Area, the most likely archaeological material that may remain are isolated stone artefacts, and/or stone artefact scatters, which may occur anywhere across a landscape.

Archaeological survey results

During the survey, ground disturbance was identified to be extremely high within the Project Area. Disturbance relating to the construction of the Mason Park STSS and previous DFO Homebush car park was evident, along with current land use and previous site disturbance factors.

The survey did not identify any archaeological sites within the Project Area, nor any areas of subsurface potential archaeological deposits.

Scientific, cultural, historical, and aesthetic values

Information on the scientific, cultural, historical and aesthetic values of the Project Area with respect to Aboriginal cultural heritage has been obtained.

A desktop review was undertaken of the existing environment, archaeological and ethnohistorical data for the Project Area and its environs, the archaeological survey, and consultation with the RAPs. A summary of this information is provided in **Table 6.3-2**. This information supported the assessment of potential impacts on Aboriginal cultural heritage.

Table 6.3-2: Social, historic, scientific, and aesthetic values relevant to the Project

Values	Assessment
Social	The Aboriginal community are best placed to determine the social or cultural value of the site. No specific comments regarding the social value of the areas to Aboriginal people have been received from the RAPs to date, although it is noted that all areas with evidence of Aboriginal occupation hold significance to Aboriginal people and can be considered cultural landscapes.
Historic	The Project Area is not known to be associated with any specific Aboriginal individuals or historical events and is therefore considered to have limited significance under this criterion.
Scientific	The Project Area is considered to have low scientific value. No evidence of Aboriginal cultural material, such as artefacts or objects, was identified during the survey. The site is highly disturbed due to past land use, including infrastructure development, and as such, the likelihood of intact subsurface archaeological deposits is minimal. This lack of potential for intact deposits further reduces the scientific value of the Project Area.
Aesthetic	Generally, aesthetic value is determined by the response evoked by a setting. The Project Area is located within a heavily modified urban landscape, limiting its ability to evoke significant aesthetic responses. While the broader region may have held aesthetic value to Aboriginal communities in the past, the Project Area has been altered extensively, and its aesthetic value is therefore considered low in its current context.

6.3.3.8 Statement of Archaeological Significance

The Project Area is assessed as having negligible archaeological significance due to the absence of identified artefacts, low research potential, limited representativeness, lack of rarity, and poor integrity. The high levels of disturbance within the site reduce its potential to provide meaningful contributions to the archaeological record. No areas within the Project Area are considered to hold potential for significant subsurface archaeological deposits. Consequently, the overall archaeological significance is considered to be low.

6.3.4 Potential impacts

6.3.4.1 Construction

As the Project Area does not contain any previously registered Aboriginal sites and none were found during the survey, no known or potential Aboriginal sites are considered likely to be impacted by the construction of the Project.

There are no known specific values (scientific, social or cultural, aesthetic or historic) within the Project Area that would be impacted by the Project.

The Aboriginal cultural heritage significance assessment in the ACHAR concluded that the Project Area has a low potential for archaeological significance.

Given the high levels of disturbance, along with the lack of landforms suitable for occupation or activity to occur, no further investigations such as test excavations or archaeological assessments are required and no application for an AHIP is necessary for the Project.

Unexpected finds

Despite undertaking appropriate assessment prior to construction activities commencing, the potential exists for unanticipated Aboriginal archaeological material to be encountered during construction of the Project.

If an unexpected find of an Aboriginal object and/or human skeletal remains are discovered during construction, then an immediate stop work provision would be implemented and the find protected from harm or damage. Mitigation and management measures to address this have been included in **Section 6.3.6**. Further details are included in the ACHAR in **Appendix F**.

6.3.4.2 Operation

The ACHAR considers that there would be no impacts on Aboriginal cultural heritage as a result of the operation of the Project.

6.3.5 Cumulative impacts

An assessment of the cumulative Aboriginal cultural heritage impacts is provided in **Section 6.12**.

Chapter 7.0 includes an assessment of ecologically sustainable development, intergenerational equity, and the known and potential resource with regards to Aboriginal heritage within the broader region.

6.3.6 Mitigation and management measures

Mitigation and management measures that would be implemented for the Project to address potential impacts to Aboriginal heritage are outlined in **Table 6.3-3**.

Table 6.3-3: Mitigation and management measures – Aboriginal heritage

ID	Mitigation/management measure	Timing
AH-1	An unexpected Aboriginal Heritage Finds Procedure and an onsite induction will be included in the Project's CEMP and be developed in consultation with the RAPs. The procedure will cover all Aboriginal objects (as defined by NPW Act), including human skeletal remains.	Pre-construction
AH-2	The Project's standard environmental site induction will include an Aboriginal heritage component outlining current protocols and responsibilities with respect to the management of Aboriginal cultural heritage within the Project Area (including the unexpected finds protocol) and provide an overview of the diagnostic features of potential Aboriginal sites and objects.	Construction
AH-3	Should unanticipated Aboriginal archaeological material be encountered during construction of the Project, all work will cease in the vicinity of the find and an archaeologist contacted to assess the find and advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation will be undertaken, if required, prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.	Construction
AH-4	In the unlikely event that human remains are encountered during construction, all works will cease, and Heritage NSW and the police notified. Further assessment will be undertaken to determine if the remains were Aboriginal or non-Aboriginal.	Construction

6.4 Land use, soils and contamination

6.4.1 Secretary's Environmental Assessment Requirements

Table 6.4-1 sets out the SEARs relevant to land use, soils and contamination and where the requirements have been addressed in this EIS.

Table 6.4-1: Relevant SEARs – land use, soils and contamination

Relevant SEARs	
Land	Where addressed
The EIS must address the following specific matters:	
a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints;	Site suitability is discussed in Section 2.3 . A detailed justification of the suitability of the site is provided in Section 7.1 .
- an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: - agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant);	Potential impacts on existing land uses and adjacent land are discussed in Section 6.4.4. Potential impacts on existing and adjacent land uses are detailed in Section 6.4.4.1. Flood prone land is discussed in Section 6.4.3.4 and potential flood impacts are detailed in Section 6.8.
a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils including appropriate management measures, and erosion to occur	Soil characteristics are discussed in Section 6.4.3.3 . Potential impacts to soils during construction and operation are detailed in Section 6.4.4.2 and Section 6.4.5.2 , respectively. Appropriate management measures are provided in Section 6.4.6 .
a cumulative impact assessment of nearby developments	Potential cumulative impacts are detailed in Section 6.12 .
- an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: - consideration of the zoning provisions applying to the land, including subdivision (if required); and - completion of a Land Use Conflict Risk Assessment in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide (if required).	Assessment of the compatibility of the Project with existing land uses during construction, operation and decommissioning is detailed in Section 6.4.4.1 and Section 6.4.5.1. Consideration of the zoning provisions is provided in Section 6.4.4.1. Consideration of the requirement for a Land Use Conflict Risk Assessment (LUCRA) is provided in Section 6.4.4.1.

6.4.2 Methodology

6.4.2.1 Land use

A desktop assessment was undertaken to gather information about the existing environment, including the surrounding land use and the environmental characteristics of the Project Area. A review of the following was undertaken:

- MinView database and web map application (Geological Survey of NSW, 2024) – to identify any mining, quarries, mineral or petroleum rights within or in proximity to the Project
- Land and Soil Capability Mapping of NSW (NSW DPIE, 2025d) – to understand the likely capability of the site to sustain agricultural land uses
- historical images, district maps and aerial photography – to provide historical context.

A qualitative assessment was then undertaken to identify any potential land use conflicts and determine the overall compatibility of the Project with existing land uses during construction and operation.

6.4.2.2 Soils and contamination

Both Preliminary and Detailed Site Investigations were undertaken by Alliance Geotechnical (2025) to assess the potential contamination status of the site and consider its suitability for the Project. The Preliminary and Detailed Site Investigation Report is provided in **Appendix G** and summarised in this section.

The assessment of soils and contamination was undertaken in compliance with, or consideration to, the following relevant legislation and regulatory guidelines:

- EP&A Act
- CLM Act
- POEO Act
- *Environmentally Hazardous Chemicals Act 1985* (NSW)
- *Fisheries Management Act 1994*
- Strathfield LEP (specifically, part 6.1 – Acid sulfate soils)
- NSW EPA register of notified contaminated sites
- Resilience and Hazards SEPP
- *NSW Work Health and Safety Regulation 2017*
- *Protection of the Environment Operations (General) Regulation 2009*
- *Protection of the Environment Operations (Waste) Regulation 2005*.

The assessment comprised a review of site history information, observations and data recorded during fieldwork, and laboratory analytical data.

The assessment included a review of contaminated materials and acid sulfate soils (ASS) in the Project Area, potential contamination risks to human health and the receiving environment, and mitigation measures to minimise potential risks.

Site walkover

A site walkover was undertaken by a suitably experienced environmental consultant from Alliance Geotechnical on 15 October 2024. During the walkover, observations were made of the general condition of the site and of land use activities being undertaken on the site, and on land located immediately adjacent to the site.

A grid-based walkover of the Project Area was undertaken for the purpose of assessing the presence of visible asbestos in surface soils and indicators of ASS.

Details of the existing land uses and activities observed are provided in **Section 6.4.3**.

Soil sampling

Soil sampling was undertaken on 31 October and 1 November 2024 by a suitably qualified environmental consultant. A total of 31 test pits were planned across the site. Only 19 test pits were excavated; the remaining planned sampling points were unable to be completed due to the following access constraints:

- the requirement for a 3 m exclusion zone around high voltage overhead power lines within the western portion of the site, constraining machinery being utilised for test pits
- the presence of vehicles blocking access to two sample locations
- fencing constraining personnel and machinery access to the vegetated portion in the south-east of the site.

The location of the completed test pits and the inaccessible areas are identified in **Figure 6.4-1**.

Further assessment of potential risks in soils in the inaccessible areas and once the detailed earthworks design is finalised, is considered warranted. A supplementary contamination assessment for the areas yet to be assessed and to assess adequate depths across the site will be undertaken prior to construction.

From each accessible sampling point, soil samples were collected at the surface and at regular intervals thereafter, or at depths where visual or olfactory evidence of contamination was encountered, and for the purpose of the ASS assessment, at the surface and at 0.5 m intervals.

A selection of the collected samples were submitted for laboratory analysis. The selected samples were analysed for Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethylbenzene, and xylenes (BTEX), Polycyclic Aromatic Hydrocarbon (PAH), Organochlorine Pesticides (OCP), Polychlorinated Biphenyls (PCB), metals and asbestos.

Geotechnical investigation

A geotechnical investigation was conducted within the site in October 2024 by Alliance Geotechnical. Soil samples collected during the geotechnical investigation were tested for soil erosivity.



FIGURE 6.4-1:
SAMPLING POINTS COMPLETED
WITHIN THE SITE

- Legend**
- The site
 - Project Area
 - Inaccessible area
 - Test pit location

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6.4.3 Existing environment

6.4.3.1 Land use and zoning

As detailed in **Section 2.5.1**, the site is located on land that is zoned 'SP2 Infrastructure (Electricity Supply)' under the Strathfield LEP. The existing land use within the site comprises the Mason Park STSS in the northern portion, associated overhead powerlines, John Holland/CPB Training Academy (leased on Ausgrid property), vehicle parking, and a vacant vegetated parcel of land in the south-east of the site.

The land use surrounding the site is largely industrial and commercial, with limited sensitive receivers.

The site is bordered to the south by the Access Road to the MCC, which is also zoned as 'SP2 Infrastructure (Electricity Supply)'. The M4 Western Motorway is located further to the south, with Homebush Bay Drive to the north. Both roads are located in land zoned 'SP2 Infrastructure (Classified Road)'.

Land to the north of Homebush Bay Drive is zoned 'B4 Mixed Use', which comprises the sporting facilities forming part of the Olympic Park precinct.

The land directly to the north-east of the site is occupied by DFO Homebush, which contains commercial and retail services as well as car parking. This land is zoned as 'E3 Productivity Support'.

To the east of the site, and beyond the adjacent 'E3 Productivity Support' zoned land, is an area of land zoned as 'R4 High Density Residential'. This land is approximately 60 m to the south-east of the site at its closest point. Wentworth Reserve is located approximately 140 m to the east of the site and is zoned 'RE1 Public Recreation'.

Land use zones within and surrounding the site are shown in **Figure 2-1**.

Mining

The MinView database and web map application (Geological Survey of NSW, 2024) indicates there are no current mining or exploration licences over the site.

Petroleum

There are no petroleum rights, including wells, active exploration licences or licence applications, or petroleum assessment or production leases within or in proximity to the site.

Agricultural resource

The Land and Soil Capability Mapping of NSW (NSW DPIE, 2025d) indicates that the site is mapped as Class 6, which denotes very severe limitations to sustain agricultural land uses. The likely capability of the site to sustain agricultural land uses at present would be low.

Other land uses

The Project is not located on Crown land. There are no quarries or mineral extraction processes within 5 km of the site.

The Project Area has been identified as being within a flood planning area, and any development on the site may be subject to specific flood development controls. Further details are provided in **Section 6.4.3.4**.

Historical land uses

A review of a selection of historical land titles identified that potential land contaminating activities have been undertaken on the site since 1929, specifically:

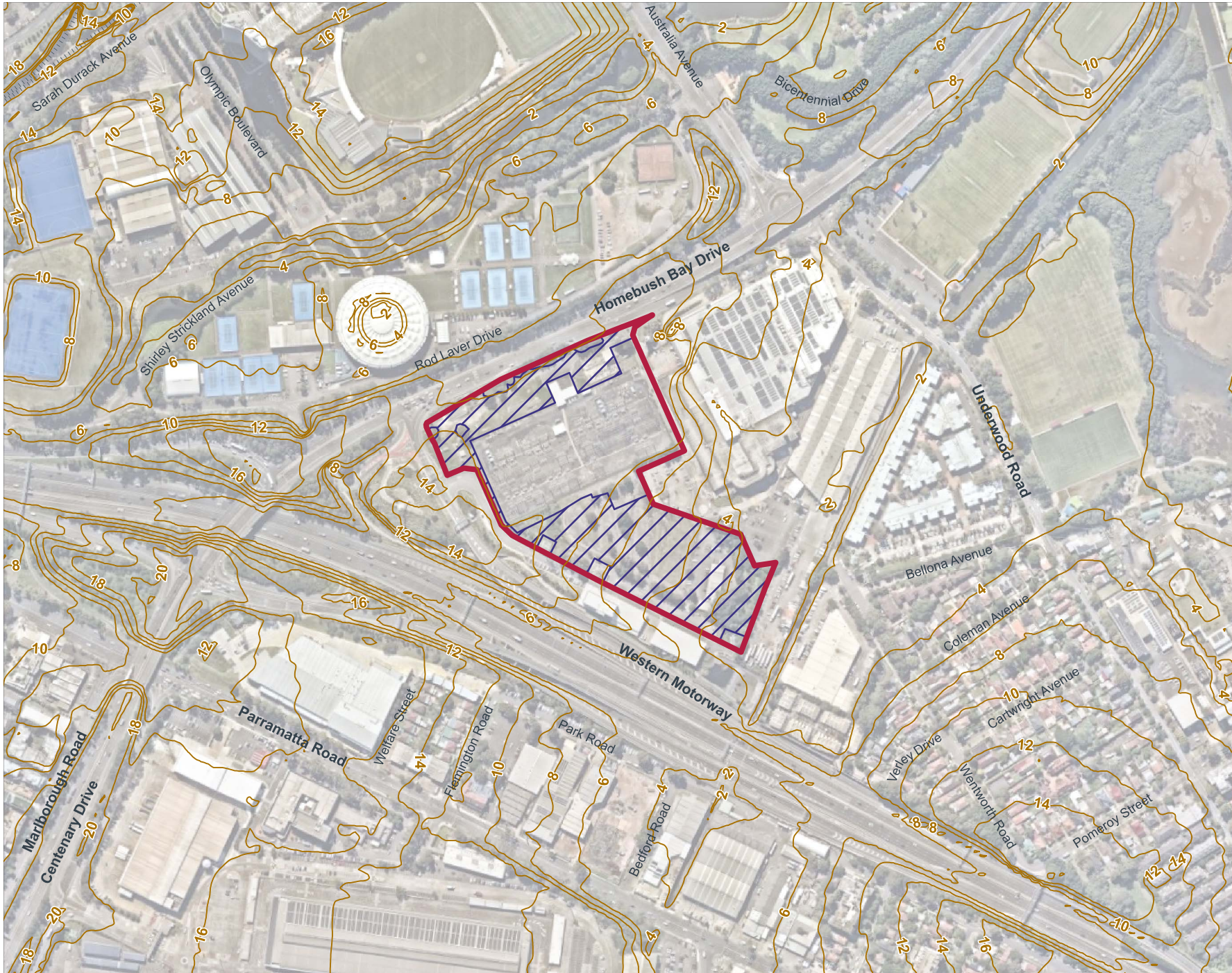
- Agricultural activities involving livestock (likely holding yards, saleyards or abattoirs) between 1929 and 1968
- Electricity distribution related works between 1968 and present.

6.4.3.2 Topography

The topography of the site generally slopes from north-west to south-east. The elevation of the north-western portion of the site, where the Mason Park STSS is located, is approximately 10.4 m AHD to

11.4 m AHD, with a slope of approximately 1%. Elevations towards the south-eastern portion of the site (in the location of the Operational Footprint of the Project) vary between 12 m AHD at its highest point to 5.5 m AHD at its lowest point, with slopes being generally steeper, in the range of 3% to 4%.

The topography of the Project Area is provided in **Figure 6.4-2**.



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**FIGURE 6.4-2:
TOPOGRAPHY**

Legend

-  The site
-  Project Area
-  Contours (2 m)

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6.4.3.3 Geology and soils

Surface geology

The Department of Mineral Resources Geological Survey of NSW *Sydney 1:100,000 Geological Series Sheet 9130 (Edition 1) 1983*, indicated that the majority of the site is considered likely to be underlain by Ashfield shale, part of the Wianamatta Group shales, comprising black to dark grey shale and laminite. The eastern portion of the Project Area is likely to be underlain by alluvial valley deposits, comprising silty to peaty quartz sand, silt and clay.

These rocks are characterised by fine-grained siltstones, shales, and occasional sandstone lenses. The low permeability of these shale formations influences drainage patterns and soil formation.

Site-specific geology

Observations made of the soils encountered during intrusive investigation works onsite are included in **Table 6.4-2**.

Table 6.4-2: Site-specific geology

Unit	Description	Depth (m below ground level)
Pavement	Asphalt / road base gravels	0.0 to 0.1
Fill	Sandy CLAY/Silty CLAY, fine to medium grained, brown, with ballast, asphalt, sandstone and roadbase gravels, moist, with trace geofabric	0.1 to between 0.3 and 1.5
Natural	CLAY, orange/grey mottled red, moist	From between 0.3 and 1.5 to 1.0

Soil landscapes

The site encompasses two primary soil landscapes: the Birrong soil landscape in the north, and the Blacktown soil landscape in the centre, both of which are derived from the Wianamatta Group shales.

The Birrong soil landscape comprises deep alluvial soils typically found on floodplains. These soils are silty and clay-rich, with hard setting clay loams, and can preserve organic materials under the right conditions.

The Blacktown soil landscape is characterised by shallow to moderately deep soils, with red and brown podzolic soils dominating the elevated and well-drained areas. The soil landscape contains brownish-black loams and hard-setting brown clay loams, noted for their highly plastic, low soil fertility and poor drainage characteristics. In contrast, poorly drained sections of the Blacktown soil landscape exhibit yellow podzolic soils.

Review of the great soil group mapping in the vicinity of the site reports less fertile Yellow Podzolic Soils in the western portion of the site. These soils are prone to low soil pH and low clay content, with susceptibility to compaction.

The extensive historical disturbance across the site, including land levelling and urban development, has likely compromised the integrity of these soil profiles.

Soil erosivity

As part of the geotechnical investigation erosivity tests were carried out on selected soils samples extracted from the boreholes within the Project Area. Out of the six soil samples tested, four samples were classified as sodic. The presence of sodic soils may indicate moderate potential for soil dispersion. The remaining samples we considered non-sodic suggesting relatively stable soil structure under typical conditions.

Dispersion testing identified that all samples indicate low dispersion potential when wet, which may indicate low erosivity potential of the soils in the Project Area.

Acid sulfate soils

A review of the NSW Planning Portal Spatial Viewer and Strathfield LEP indicated that the north-western portion of the site is mapped as Class 5, for which ASS are not typically found, and the south-

eastern portion of the site is mapped as Class 2, for which ASS are likely to be found below the natural ground surface. The ASS classes identified are shown in **Figure 6.4-3**.

An ASS walkover observed no visual evidence of unusually clear or milky blue-green water flowing from or within the Project Area. There was no evidence of dead, dying or stunted vegetation, scalded or bare low lying areas, or poor vegetation regrowth in previously disturbed areas. There was no visual evidence observed of corrosion of concrete and/or steel structures (including foundations, fences, masonry/brick walls, or pipes).

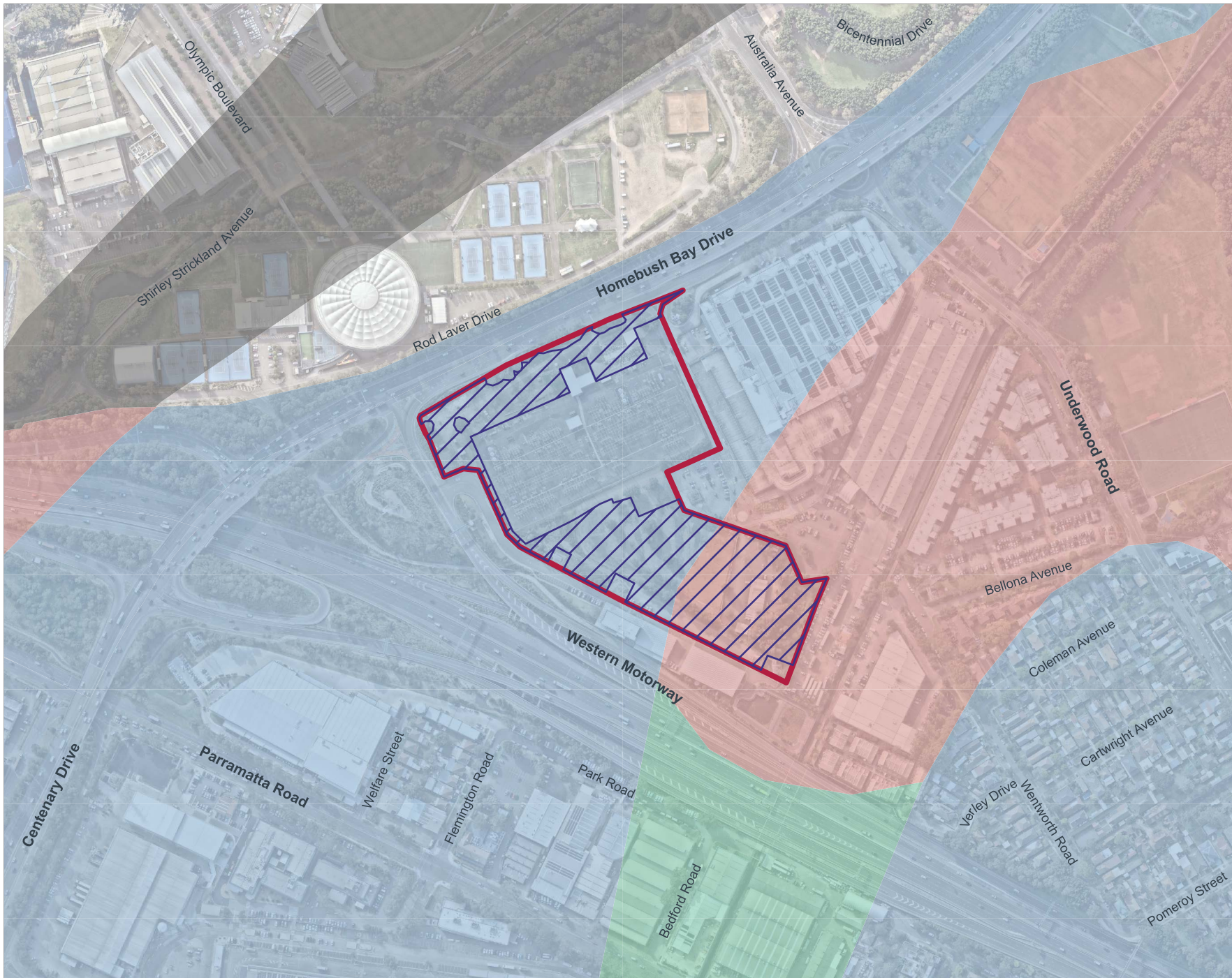


FIGURE 6.4-3:
MAPPED ACID
SULFATE SOILS

Legend

- The site
- Project Area

Acid Sulfate Soils

- Class 2
- Class 3
- Class 5
- Disturbed terrain

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6.4.3.4 Hydrogeology and hydrology

Surface water

The nearest surface waterbody to the site is an ephemeral drainage line (Saleyards Creek) located around 50 m to the east. This highly modified drainage channel, which forms a tributary of Powell's Creek, is typically shallow in nature and has limited access by the general public.

Powells Creek itself is an open channel of shallow depth with inlet pits and pipes that was straightened, realigned and developed into a concrete channel in 1934. Powells Creek is located approximately 625 m to the east of the site.

Other surface water bodies near the site include Mason Park Wetlands, located around 550 m to the north-east, and Belvedere Lake, located around 370 m to the north. Further detail on surface water features in the vicinity of the site is provided in **Section 6.8**.

Based on the topography of the site, the inferred surface water flow direction within the site is to the south-east.

The Project is not located in Sydney's drinking water catchment.

Groundwater

Based on the location of the identified surface water bodies and the site's surface topography, the inferred groundwater flow direction within the site is considered likely to be towards the south-east.

A search of the WaterInsights portal (WaterNSW, 2025) identified two registered groundwater wells within 500 m of the Project, that have previously been authorised for monitoring:

- GW102560 is located approximately 290 m to the south-east of the site
- GW111671 is located approximately 490 m to the east of the site.

Further details of these groundwater bores are included in **Section 6.8**.

No registered groundwater wells used for agricultural, irrigation, recreational, drinking or industrial purposes have been identified within 500 m of the Project.

Flood prone land

The Flood Planning Certificate received from Strathfield Council, included in the WIA in **Appendix K**, indicated that the site is within a flood planning area, and any development on the site may be subject to specific flood development controls. According to the *Powells Creek and Saleyards Creek Revised Flood Study* (WMAwater, 2016), the site is mapped as being in a both mainstream and overland flood planning area. Further detail on flood prone land is provided in **Section 6.8**.

Contamination

A review of the NSW EPA Contaminated Land Record of Notices (NSW EPA, 2025) indicated that the site (and land immediately adjacent to the site) was not the subject of:

- orders made under Part 3 of the CLM Act
- notices available to the public under section 58 of the CLM Act
- an approved voluntary management proposal under the CLM Act that has not been fully carried out and where NSW EPA approval has not been revoked
- site audit statements provided to the NSW EPA under section 53B of the CLM Act that relate to significantly contaminated land
- copies of anything formerly required to be part of the public record
- actions taken by NSW EPA (or the previous State Pollution Control Commission) under section 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985*.

NSW EPA notified contaminated sites notified

A search of the EPA's List of Notified Sites identified Ausgrid's Mason Park STSS, located adjacent to the Project Area containing contamination but not requiring regulation under the CLM Act.

POEO Act online public register

A search of the NSW EPA online POEO Act public register indicated that the site (and land located immediately adjacent to the site) was not the subject of a licence, application, notice, audit, pollution study or reduction program.

Ausgrid's Homebush Depot, located approximately 500 m to the east of the Project Area, at 25-27 Pomeroy Street, Homebush, was subject to the following:

- Notice no. 1626032 – authorising the storage and conveyance of polychlorinated biphenyl wastes and/or materials
- Licence no. 11426 – authorising the storage of waste (hazardous, restricted solid, liquid, clinical and related waste, and asbestos waste).

Sources of contamination

Based on a review of the site history and site walkover observations during the Preliminary and Detailed Site Investigations, a number of potential land contaminating activities have been identified within the Project Area including:

- Uncontrolled filling
- Uncontrolled demolition
- Termite treatment
- Use of hazardous building materials.

During the site walkover, there was no visual evidence of widespread chemical handling or storage, storage of waste, underground or above ground storage tanks, septic systems, or potential asbestos containing materials.

Contaminants of potential concern

The following contaminants of potential concern (COPC) associated with land contaminating activities have been identified based on the analysis of the soil sampling:

- Petroleum hydrocarbons
- Polycyclic aromatic hydrocarbons
- Pesticides
- Polychlorinated biphenyl
- Metals
- Asbestos
- Anthropogenic materials
- Sulfidic ores
- Hydrogen sulfide
- Anthropogenic materials.

The Preliminary and Detailed Site Investigation Report confirmed that none of the detected concentrations of COPC identified within the soils in the Project Area exceed the human health criteria.

6.4.4 Construction impacts

6.4.4.1 Land use

Based on the land zoning of the Project Area and the surrounding land use, construction of the Project would be compatible with the existing land use.

Construction of the Project would not impact agricultural land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights.

An assessment of amenity impacts on surrounding land use and receivers, including assessments of air quality (refer to **Section 6.11**), traffic (refer to **Section 6.7**) visual amenity (refer to **Section 6.5**) and noise and vibration (refer to **Section 6.6**) have determined that with the implementation of appropriate management and mitigation measures, there are no significant amenity impacts during construction. This suggests that construction activities associated with the Project would be compatible with the surrounding land uses.

The Project would be consistent and compatible with the existing context of the area and the current land zoning. A LUCRA was not prepared as the Project would not alter the land use of the Project Area or the area surrounding the Project during construction.

6.4.4.2 Soils

Construction works for the Project would involve vegetation removal, ground disturbance, excavation, transport, storage and reuse of soils, use of heavy machinery and other construction activities. These activities have the potential to destabilise the soils and expose ASS.

There is a potential risk for dispersion where soils are disturbed by Project construction activities within the Project Area. Higher impact activities such as vegetation clearance and earthworks are likely to result in increased dispersive behaviour, when soil is remoulded, compacted or pulverised. The presence of sodic soils in the soils sampled may indicate moderate potential for soil dispersion.

The risk of erosion is increased where more substantial earthworks are required. Erosion may lead to waterlogging of soils and soil structure decline. Potential impacts on surface water quality associated with erosion are discussed in **Section 6.8**.

Based on the implementation of the proposed mitigation and management measures, outlined in **Section 6.4.6**, the risk of erosion and sedimentation impacts on soils as a result of the Project are considered to be low.

6.4.4.3 Contamination

Soils

ASS, in the form of potential acid sulfate soils (PASS), have been identified within sample location TP25, at depths ranging from the site surface to at least 2 m below ground level. As a result, ASS may be present in materials to be disturbed during construction. When ASS are disturbed and exposed to air, they undergo chemical reactions that produce sulfuric acid. This process can release heavy metals such as iron, aluminium and manganese into the environment. Further assessment is required to assess the risk of ASS those areas not yet assessed.

The potential exists for any leak or spill of hazardous substances, such as PCBs and polyfluoroalkyl Substance (PFAS) compounds, within the Mason Park STSS to migrate into the Project Area as overland flow, and result in the contamination of soils within the Project Area. Impacts associated with hazardous substances during construction are detailed in **Section 6.9**. Due to existing management measures at the adjacent Mason Park STSS, the likelihood of hazardous substances migrating into the Project Area is considered to be low.

Surface water and groundwater

There is potential for the release of pollutants within the Project Area during construction, such as from a spill of oil or other event, which could result in contamination of surface water. Runoff of contaminated surface water could result in the mobilisation of contaminants into waterways, causing pollution. Appropriate management and mitigation measures will be implemented to prevent any pollutant entering drainage lines and waterways and ensure that pollution incidents are minimised, as detailed in

Section 6.4.6. Potential impacts of surface water contamination on water quality are discussed in **Section 6.8.**

The potential exists for groundwater on the adjacent Mason Park STSS to be contaminated with PCB and PFAS compounds and to migrate into the Project Area, resulting in contaminated groundwater within the Project Area. However, due to the existing management measures at the Mason Park STSS, it is unlikely that contaminated groundwater would migrate into the Project Area. As a result, the potential for groundwater on that land to be contaminated with those chemicals and subsequently migrate onto the Project Area is low.

During ground-disturbing construction activities associated with the Project, such as excavation, there is potential for contamination of groundwater. The geology encountered in the two closest groundwater monitoring wells to the site (GW102560 and GW111671) were identified as low permeability clays, potentially limiting contamination spread to proximal areas. The licence status of both monitoring wells is 'cancelled' which indicates they are no longer utilised for monitoring, potentially indicating that the groundwater contamination risk is no longer present within the vicinity of the wells. With the implementation of mitigation and management measures to minimise the risk of groundwater contamination, impacts to local groundwater are likely to be low.

Human health

Potential receptors susceptible to human health impacts during construction include human receptors, such as the construction workforce and commercial/industrial workers.

Excavation activities during construction have the potential to disturb and expose potentially contaminated soils in the Project Area. Contaminated soil could adversely impact human receptors within and surrounding the Project Area through dermal contact, ingestion, and dust inhalation. The detected concentrations of the relevant COPC in the soil samples analysed were below the adopted human health direct contact assessment criteria. Unacceptable land contamination human health risks have not been identified. Therefore, disturbance of contaminated soils during construction is unlikely to result in adverse impacts on human health.

The presence of ASS and their disturbance during construction may result in hazardous ground gas exposure risks to construction workers in trenches or pits. The risk of exposure would be managed through an Acid Sulfate Soils Management Plan (ASSMP) as outlined in **Section 6.4.6.**

The areas not yet assessed within the Project Area due to access constraints, as outlined in **Section 6.4.2.2**, may potentially present unacceptable human health related risks associated with contaminated soils and ASS. Further assessment is required within these areas prior to the commencement of construction.

There are no licensed water abstraction bores within 500 m of the site that could be affected by the Project. The Project is also not located in a drinking water catchment, therefore the potential for the Project to cause contamination to drinking water during construction, resulting in human health impacts, is low. The potential for ground gas migration through groundwater is considered to be low to negligible.

6.4.5 Operational impacts

6.4.5.1 Land use

As discussed in **Chapter 4.0**, the construction and operation of a BESS for electricity generating works is permissible with consent in an area zoned 'SP2 Infrastructure (Electricity Supply)'. The land use objectives of 'SP2 Infrastructure (Electricity Supply)', as described in the Strathfield LEP, are outlined in **Table 6.4-3**, alongside a discussion as to whether the Project supports or conflicts with these objectives.

Table 6.4-3: Compatibility with land use zone objectives

SP2 Infrastructure (Electricity Supply) zone objectives	Discussion
To provide for infrastructure and related uses	The Project would not conflict with this objective. The Project would provide infrastructure which can help to stabilise the power grid.

SP2 Infrastructure (Electricity Supply) zone objectives	Discussion
To prevent development that is not compatible with or that may detract from the provision of infrastructure	The Project would not conflict with this objective. The Project is compatible with the provision of infrastructure.
To ensure that development does not have an adverse effect on adjoining land	The Project would not conflict with this objective. Where required, mitigation measures would be implemented to minimise any effects on adjoining land uses.

During operation, the Project would be surrounded by industrial land uses. The operation of the Project would be unlikely to affect how the surrounding land is used. Neighbouring land uses would be able to continue to be used as they are at present. On this basis, the operation of the Project is unlikely to affect the land uses surrounding the site.

The Project complies with the existing land use zoning as outlined in the relevant planning instruments and is consistent with the intended use and character of the area. The Project is also compatible with surrounding land uses.

Following the end of the Project's operational life, above ground components of the Project would be decommissioned and removed and recycled where possible, and the land would be rehabilitated.

There are no significant changes in land use intensity or type associated with the Project. Due to the compatibility of the Project with the existing land uses, the impact on land use during operation and decommissioning is low, and a LUCRA is not considered to be required for this Project.

6.4.5.2 Contamination

Soils

No excavation works are proposed during operation; therefore, soil disturbance and soil mobilisation is not anticipated and, as a result, no erosion or sedimentation impacts are expected during operation of the Project.

Typical operation of the Project would involve the handling of potentially contaminating materials such as chemicals, fuels or oils which, in the event of a spill, could result in the contamination of soils within the Project Area. Mitigation measures outlined in **Section 6.4.6** will be implemented to prevent leaks and contain spills. With the application of mitigation measures, the risk of the operation of the Project contributing to the contamination of soil is considered to be low.

Surface water and groundwater

Operational activities associated with the Project could result in potential contamination of surface water and groundwater.

During operation, diesel generators would be located onsite to provide backup power. Therefore, the potential exists for diesel spills during operation, which could result in contamination of groundwater and surface water. Contamination of water resources could also occur when transformers leak oil.

With appropriate management and mitigation measures in place the risk of the operation of the Project contributing to the contamination of surface water receptors or groundwater resources is considered to be low.

Human health

Potential receptors susceptible to human health impacts during operation include human receptors, such as the operation and maintenance personnel and commercial/industrial workers.

No excavation works are proposed during operation and therefore disturbance to potentially contaminated soils is not anticipated. Receptor exposure to contaminated soils would therefore be unlikely.

Operation of the Project could present the risk of leaks and spills of transformer oils, dielectric fluids or coolants from the containerised battery units, which may contain contaminants such as PCBs and PFAS compounds. Exposure to these hazardous substances can cause various health issues. The

impacts associated with hazardous substances and measures to reduce impacts identified are provided in **Section 6.9**.

With the implementation of the management and mitigation measures outlined in **Section 6.4.6**, operation of the Project is unlikely to result in adverse impacts on human health.

6.4.6 Mitigation and management measures

The management and mitigation measures that would be implemented during detailed design, construction and operation of the Project are detailed in **Table 6.4-4**.

Table 6.4-4: Mitigation and management measures - land use, soils and contamination

ID	Mitigation/management measure	Timing
LSC-1	A supplementary contamination assessment will be undertaken by a suitably experienced environmental consultant to address the data gaps within the Project Area, including an assessment of land contamination and acid sulfate soils risks.	Pre-construction
LSC-2	If unacceptable contamination risks are identified and/or the extent of ASS are inadequately understood, or data gaps remain following completion of the supplementary contamination assessment, a remedial action plan (RAP) will be prepared by a suitably experienced environmental consultant to address the identified unacceptable health exposure risks. Any RAP required will include a methodology for: - addressing data gaps requiring a further assessment (if required) - delineation of identified land contamination risks (if required) - validation of management/remedial works (if required).	Pre-construction
LSC-3	A construction Soil and Water Management Plan (SWMP), including an Erosion and Sediment Control Plan (ESCP) will be prepared in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004) (the "Blue Book"). These will be prepared by a Certified Practitioner of Erosion and Sediment Control (CPESC) or an accredited soil scientist and implemented during construction. The SWMP will include erosion and sediment control measures to progressively stabilise and rehabilitate disturbed areas throughout construction. The ESCP will include a protocol for erosion control inspections to detect and mitigate impacts during construction.	Construction
LSC-4	An Acid Sulfate Soils Management Plan (ASSMP) will be prepared in accordance with the Acid Sulfate Soils Manual (NSW Environment and Heritage, 1998) to outline management and treatment methodologies to be implemented during soil disturbance works within the Project Area, to adequately manage identified ASS risks during construction.	Pre-construction Construction
LSC-5	If evidence of contamination is uncovered during construction, the following measures will be undertaken: - cessation of ground disturbance at the location and within the immediate vicinity - assessment of the site contamination and determination of appropriate remedial action.	Construction

ID	Mitigation/management measure	Timing
LSC-6	The Project's Construction Environmental Management Plan (CEMP) will include detailed Emergency Response Procedures in accordance with relevant regulation and policy, to ensure the safety and protection of personnel, the public and the environment. Emergency Response Procedures will also be included in an Operation Environmental Management Plan (OEMP) to be implemented during operation.	Construction Operation
LSC-7	Hazardous materials such as chemicals, fuels and oils will be handled and stored in accordance with relevant Australia Standards and the <i>Storing and Handling of Liquids: Environmental Protection – Participants Handbook</i> (DECC, 2007).	Construction Operation
LSC-8	Diesel will be stored on an impermeable surface in a bunded area (sized to contain 110% of the volume of the diesel stored) where a potential leak or spill would be contained and not enter the Project's stormwater management system.	Construction Operation
LSC-9	Transformers would be designed in accordance with the relevant Australian Standards that requires transformers to be located on impermeable surfaces with secondary containment. The secondary containment will consist of impermeable bunding with the capacity to contain 110% of the volume of oil within the transformer.	Detailed design Construction
LSC-10	Spill kits appropriate to products used on site will be readily available and stored in all vehicles onsite. As far as practicable, any spills of hazardous materials occurring onsite will be rendered safe (unable to contaminate further) by construction staff as soon as possible after the event, and the site environmental representative informed immediately. Emergency Response Procedures will be implemented, where required.	Construction Operation

6.5 Visual amenity

6.5.1 Secretary's Environmental Assessment Requirements

Table 6.5-1 sets out the SEARs relevant to visual amenity and where the requirements have been addressed in this EIS.

Table 6.5-1: Relevant SEARs – visual

Relevant SEARs	
Visual	Where addressed
The EIS must address the following specific matters:	
a detailed assessment of the likely visual impacts of all components of the project on surrounding residences (including approved developments, lodged development applications and dwelling entitlements), and key locations, scenic of significant vistas and road corridors in the public domain; and	A Visual Impact Assessment (VIA) has been prepared, which addresses the impacts to surrounding residences and other key locations and scenic vistas and is provided in Appendix H . A summary of the VIA is provided in this section (Section 6.5).
details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for onsite perimeter planting, with evidence it has been developed in consultation with affected landowners)	Mitigation measures to manage potential visual impacts are detailed in Section 6.5.5 .

6.5.2 Methodology

6.5.2.1 Assessment approach

A VIA was prepared by Aurecon (2025) to assess the potential visual impacts associated with the construction and operation of the Project. The VIA is provided in **Appendix H** and summarised in this section.

The VIA was based on the following approach:

- Identifying the visual study area from which the Project is likely to be visible, based on the height of proposed elements within the Project Area and intervening topography
- Determining the baseline environment against which the Project is assessed, including permitted land uses, other proposed projects, biophysical characteristics and aesthetic value
- Identifying the likely sensitive receivers and viewpoints for assessment
- Field visit to capture photographs from key viewpoints and ground truth desktop findings
- Producing 'artist's impression' visualisations indicating the magnitude of visual changes associated with the Project
- Determining the significance of visual impacts for each key viewpoint, using the matrix in **Table 6.5-2**.
- Outlining the mitigation measures to avoid, manage and minimise the Project's visual impacts.

The VIA applied best practice industry guidelines, including the following:

- *Technical Supplement – Landscape and Visual Impact Assessment, Large-Scale Solar Energy Guideline (NSW DPPI, 2022)*
- *Guideline for Landscape Character and Visual Assessment - Environmental Impact Assessment Practice Note EIA-NO4 (TfNSW, 2020)*
- *Guidelines for Landscape and Visual Impact Assessment (third edition) (Institute of Environment Management and Assessment (IEMA), 2013)*
- *Guidance Note for Landscape and Visual Assessment (Australian Institute of Landscape Architects, 2018).*

The *Technical Supplement - Landscape and Visual Impact Assessment – Large Scale Solar Energy Guideline* (DPPI, 2022) outlines a specific process for undertaking VIA for BESS projects, as outlined in **Figure 6.5-1**. The assessment of the visual impacts for the Project concluded at Stage 4 in this process.

Table 6.5-2: Visual impact determination matrix (Transport for NSW, 2020)

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

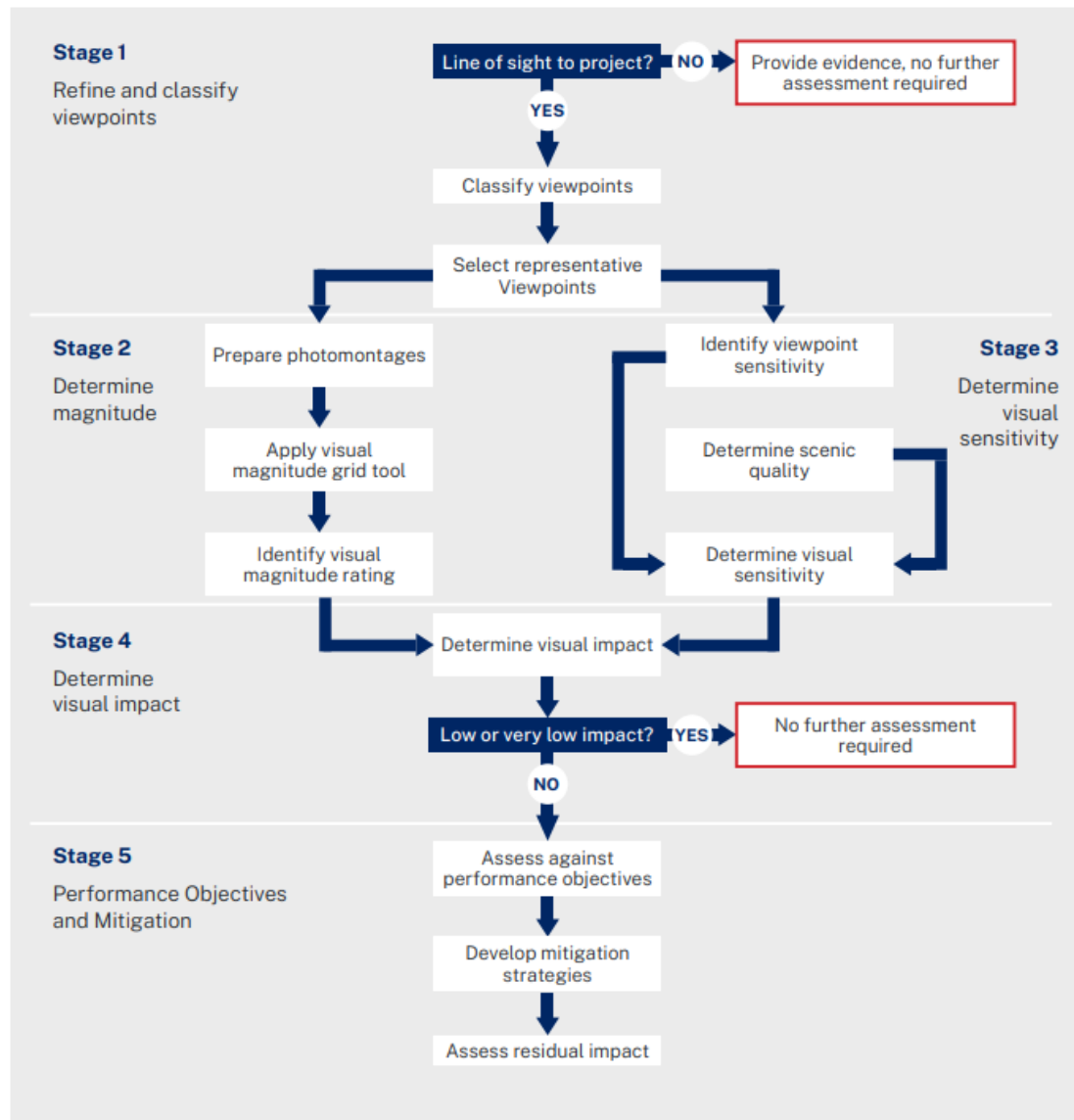


Figure 6.5-1: Detailed visual impact assessment process (DPHI, 2022)

6.5.2.2 Study area

The study area for the VIA includes a radius of 500 m from the Project. This area captures where the Project will be observable, based on the height of Project elements (up to 7 m), topographical characteristics and intervening elements in the surrounding area.

A Zone of Theoretical Visibility (ZTV) assessment was undertaken to determine the locations within and outside the study area where the Project was potentially visible, based on topography only. The ZTV does not account for intervening vegetation, building or other elements that may screen views to the Project. **Figure 6.5-2** shows the mapped ZTV and the study area used for the assessment.

6.5.2.3 Viewpoint selection

Within the study area, specific viewpoints were identified for detailed assessment. The selection of viewpoints was based on locations that are publicly accessible, are representative of receptors with a high sensitivity (such as residents), and are within the mapped ZTV with a high extent of visibility. These locations represent a 'worst case' assessment of the Project's visual impacts. **Figure 6.5-2** shows the viewpoint locations. Further details on the selected viewpoints are provided in **Section 6.5.3.2**.



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FIGURE 6.5-2:
ZONE OF THEORETICAL
VISIBILITY, STUDY AREA
AND VIEWPOINTS

Legend

- The site
- Project Area
- Visual impact assessment study area
- Local Government Area
- Zone of Theoretical Visibility
- Viewpoints
- Railway station
- Railway

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6.5.2.4 Visual impact assessment approach

For each viewpoint the VIA considered:

- the **visual sensitivity**, which is the degree to which various user groups would respond to change based on their expectation of a particular experience in a given setting. This was determined by considering the quality of the existing view and capacity to absorb the impacts from the proposed change
- the **magnitude of visual change**, which is the level of modification that a proposed development would have to the existing setting. This was quantified by considering the extent of the horizontal and vertical fields of view occupied by the Project.

Both magnitude and sensitivity were given ratings, from which an overall visual impact rating was derived, according to the matrix in **Table 6.5-2**.

Further details of the visual assessment approach are included in **Appendix H**.

6.5.2.5 Photomontages

Photomontages were prepared to show the proposed Project infrastructure overlain on an existing photograph of the site. The method for producing photomontages followed the *Guideline for landscape character and visual impact assessment – Environmental impact practice note EIA-N04* (TfNSW, 2020).

Four viewpoints were assessed within the VIA (see **Section 6.5.3**). Photomontages were produced for two of the four viewpoints:

- Viewpoint 1: Motorway on-ramp
- Viewpoint 2: DFO multi-storey carpark.

The photomontages are representative of day 1 of operation and depict the current design of key elements available at the time of preparing this EIS.

6.5.3 Existing environment

6.5.3.1 Site context

Land use

The Project is proposed in land zoned as 'SP2 Infrastructure (Electricity Supply)'. Land use surrounding the Project Area is largely industrial and commercial, with limited sensitive receivers. Further detail on the land use of the surrounding area is provided in **Section 6.4**.

The nearest residential property is located approximately 72 m south-east of the Project on Verley Drive. Residential receivers and their location in relation to the Project are shown on **Figure 6.6-1**.

Topography, landform and waterways

The Project is at an elevation of approximately 10 m AHD and is on relatively flat land. The variation of topographic levels within the study area is low. The nearby motorway is surrounded by built mounds and retaining walls, with these walls located parallel to residential apartments to the south-east of the site. **Figure 6.4-2** depicts the topography within and around the site.

Visual context

The Project is located within a heavily industrialised area, with the Mason Park STSS, transmission towers, overhead powerlines, and other industrial facilities being visually prominent.

The Mason Park STSS is not visible from the residential area to the south-east of the site due to intervening vegetation. However, the transmission towers on the western edge of the site are visible above the existing trees.

The Project is most visible from DFO Homebush to the north-east of the site, and from the Access Road to the south.

Recreational areas within Olympic Park Tennis Centre to the north are situated on relatively flat terrain, with dense perimeter vegetation screening views outside of the precinct.

Generally, the views from adjoining land uses towards the site are very limited, due to intervening topography, built form and vegetation.

6.5.3.2 Viewpoints

The identified visual receivers for the Project include motorists using the DFO Homebush car park, motorists using the M4 Western Motorway on-ramp, cycle path users, workers or visitors to adjacent businesses and some apartment residents south of the site.

There were no viewpoints identified within the study area that are designated or significant viewpoints.

Four viewpoints were selected for assessment that differ in viewing distance and aspect and were deemed to be representative of nearby visual receivers.

The viewpoint locations are shown in **Figure 6.5-2** and further details in relation to each viewpoint are outlined in **Table 6.5-3**.

Table 6.5-3: Viewpoint locations

Viewpoint ID	Location	Approximate viewing distance and direction from Project	Description	Existing setting	Representative receivers	Visual sensitivity
VP1	M4 Western Motorway on-ramp	90 m west	View from the Access Road off the M4 Western Motorway on-ramp, looking east towards the Project.	In the foreground, the Mason Park STSS is located at a lower level than the two-lane M4 Western Motorway on-ramp and Western Motorway On-Ramp/Access Road intersection. The STSS comprises electrical infrastructure on a hardstand, with transmission towers and multiple overhead powerlines. Views towards the Project Area from the M4 Western Motorway are screened by a landscaped mound, featuring the 'The Sprinter' sculpture, the elevated on-ramp and the MCC in the far right of the view. The bicycle lane is 50 m to the left of the viewpoint and cyclists will experience similar views as they pass by. Tall native trees are located to the right of the STSS, contributing to the greenery in a highly modified scene. The viewpoint is shown in Figure 6.5-3.	Motorists and cyclists on and parallel to the M4 Western Motorway	Low
VP2	DFO multi-storey car park	70 m north-east	View from second floor DFO Homebush carpark, looking south towards the Project.	A ground level car park is located to the foreground of the view, surrounding a HV transmission tower. Trees to the far right partially screen the Mason Park STSS. Electrical infrastructure is prominent in the foreground views including, the STSS, HV transmission towers, overhead powerlines and car park light poles. The site is surrounded by security fencing and comprises degraded hardstand with grass/weedy species and planted trees. Partial views of background elements include an existing demountable building within the site (far left of the view) and commercial buildings to the far side of the MCC. The viewpoint is shown in Figure 6.5-4.	Motorists and visitors to DFO Homebush	Low

Viewpoint ID	Location	Approximate viewing distance and direction from Project	Description	Existing setting	Representative receivers	Visual sensitivity
VP3	9 Verley Drive	90 m south-east	View from residential block at 9 Verley Drive, looking north-west towards the Project.	In the foreground, security fencing surrounds a stormwater treatment pond associated with the M4 Western Motorway. The MCC is visible in the middle ground. The fence is parallel to a drainage channel adjacent to the boundary of the residential apartments. There are partial views of the M4 Western Motorway, including road lighting and gantries to the far left of the viewpoint. Additionally, two transmission towers and overhead powerlines are visible. Trees and shrubs to the centre-right of the viewpoint are located in the foreground to middle ground, screening views. A high-rise building is visible in the background, located approximately 900 m away. The view towards the building is the direction of the Project. The viewpoint is shown in Figure 6.5-5.	Residents within two-storey apartments at Verley Drive	Moderate
VP4	Tennis World, Sydney Olympic Park	330 m north	View from Sydney Olympic Park Tennis Centre along Shirley Strickland Avenue, looking south-east towards the Project.	The foreground comprises fencing around the Tennis Centre, tennis courts with perimeter hedging, lighting poles, scattered trees and lawn areas. The facility is a maintained landscape, providing a functional park setting. The arena is located to the right of the viewpoint. In the background, tall trees along Homebush Bay Drive screen background views. The viewpoint is shown in Figure 6.5-6.	Recreational visitors of Olympic Park	Moderate



Figure 6.5-3: VP1 – M4 Western Motorway on-ramp (Aurecon, 2025)



Figure 6.5-4: VP2 – DFO multi-storey car park (Aurecon, 2025)



Figure 6.5-5: VP3 – 9 Verley Drive (Aurecon, 2025)



Figure 6.5-6: VP4 – Tennis World, Sydney Olympic Park (Aurecon, 2025)

6.5.4 Impact assessment

6.5.4.1 Construction

An assessment of the potential visual impacts from each viewpoint during the construction of the Project is provided in this section. A summary of the outcome of the VIA during construction is provided in **Table 6.5-4**.

VP1 – M4 Western Motorway on-ramp

During construction, trees within the Project Area would be removed, however some trees on the boundary of the Access Road would be retained, which would provide some screening of works. Given the partial view of the Project experienced whilst moving, this would result in a Very Low magnitude of change.

Based on the Low visual sensitivity and a Very Low magnitude of change, the visual impact rating at VP1 during construction would be **Very Low**.

VP2 – DFO multi-storey carpark

Construction of the Project would occupy foreground views and would be clearly visible from the carpark. Works including tree removal, earthworks for underground cabling, construction of hardstand areas and installation of BESS elements would be of low contrast to adjacent land uses. The magnitude of change is assessed to be Moderate.

Based on the Low visual sensitivity and a Moderate magnitude of change, the visual impact rating at VP2 during construction would be **Low**.

VP3 – 9 Verley Drive

Potential views of tree removal during the construction phase are likely in the middle ground of this view. Other construction works would not be visible due to intervening vegetation. The magnitude of change is deemed to be Very Low.

Based on the Moderate visual sensitivity and a Very Low magnitude of change, the visual impact rating at VP3 during construction would be **Very Low**.

VP4 – Tennis World, Sydney Olympic Park

The existing Mason Park STSS and Homebush Bay Drive are located between this viewpoint and the Project. Views toward the Project Area are screened by evergreen trees and therefore construction activities associated with Project would not be visible. The magnitude of change from this view is considered to be Negligible.

Based on the Moderate visual sensitivity and a Negligible magnitude of change, the visual impact rating at VP4 during construction would be **Negligible**.

6.5.4.2 Operation

An assessment of the potential visual impacts from each viewpoint during Year 1 of operation of the Project is provided in this section. A summary of the outcome of the VIA during operation is provided in **Table 6.5-4**.

Viewpoint 1 – M4 Western Motorway on-ramp

Once built, Project elements including the combined switch room and control room building to the foreground, noise walls and containerised battery units would be partially visible to cyclists and motorists behind limited retained vegetation. Therefore, there would be a Very Low magnitude of change.

Based on the Low visual sensitivity and a Very Low magnitude of change, the visual impact rating at VP1 during Year 1 of operation is assessed to be **Negligible**.

An indicative visualisation (photomontage) of the Project at Year 1 of operation is provided in **Figure 6.5-7**.



Figure 6.5-7: M4 Western Motorway on-ramp – existing view (top) and indicative view of Project at Year 1 of operation (bottom) (Aurecon, 2025)

VP2 – DFO multi-storey carpark

The Project elements, including containerised battery units, noise walls and an onsite workshop facility, would be visible in the foreground. Views of the surrounding built environment would also be visible due to the removal of trees. The Project infrastructure would be commensurate with the surrounding electrical infrastructure and industrial uses, resulting in a Moderate magnitude of change.

Based on the Low visual sensitivity and a Moderate magnitude of change, the visual impact rating at VP2 during Year 1 of operation is assessed to be **Low**.

An indicative visualisation (photomontage) of the Project at Year 1 of operation is provided in **Figure 6.5-8**.

VP3 – 9 Verley Drive

During operation, there is potential for partial views of Project infrastructure, including the noise walls (up to 6 m in height) and the combined switch room and control room building, which would be up to 7 m in height. Any retained perimeter trees and vegetation in the foreground would partially screen views. The introduction of the BESS is of low contrast to existing electrical infrastructure and the existing building in the middle ground, therefore not altering the overall balance of features. The magnitude of change is therefore assessed to be Very Low.

Based on the Moderate visual sensitivity and a Very Low magnitude of change, the visual impact rating at VP3 during Year 1 of operation is assessed to be **Very Low**.

VP4 – Tennis World, Sydney Olympic Park

There are no views of the Project from this viewpoint during operation due to intervening vegetation. The magnitude of change is therefore Negligible.

Based on the Moderate visual sensitivity and a Negligible magnitude of change, the visual impact rating at VP1 during Year 1 of operation is assessed to be **Negligible**.



Figure 6.5-8: VP2 – DFO multi-storey car park – existing view (top) and indicative view of Project at Year 1 of operation (bottom) (Aurecon, 2025)

6.5.4.3 Summary of visual impact

Table 6.5-4 summarises the visual impact for each of the representative viewpoints during construction and operation of the Project.

The VIA concluded that there are no sensitive public or private viewpoints that are likely to be subject to moderate or higher visual impacts during construction or operation. Assessment of the visual impact of these viewpoints indicated Low to Negligible visual impacts during construction and Year 1 of operation. Decommissioning impacts will be commensurate with construction impacts summarises the impact from each of the viewpoints that the Project will have during construction and operation.

Table 6.5-4: Summary of visual impact assessment

Viewpoint	Approximate distance and direction from Project	Sensitivity	Magnitude of change during construction	Magnitude of change during operation	Construction impact rating	Year 1 of operation impact rating
VP1 - Motorway on-ramp	90 m west	Low	Very Low	Very Low	Very Low	Very Low
VP2 - DFO multi-storey carpark	70 m north-east	Low	Moderate	Moderate	Low	Low
VP3 - 9 Verley Drive	90 m south-east	Moderate	Very Low	Very Low	Very Low	Very Low
VP4 - Tennis World, Sydney Olympic Park	330 m north	Moderate	Negligible	Negligible	Negligible	Negligible

6.5.5 Mitigation and management measures

The proposed mitigation and management measures would aim to reduce the potential visual impacts of the Project to the greatest extent practicable. The measures that would be implemented during detailed design, construction and operation of the Project are detailed in **Table 6.5-5**.

Table 6.5-5: Mitigation and management measures - visual amenity

ID	Mitigation/management measure	Timing
VA-1	The removal of existing vegetation including trees that provide screening along the site boundaries will be minimised where possible.	Detailed design
VA-2	Non-reflective surface treatments will be applied to buildings and structures where practical to minimise reflection.	Detailed design
VA-3	The 'industrial' aesthetic of the Project will be reduced through the colour and/or finish of the noise walls. The noise walls will be coloured in mid-green, if possible, to recede the appearance of structures by blending them with vegetation. Where noise walls are public facing, artistic murals with positive messaging will be considered, where practical.	Detailed design
VA-4	A landscape plan will be developed prior to construction and include details of vegetation removal, planting areas and a planting list, which will be implemented during construction.	Pre-construction Construction
VA-5	The area of disturbance during construction will be limited where practical.	Construction
VA-6	Stockpiles, storage areas and construction equipment will be located in areas not visible to public viewpoints, where practical.	Construction
VA-7	All areas disturbed by construction and not required for operation of the Project will be rehabilitated.	Detailed design Construction
VA-8	Lighting will be designed and installed in accordance with <i>AS4228-1197 – Control of Obtrusive Effects of Outdoor Lighting</i> to minimise glare and light spillage.	Detailed design Operation

6.6 Noise and vibration

6.6.1 Secretary's Environmental Assessment Requirements

Table 6.6-1 sets out the SEARs relevant to noise and vibration and where the requirements have been addressed in this EIS.

Table 6.6-1: Relevant SEARs – noise and vibration

Relevant SEARs	
Noise	Where addressed
The EIS must address the following specific matters:	
an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the <i>Interim Construction Noise Guideline</i> (ICNG), operational noise impacts in accordance with the <i>NSW Noise Policy for Industry</i> (2017), traffic noise in accordance with the <i>NSW Road Noise Policy</i> (DECCW, 2011) and cumulative noise impacts (considering other developments in the area), including (where appropriate):	The NVIA has been prepared in accordance with the relevant guidelines as detailed in Section 6.6.4 and Appendix I .

Relevant SEARs	
- identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours;	An assessment of construction and operational noise impacts associated with site emissions and traffic is provided in Section 6.6.4 and Section 6.6.5 . Noise contours are provided in Appendix I .
- details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers;	The noise monitoring survey undertaken is summarised in Section 6.6.2.3 and detailed in Appendix I . Background and amenity noise levels are presented in Section 6.6.3.1 .
- details of manufacturer specifications for plant and equipment and noise source inventory (demonstrating worst-case modelling of plant and equipment);	Details of manufacturer specifications for plant and equipment utilised in the assessment and a noise source inventory are presented in Appendix I .
- an assessment of 'worst case' noise emission scenarios;	An assessment of 'worst case' construction and operational noise is provided in Section 6.6.4 and Section 6.6.5 , respectively.
- consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and	Consideration of meteorological conditions has been included in the noise modelling software, as detailed in Section 6.6.2.4 and Section 6.6.2.6 . Consideration of annoying characteristics of noise is outlined in Section 6.6.2.6 .
- details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.	Analysis of the effectiveness of measures, identification of residual impacts and details of proposed compliance monitoring programs are addressed within the mitigation measures presented in Section 6.6.6 .

6.6.2 Methodology

A Noise and Vibration Impact Assessment (NVIA) was undertaken by Assured Environmental (2025) to assess the potential noise and vibration impacts during construction and operation of the Project. The NVIA is included in **Appendix I** and summarised in this section.

6.6.2.1 Policies and guidelines

The NVIA was prepared in accordance with the following guidelines:

- *Interim Construction Noise Guideline* (NSW Department of Environment and Climate Change, 2009) (ICNG)
- Approved methods for the measurement and analysis of environmental noise in NSW (NSW EPA, 2022)
- *NSW Road Noise Policy* (DECCW, 2011) (RNP)
- *NSW Noise Policy for Industry* (NSW EPA, 2017) (NPfI)
- *Assessing Vibration: A Technical Guideline* (NSW EPA, 2006)
- US Department of Transportation's Transit Noise and Vibration Impact Assessment (US Department of Transportation, 2006)
- *NSW Protection of the Environment Operations Act 1997* (POEO Act)

6.6.2.2 NVIA methodology

The NVIA involved the following steps:

- Establishing the existing background noise levels in accordance with relevant guidelines
- Identifying relevant noise and vibration sensitive receptors
- Undertaking a construction noise and vibration impact assessment:
 - Determining Project specific noise and vibration management levels applicable to the identified sensitive noise receptors
 - Assessment of the noise generated during construction, including that arising from additional traffic generated by the Project
 - Assessment of the impacts of vibration generated during construction
- Undertaking an operational noise and vibration impact assessment:
 - Determining Project specific noise trigger levels applicable to the identified sensitive noise receptors
 - Assessment of the noise generated during operation, including that arising from additional traffic generated by the Project
 - Assessment of the impacts of vibration generated during operation
- Identification of appropriate mitigation measures to avoid, reduce or manage the Project's construction and operational noise and vibration impacts.

6.6.2.3 Establishing existing noise background levels

Baseline noise monitoring was undertaken to establish the existing ambient and background noise levels. Unattended noise measurements were undertaken at the boundary of the Homebush Business Village at 20/11-21 Underwood Road, Homebush NSW, close to the residential receptors on Bellona Avenue, between 23 August and 30 August 2024 (the sample period). The noise monitoring location is shown in **Figure 6.6-1**.

Monitoring data collected during the sample period that was affected by severe weather conditions or extraneous noise events were excluded from the monitoring, in accordance with NPfI.

From the monitoring data the L_{A1} , L_{A10} , L_{A90} , and L_{Aeq} levels of the noise environment were determined. The L_{A1} , L_{A10} and L_{A90} noise levels are the levels exceeded for 1%, 10% and 90% of the sample period respectively. The L_{Aeq} noise level is the equivalent continuous sound level of the sample period. This level has the same sound energy as the actual noise environment.

The L_{A90} noise levels were used to determine the acoustic background level (ABL) for the day, evening, and night periods respectively. A rating background level (RBL) for the day, evening and night periods was then determined based on the median of the individual ABLs over the entire sample period.

The L_{Aeq} noise level and the L_{A90} noise level for the day, evening and night-time periods are provided in **Section 6.6.3.1**. The results of each day of logging are included in **Appendix I**.

No attended background monitoring was conducted, as it was considered that attended measurements would not provide additional detail relevant to the determination of background levels.

6.6.2.4 Construction noise assessment approach

Construction work hours

As detailed in **Section 3.3.1**, construction work would occur during recommended standard hours, as outlined in the ICNG, being:

- Monday to Friday 7.00 am to 6.00 pm
- Saturday 8.00 am to 1.00 pm
- No works on Sundays and Public Holidays.

Activities that may be required to be completed outside of those standard working hours would be completed in accordance with an Out of Hours Work procedure and may include (but not be limited to):

- Electrical commissioning and testing
- Emergency situations where work is required to prevent harm to persons or property.

These works outside of standard working hours are not anticipated to occur for more than two consecutive nights and are expected to produce a negligible amount of noise and have therefore not been considered in the construction noise assessment.

Construction noise criteria

The ICNG applies to the management of construction noise in NSW. Under the ICNG, construction noise management levels (NMLs) are calculated to determine noise impacts during construction activities with respect to defined thresholds. These thresholds include:

- The '**noise affected level**': the point at which construction noise may result in some community reaction. This is calculated as RBL + 10 A-weighted decibels (dB(A)) for standard construction hours
- The '**highly noise affected level**': a fixed threshold of 75 dB(A). This is defined by the ICNG as the point where construction noise may result in a strong community reaction.

Project-specific NMLs for noise sensitive residential receptors have been calculated for standard construction hours based on the RBL determined from the unattended background noise measurements. The Project's RBL and construction NML for residential receptors are set out in **Table 6.6-2**.

Table 6.6-2: Construction noise criteria at residential receptors

Period	Project RBL, dB(A)	Construction NML, dB(A)	
		Noise affected	Highly noise affected
Day - standard construction hours	45	55	75

The construction NMLs for non-residential receivers are provided in **Table 6.6-3**. These values are set out in the ICNG and are not dependent on Project-specific background noise monitoring.

Table 6.6-3: Construction noise criteria for non-residential receptors

Land use	Construction NML, $L_{Aeq(15min)}$, dB(A)
Commercial premises (offices, retail outlets)	External noise level 70 dB(A)
Active recreation areas, such as parks and sports grounds (characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion)	External noise level 65 dB(A)
Passive recreation areas, such as outdoor grounds used for teaching (characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example, reading, meditation)	External noise level 60 dB(A)

Criteria for noise arising from construction traffic on public roads is determined using the RNP. Under the RNP, thresholds for construction traffic noise increases are:

- 2 dB(A) increase or less: Considered negligible and typically not significant
- Greater than 2 dB(A): Further consideration is required against the road category specific criteria (reproduced from the RNP in **Table 6.6-4**). Exceedances of road category specific criteria may require further assessment or mitigation.

Table 6.6-4: Road traffic noise assessment criteria

Road category	Road traffic noise assessment criteria, dB(A)	
	Day (7am – 10pm)	Night (10pm – 7am)
Local roads	L _{Aeq} (1 hour) 55 dB(A)	L _{Aeq} (1 hour) 50 dB(A)
Freeway/arterial/ sub-arterial roads	L _{Aeq} (15 hour) 60 dB(A)	L _{Aeq} (9 hour) 55 dB(A)

Construction noise modelling scenarios and noise sources

Based on the anticipated staging of construction activities, a number of construction noise scenarios were modelled for the assessment:

- Scenario 0 – Vegetation removal/site clearing
- Scenario 1 – Site establishment
- Scenario 2 – Civil works for BESS
- Scenario 3 – Installation of BESS equipment
- Scenario 4 – Installation of ancillary operational equipment
- Scenario 5 – Landscaping and noise wall establishment.

Table 6.6-5 provides a summary of the construction plant/equipment proposed to be used during each scenario, their associated sound power levels and acoustical usage factors. The acoustical usage factor represents the percentage of time that a particular item of equipment is assumed to be running at full power while working onsite.

The sound power levels presented have been sourced from published noise emission datasets and the library of source noise levels maintained by Assured Environmental.

Table 6.6-5: Construction noise sources

Construction Scenario	Plant item	Estimated number required	Sound power level, dB(A)	Acoustical usage factor (%)	Total sound power level by scenario, dB(A)
0 – Vegetation removal / site clearing	Bulldozer D9	1	116	40	121
	Excavator (tracked) 35 tonnes	1	110	40	
	Chainsaw 4-5 hp	2	114	50	
	Tub grinder/mulcher 40-50 hp	1	116	100	
	Dump truck	4	110	100	

Construction Scenario	Plant item	Estimated number required	Sound power level, dB(A)	Acoustical usage factor (%)	Total sound power level by scenario, dB(A)
1 - Site establishment	Front end loader	1	112	40	116
	Dump truck	4	116	40	
	Excavator	1	110	40	
	Grader	1	113	40	
	Compactor	1	106	20	
	Diesel generator	1	103	50	
	Water cart	1	107	40	
2 - Civil works for BESS	Front end loader	1	112	40	116
	Bobcat	4	106	40	
	Concrete truck	3	114	40	
	Concrete pump	1	109	20	
	Diesel generator	1	103	50	
	Concrete saw	1	118	20	
	Dump truck	2	113	40	
3 – Installation of BESS equipment	Elevated work platform	2	108	16	106
	Mobile crane	1	107	16	
	Hand tools	5	102	50	
	Diesel generator	1	103	50	
4 – Installation of ancillary operational equipment	Elevated work platform	1	102	98	106
	Hand tools	5	102	99	
	Mobile crane	1	110	102	
	Diesel generator	1	103	100	
5 – Landscaping and establishment of noise walls	Water truck	1	107	40	113
	Backhoe	1	110	40	
	Compactor	1	106	20	
	Fanna crane	1	98	16	
	Bobcat	2	103	40	
	Dump truck	2	113	40	
	Front end loader	1	112	40	

Construction noise prediction levels

Noise levels arising from construction activities in **Table 6.6-5** were predicted at nearby noise sensitive receptors using the noise modelling software Computer Aided Noise Abatement (CadnaA) (DataKustik, 2024). A noise model was created to represent 'reasonable' worst-case periods of construction works. The following features were included in the noise model:

- Digital terrain
- Ground absorption

- Meteorology
- Receptors
- Construction noise sources.

The noise levels calculated at each sensitive receptor were based on a minimum approximate separation distance between the construction activities and the receptors. Identified sensitive receptors and their approximate distances to the Project are outlined in **Section 6.6.3.2**.

Predicted noise levels for all scenarios were assessed during the day, as all major construction work is expected to be completed during standard construction hours only. The ICNG recommends assessing sleep disturbance impacts if construction works are planned to extend over more than two consecutive nights. Works outside standard construction hours are not proposed over more than two consecutive nights; therefore, a sleep disturbance assessment has not been undertaken.

The conservative worst-case assumption that all noise-emitting plant and equipment operates in the same area and is used concurrently was applied. Propagation was assumed to occur over hard ground and no screening objects were considered between the source and the receptor. Meteorological effects on noise propagation, specifically temperature inversions and gradient winds, were also considered.

Vegetation removal and site clearing activities during Scenario 0 are assumed to take place at the boundary of the site. For all other construction scenarios, all equipment and plant are modelled at the eastern edge of the Operational Footprint, as shown in **Figure 3-1**.

Predictions for road traffic noise emissions were undertaken in accordance with Calculation of Road Traffic Noise (CRTN) methodology. Modelling was carried out to determine the maximum noise road traffic noise generated by vehicles during the peak construction periods. Predicted vehicle volumes for the peak construction periods were assessed against vehicle volumes, using traffic data provided by Transport for NSW for Homebush Bay Drive (Station ID 29010), to determine the relative increase in noise emissions. The assessment has conservatively assumed that all construction vehicle movements would occur during a 1-hour period during off peak times in the AM and the PM. Therefore, consideration against daytime and night-time criteria was undertaken.

Section 6.6.4 summarises the results of the construction noise impact assessment.

6.6.2.5 Construction vibration assessment approach

An assessment of the potential for vibration impacts during construction has been undertaken with respect to both human comfort and structural damage for the nearest residential receptors.

Vibration-producing plant and equipment likely to be used during construction include compactors, excavators and loaded trucks. Peak particle velocity (PPV) levels at 10 m were determined for this equipment using information contained in the *Assessing Vibration: a Technical Guideline* (NSW EPA, 2006) and the *US Department of Transportation's Transit Noise and Vibration Impact Assessment* (2006).

Construction vibration criteria

Human comfort

The NSW EPA's *Assessing Vibration: a Technical Guideline* (NSW EPA, 2006) provides vibration criteria associated with amenity impacts (human annoyance) for the three categories of vibration:

- Continuous vibration (e.g., road traffic, continuous construction activity)
- Impulsive vibration includes less than three distinct vibration events in an assessment period (e.g., occasional dropping of heavy equipment)
- Intermittent vibration includes interrupted periods of continuous vibration (e.g., drilling), repeated periods of impulsive vibration (e.g., pile driving) or continuous vibration that varies significantly in amplitude.

The criteria for continuous and impulsive vibration is provided in **Table 6.6-6**. The criterion for intermittent vibration is outlined in **Table 6.6-7**.

Table 6.6-6: Continuous and impulsive vibration criteria for residential receptors – peak velocity

Receptor type	Vibration type	Preferred limit (mm/s)	Maximum limit (mm/s)
Residential	Continuous	0.28	0.56
Residential	Impulsive	8.6	17

Table 6.6-7: Intermittent vibration criteria for residential receptors – peak velocity

Receptor type	Period	Preferred value (m/s ^{1.75})	Maximum value (m/s ^{1.75})
Residential	Daytime	0.2	0.4

Commercial receptors have less stringent vibration criteria than residential receptors, therefore compliance with the vibration criteria for the nearest residential receptors will imply compliance for all other nearby sensitive receptors at the same distance from the Project.

Cosmetic damage

To assess potential damage to buildings, reference has been made to British Standard *BS 7385-2: 1993 Evaluation and measurement of vibration in buildings – Part 2: Guide to damage levels from ground borne vibration* (British Standards, 1993). **Table 6.6-8** presents vibration criteria for assessing the potential for building damage.

Table 6.6-8: Transient vibration guide values for cosmetic damage

Type of building	Peak particle velocity (mm/s)	
	4 Hz to 15 hertz (Hz)	15 Hz and above
Unreinforced or light framed structures – residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

6.6.2.6 Operational noise assessment approach

Operational noise criteria

Project-specific noise criteria for operation has been established using the guidance provided in the NPfI. Project-specific criteria is selected as the lowest of the intrusive noise and the amenity noise criteria:

- **Intrusive noise criteria** is calculated as the RBL + 5 dB(A) and protects against significant changes in noise levels as a result of industrial development
- **Amenity noise criteria** is determined from recommended amenity noise levels in the NPfI that protects against noise impacts such as speech interference, community annoyance and some sleep disturbance, and against cumulative noise impacts from industry.

As detailed in the NPfI, to ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, Project amenity noise levels for each new source of industrial noise are recommended to be 5 dB(A) lower than the recommended amenity levels in the NPfI. A review of the area surrounding the Project has identified that there are other industrial noise sources and that future industrial development in the area is likely. As such, 5 dB(A) has been subtracted from the Project amenity noise levels to determine the Project specific noise amenity area levels.

These two criteria are then used to determine the Project noise trigger level. This is the level that, if exceeded, would indicate a potential noise impact on the community, and therefore 'trigger' a management response.

The Project specific operational noise criteria considered in the assessment is set out in **Table 6.6-9**.

Table 6.6-9: Project specific noise criteria

Receptor type	Period	RBL, dB(A)	Intrusive criterion $L_{Aeq, 15 \text{ min}}$, dB(A)	Amenity criterion, $L_{Aeq, 15 \text{ min}}$, dB(A)	Project trigger level $L_{Aeq, 15 \text{ min}}$, dB(A)
Residential	Day	45	50	58	50
	Evening	49	54	44	48
	Night	45	50	43	43
Commercial	When in use	-	-	63	63
Active recreation	When in use	-	-	53	53
Passive recreation	When in use	-	-	48	48

The NPfl requires a detailed assessment of potential sleep disturbance, where the predicted night-time noise levels at a residential receptor exceed the following criteria:

- $L_{Aeq, 15 \text{ min}}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
- $L_{AF \text{ max}}$ 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater.

Based on measured background noise levels and the RBL during the night-time period, the sleep disturbance criteria required for compliance for the nearest noise sensitive residential receptors is presented in **Table 6.6-10**.

Table 6.6-10: Night-time sleep disturbance screening levels

Receptor type	Measured night time RBL, $L_{A90, 15 \text{ min}}$, dB(A)	Sleep disturbance screening levels for compliance, dB(A)	
		$L_{Aeq, 15 \text{ min}}$	$L_{AF, \text{ max}}$
Residential	45	50	60

The criteria for noise generated by operational traffic on public roads are the same as those used for construction traffic, as detailed in **Section 6.6.2.4**.

Operational noise sources

Table 6.6-11 provides a summary of the fixed plant proposed to operate during the Project's operational stage, their associated sound power levels and acoustical usage factors.

All noise sources associated with the operation of the Project are considered continuous in nature, operating during all periods (day, evening, night).

The sound power levels presented have been sourced from a combination of Australian Standards, the Australian Acoustical Society and the manufacturer of the containerised battery units.

Table 6.6-11: Operational noise sources

Noise source	Quantity	Acoustical usage factor (%)	Sound Power Level, dB(A)
Containerised battery units	112	100	78 – 91*
MV transformers	56	100	77
Auxiliary transformer	1	100	77

* The left and right façade of each containerised battery unit produce >10 dB below the level produced by the loudest facades

Annoying noise characteristics

Where a noise source contains certain characteristics, such as tonality, impulsiveness, intermittency, irregularity or dominant low-frequency content, there is evidence to suggest that it can cause greater annoyance than other noise at the same sound power level.

Fact Sheet C in the NPfl sets out corrections for annoying noise characteristics, which have regard to:

- the contribution noise level from the premises when assessed/measured at a receptor location
- the nature of the noise source and its characteristics.

Penalties of up to a maximum of 10 dB(A) may be applied where the subject noise has such characteristics at the receptor.

A +5 dB(A) tonality correction was applied to the proposed MV transformers and the auxiliary transformer to address identified annoying noise characteristics, in accordance with Fact Sheet C.

Operational noise level predictions

CadnaA noise modelling software was used to predict the potential noise emissions from the Project on nearby sensitive receptors under a range of operating scenarios and meteorological conditions. The modelling incorporated meteorology, terrain, ground type and air absorption in addition to source characteristics.

The approach to predicting noise generated by operational traffic on public roads was the same as the approach used for predicting noise associated with construction traffic, as detailed in **Section 6.6.2.4**.

6.6.3 Existing environment

6.6.3.1 Rating background levels

The existing overall representative ambient noise level and the RBL for the day, evening and night periods for the sample period are presented in **Table 6.6-12**.

The unattended noise monitoring data was adjusted to remove the influence of nearby insect noise between 3.15 and 8 kilohertz (kHz).

Table 6.6-12: Existing background (L_{A90}) and ambient (L_{Aeq}) noise levels

Noise logger location	L_{A90} RBL, dB(A)			Log average noise (ambient) L_{Aeq} levels dB(A)		
	Day	Evening	Night	Day	Evening	Night
20/11-21 Underwood Road, Homebush NSW	45	49	45	56	54	52

The RBLs in all periods are representative of an 'urban residential' receptor category. This aligns with the proximity of the area to commercial and industrial districts, as well as the adjacent M4 Western Motorway and arterial roads.

The existing noise environment at nearby sensitive receptors is likely to be controlled by road traffic noise from the characteristically heavy and continuous traffic flows on the M4 Western Motorway and nearby arterial roads.

6.6.3.2 Sensitive receivers

Nearby sensitive receptors that could be affected by Project noise comprise residences, commercial premises and other sensitive land uses, such as recreation areas, as shown in **Figure 6.6-1**.

In total, 28 noise-sensitive residential receptors and 20 non-residential receptors surrounding the Project have been identified for assessment, as outlined in **Table 6.6-13**.

The closest receptor (R42) is located at 8/9 Verley Drive, around 72 m to the south-east of the nearest noise-emitting plant/equipment to be used for the Project. The closest non-residential receptor is R25, a commercial premises located around 56 m to the south-east of the Project's nearest noise-emitting plant/equipment.

Table 6.6-13: Nearby sensitive receivers

Receptor ID	Land use classification	Approximate distance to Project (m)
R01	Residential	121
R02	Residential	134
R03	Residential	148
R04	Residential	160
R05	Residential	174
R06	Residential	183
R07	Residential	190
R08	Residential	203
R09	Commercial	95
R10	Commercial	56
R11	Commercial	132
R12	Commercial	240
R13	Commercial	229
R14	Commercial	222
R15	Active recreation	311
R16	Active recreation	332
R17	Commercial	132
R18	Commercial	50
R19	Active recreation	69
R20	Active recreation	86
R21	Active recreation	108
R22	Residential	196
R23	Commercial	188
R24	Commercial	192
R25	Commercial	173
R26	Residential	176
R27	Residential	184
R28	Residential	146
R29	Residential	196
R30	Residential	258
R31	Residential	270
R32	Residential	280
R33	Commercial	330
R34	Active recreation	316
R35	Active recreation	352
R36	Passive recreation	470

Receptor ID	Land use classification	Approximate distance to Project (m)
R37	Residential	162
R38	Residential	172
R39	Residential	187
R40	Residential	188
R41	Commercial	133
R42	Residential	72
R43	Residential	98
R44	Residential	99
R45	Residential	114
R46	Residential	131
R47	Residential	140
R48	Residential	159

FIGURE 6.6-1:
NOISE MONITORING LOCATION
AND NOISE SENSITIVE
RECEPTORS



Legend

- The site
- Project Area

Noise Receptor Type

- Active recreation
- Commercial
- Passive recreation
- Residential

- ✖ Noise monitoring location

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6.6.4 Construction noise impact assessment

6.6.4.1 Predicted construction noise levels

The predicted construction noise levels for residential and non-residential receptors derived from the modelling have been assessed against the standard construction hours NMLs. The results of this assessment are provided in **Table 6.6-14** and **Table 6.6-15**.

The assessment shows that the construction noise levels are predicted to exceed the NMLs during standard hours for all residential receptors during all construction scenarios. In accordance with ICNG, where nearby sensitive receptors are predicted to be noise affected, reasonable and feasible noise mitigation measures are to be applied. As such, mitigation measures, identified in **Section 6.6.6**, will be implemented to manage noise impacts upon residential receptors.

The predicted noise levels during Scenario 0 also exceed the highly noise affected criterion of 75 dB(A) for 19 of the 27 residential receptors and all of the non-residential receptors. The most affected residential receptor is R42 located on Verley Drive, around 72 m south-east of the Project. R42 is predicted to experience a noise level of 84 dB(A) during Scenario 0. Activities within this scenario are expected to occur for a limited period of time (up to one week), and as such further mitigation measures are not considered to be warranted. There are no other exceedances of the highly noise affected criteria during any other construction scenarios.

During Scenario 1 (Site establishment) and Scenario 2 (Civil works), the closest residential receptors to the east of the Project would experience the greatest exceedance of the NMLs. These exceedances are however below the highly noise affected criteria.

The largest predicted exceedance for commercial receptors outside of Scenario 0 is predicted at R10, with exceedances up to 6 dB above the NML. Receptors R09, R17 and R41 also demonstrate exceedances of the NML during Scenario 1 and Scenario 2.

During Scenarios 1 and 2, the predicted noise levels for nearby recreation areas exceed the NML by 2 dB(A) at R16, R19, R20 and R21.

The mitigation measures outlined in **Section 6.6.6** will address noise impacts to non-residential receptors.

The ultimate level of impact may change depending on the final construction methodology and further assessment would be undertaken prior to construction, where required.

Table 6.6-14: Predicted construction noise levels during standard hours at residential receptors

Receptor ID	Standard hours criteria (dB(A))		Predicted construction noise levels during standard hours for each construction scenario (L _{Aeq, 15min} dB(A))					
	Noise affected	Highly noise affected	0 Vegetation removal/site clearing	1 Site establishment	2 Civil works for BESS	3 Installation of BESS equipment	4 Installation of ancillary operational equipment	5 Landscaping and noise wall establishment
R01	55	75	79	71	72	62	62	69
R02	55	75	78	70	70	61	60	67
R03	55	75	78	69	70	60	60	67
R04	55	75	77	69	69	59	59	66
R05	55	75	76	68	69	59	59	66
R06	55	75	76	68	68	59	58	66
R07	55	75	75	68	68	58	58	65
R08	55	75	75	67	68	58	58	65
R22	55	75	75	68	68	59	58	66
R26	55	75	76	68	68	59	58	66
R27	55	75	76	68	68	58	58	65
R28	55	75	78	69	69	60	59	67
R29	55	75	75	67	68	58	58	65
R30	55	75	73	66	66	57	56	64
R31	55	75	72	66	66	56	56	63
R32	55	75	72	65	66	56	56	63
R37	55	75	77	69	69	59	59	66
R38	55	75	76	68	69	59	59	66
R39	55	75	76	68	68	58	58	65

Receptor ID	Standard hours criteria (dB(A))		Predicted construction noise levels during standard hours for each construction scenario (L _{Aeq, 15min} dB(A))					
	Noise affected	Highly noise affected	0 Vegetation removal/site clearing	1 Site establishment	2 Civil works for BESS	3 Installation of BESS equipment	4 Installation of ancillary operational equipment	5 Landscaping and noise wall establishment
R40	55	75	75	68	68	59	58	66
R42	55	75	84	73	74	64	64	71
R43	55	75	81	73	73	63	63	70
R44	55	75	81	72	72	62	62	69
R45	55	75	80	71	71	62	61	69
R46	55	75	79	70	70	61	60	68
R47	55	75	78	70	70	60	60	67
R48	55	75	77	69	69	59	59	66

Notes:

- a) Vegetation clearing activities are expected to occur for a short timeframe and as such further mitigation measures such as alternative accommodation are not considered warranted.
Vegetation clearing activities are modelled with all equipment located at the boundary of the property and are therefore inherently conservative.

Table 6.6-15: Predicted construction noise levels at commercial receptors and other sensitive land uses

Receptor ID	Receptor type	Standard hours criteria (dB(A))	Predicted construction noise levels during standard hours for each construction scenario $L_{Aeq, 15min}$ dB(A)					
			0 Vegetation removal/site clearing	1 Site establishment	2 Civil works for BESS	3 Installation of BESS equipment	4 Installation of ancillary operational equipment	5 Landscaping and noise wall establishment
R09	Commercial	70	81	73	73	63	63	70
R10	Commercial	70	86	75	76	66	66	73
R11	Commercial	70	79	67	68	58	58	65
R12	Commercial	70	73	67	67	58	57	65
R13	Commercial	70	74	67	67	57	57	64
R14	Commercial	70	74	65	65	55	55	62
R15	Active recreation	65	71	65	65	55	55	62
R16	Active recreation	65	70	66	66	55	55	62
R17	Commercial	70	81	74	74	64	64	71
R18	Commercial	70	87	68	68	58	58	65
R19	Active recreation	65	84	67	67	58	57	65
R20	Active recreation	65	82	67	67	57	57	64
R21	Active recreation	65	80	65	66	56	56	63
R23	Commercial	70	75	69	69	59	59	66
R24	Commercial	70	75	70	70	60	60	67
R25	Commercial	70	76	70	70	60	60	67
R33	Commercial	70	71	64	64	55	54	62
R34	Active recreation	65	71	64	64	54	54	61

Receptor ID	Receptor type	Standard hours criteria (dB(A))	Predicted construction noise levels during standard hours for each construction scenario $L_{Aeq, 15min}$ dB(A)					
			0 Vegetation removal/site clearing	1 Site establishment	2 Civil works for BESS	3 Installation of BESS equipment	4 Installation of ancillary operational equipment	5 Landscaping and noise wall establishment
R35	Active recreation	65	70	64	64	55	54	62
R36 ^c	Passive recreation	60	68	62	62	52	52	59
R41	Commercial	70	78	72	72	62	62	69

Notes:

b) Vegetation clearing activities are expected to occur for a short timeframe and as such further mitigation measures such as alternative accommodation are not considered warranted.

Vegetation clearing activities are modelled with all equipment located at the boundary of the property and are therefore inherently conservative

c) An external noise level of 60 dB(A) criteria is nominated from the 'passive recreation' criteria which most closely represents the land uses of this environmental conservation zone.

6.6.4.2 Construction traffic noise assessment

The assessment has considered the potential traffic noise impacts associated with the use of Homebush Bay Drive and the Access Road as construction access routes for the Project.

Predicted vehicle volumes during peak construction periods were assessed against current measured vehicle volumes to determine relative increase in noise emissions. The predicted construction traffic volumes for the Project during the peak construction period comprise:

Predicted vehicle volumes during peak construction periods were assessed against current measured vehicle volumes to determine relative increase in noise emissions, as outlined in **Table 6.6-16**.

Table 6.6-16: Predicted construction traffic noise

Road	Existing traffic (vehicles per day)		Project related traffic (vehicles per day)		Distance to nearest residential receiver from road (m)	Relative noise increase, dB(A)
	Light	Heavy	Light	Heavy		
Homebush Bay Drive	51,671	12,789	134	20	63	0.1
Access Road	282	24	134	20	93	0.1

The Project-related construction traffic would not increase overall road traffic noise levels by more than 2 dB(A). As such the Project is expected to be compliant with the road traffic noise criteria during all phases of construction and no consideration of traffic noise mitigation measures is required.

6.6.4.3 Construction vibration assessment

PPV levels were predicted for various distances from the source of vibration associated with the Project, as shown in **Table 6.6-17**.

Table 6.6-17: Predicted PPV levels at sensitive receptors

Distance from source (m)	Predicted PPV (mm/s)			
	Compactor	Excavator	Loaded trucks (rough surface)	Loaded trucks (smooth surface)
10	7.00	4.00	5.00	1.00 – 2.00
20	2.47	1.41	1.77	0.35 – 0.71
30	1.35	0.77	0.96	0.19 – 0.38
40	0.88	0.50	0.63	0.13 – 0.25
50	0.63	0.36	0.45	0.09 – 0.18
60	0.48	0.27	0.34	0.07 – 0.14
70	0.38	0.22	0.27	0.06 – 0.11
80	0.31	0.18	0.22	0.05 – 0.09
90	0.26	0.15	0.19	0.04 – 0.07
100	0.22	0.13	0.16	0.03 – 0.06
150	0.12	0.07	0.09	0.02 – 0.03

The predicted vibration levels demonstrate compliance with the vibration nuisance criteria for residential receivers, outlined in **Section 6.6.2.5**, at a distance of between 50 m and 60 m. The nearest sensitive residential receptor is located approximately 72 m from the proposed construction work. It is therefore expected that vibration generated from construction of the Project would be within the acceptable vibration criteria at nearest sensitive receptors.

Commercial receptors at a distance of between 30 m and 40 m from construction work will be below the maximum continuous vibration criteria and therefore all commercial receptors are assessed to be compliant with the continuous vibration criteria

6.6.5 Operational noise impact assessment

6.6.5.1 Predicted operational noise levels

Predicted operational noise levels at nearby noise sensitive receivers during the daytime and night-time periods are presented in

The operational noise levels from the Project are predicted to exceed the noise trigger levels at numerous sensitive receptors across all three assessment periods (day, evening, night).

As a result, the Project has provided noise mitigation measures to achieve compliance with the noise trigger levels. This includes the implementation of noise barriers around the Project and restricting operational fan speeds within the containerised battery units, as outlined in the following sections.

Table 6.6-18: Predicted operational noise levels for all receptors

Receptor	Criteria, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq} , 15min)	Evening (L _{Aeq} , 15min)	Night (L _{Aeq} , 15min)
R01 Ground Floor	50	48	43	59	59	59
R01 First Floor	50	48	43	59	59	57
R02 Ground Floor	50	48	43	57	57	57
R02 First Floor	50	48	43	58	58	58
R03 Ground Floor	50	48	43	57	57	57
R03 First Floor	50	48	43	58	58	58
R04 Ground Floor	50	48	43	56	56	56
R04 First Floor	50	48	43	52	52	52
R05 Ground Floor	50	48	43	55	55	55
R05 First Floor	50	48	43	45	45	45
R06 Ground Floor	50	48	43	55	55	55
R06 First Floor	50	48	43	44	44	44
R07 Ground Floor	50	48	43	54	54	54
R07 First Floor	50	48	43	50	50	50
R08 Ground Floor	50	48	43	54	54	54
R08 First Floor	50	48	43	44	44	44
R09	63	-	-	59	59	59
R10	63	-	-	63	63	63
R11	63	-	-	51	51	51
R12	63	-	-	44	44	44
R13	63	-	-	43	43	43

Receptor	Criteria, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq, 15min})	Evening (L _{Aeq, 15min})	Night (L _{Aeq, 15min})
R14	63	-	-	48	48	48
R15	53	-	-	47	47	47
R16	63	-	-	45	45	45
R17	63	-	-	60	60	60
R18	63	-	-	41	41	41
R19	53	-	-	53	53	53
R20	53	-	-	51	51	51
R21	53	-	-	48	48	48
R22	50	48	43	51	51	51
R23	63	48	43	51	51	51
R24	63	-	-	55	55	55
R25	63	-	-	55	55	55
R26	50	48	43	52	52	52
R27	50	48	43	50	50	50
R28 Ground Floor	50	48	43	54	54	54
R28 First Floor	50	48	43	58	58	58
R29	50	48	43	53	53	53
R30	50	48	43	49	49	49
R31	50	48	43	52	52	52
R32	50	48	43	52	52	52
R33	63	48	43	50	50	50
R34	53	-	-	40	40	40

Receptor	Criteria, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq} , 15min)	Evening (L _{Aeq} , 15min)	Night (L _{Aeq} , 15min)
R35	53	-	-	42	42	42
R36	48	48	43	45	45	45
R37 Ground Floor	50	48	43	56	56	56
R37 First Floor	50	48	43	58	58	58
R38	50	48	43	46	46	46
R39	50	48	43	47	47	47
R40	50	48	43	47	47	47
R41	63	48	43	39	39	39
R42 Ground Floor	50	48	43	61	61	61
R42 First Floor	50	48	43	63	63	63
R42 Second Floor	50	48	43	62	62	62
R43 First Floor	50	48	43	63	63	63
R43 Ground Floor	50	48	43	61	61	61
R43 Second Floor	50	48	43	62	62	62
R44 Ground Floor	50	48	43	42	42	42
R44 First Floor	50	48	43	47	47	47
R44 Second Floor	50	48	43	53	53	53
R45 Ground Floor	50	48	43	41	41	41
R45 First Floor	50	48	43	45	45	45
R45 Second Floor	50	48	43	51	51	51
R46 Ground Floor	50	48	43	46	46	46
R46 First Floor	50	48	43	47	47	47

Receptor	Criteria, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq, 15min})	Evening (L _{Aeq, 15min})	Night (L _{Aeq, 15min})
R46 Second Floor	50	48	43	53	53	53
R47 Ground Floor	50	48	43	45	45	45
R47 First Floor	50	48	43	49	49	49
R47 Second Floor	50	48	43	54	54	54
R48 Ground Floor	50	48	43	49	49	49
R48 First Floor	50	48	43	55	55	55
R48 Second Floor	50	48	43	59	59	59

6.6.5.2 Operational noise mitigation measures

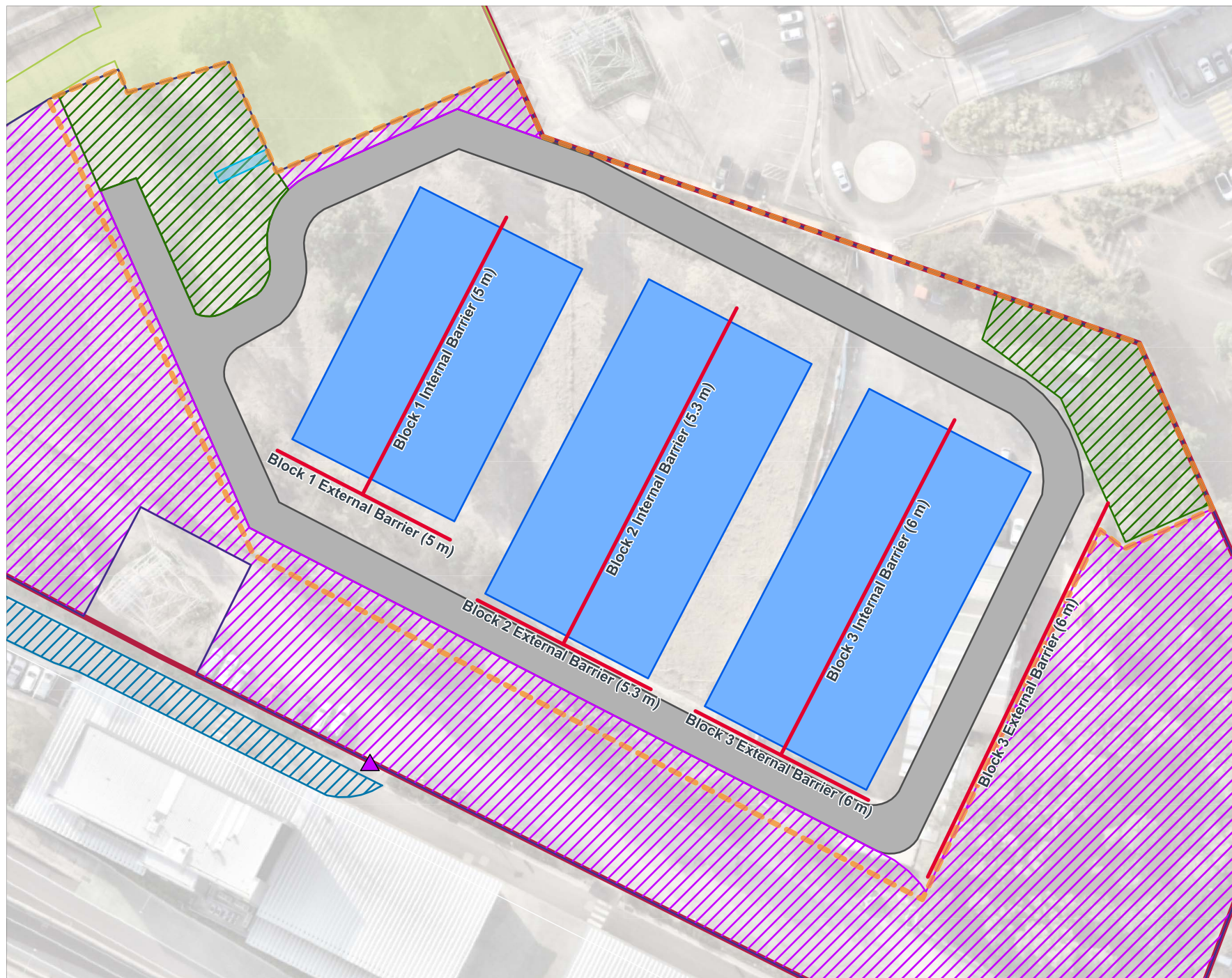
Noise barriers

To achieve compliance with the Project noise trigger levels during operation, permanent noise barriers, up to 6 m in height and 91 m in length, would be installed around each block of containerised battery units, as well as at their southern and eastern ends. All noise barriers would comply with minimum equipment clearances for the containerised battery units. All noise barriers would have a minimum surface density of 12 kg/m² to ensure effective barrier design.

The indicative locations of the noise barriers are shown in **Figure 6.6-2**.

The Project was modelled with the noise barriers, and it was found that exceedances were still predicted at nearby sensitive receptors. In response to this, further mitigation was considered, as discussed in the following section.

FIGURE 6.6-2:
NOISE BARRIER LOCATIONS



Legend

- The site
- Project Area
- Operational footprint
- Proposed underground 33 kV grid connection
- HV connection infrastructure (subject to separate approvals process)
- Access Road
- Laydown area
- Ancillary facilities
- Containerised battery unit
- Internal site road
- Site exit
- Noise wall

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Restricted operational fan speeds

The largest source of operational noise emissions associated with BESS is the cooling fans used to regulate the internal temperatures of the batteries.

For the Project to achieve compliant operational noise levels, restrictions to the fan operating speeds would be required, in addition to the installation of noise barriers.

Based on the predicted operational noise levels in the assessment, operational fan duty cycles of the batteries would be restricted to 90%, 70% and 50% during the daytime, evening and night-time assessment periods, respectively, to ensure compliance with the noise criteria.

6.6.5.3 Predicted operational noise levels with mitigation applied

The predicted operational noise levels with mitigation applied, including the installation of noise barriers and restricted operational fan speeds, are provided in **Table 6.6-19**. The results show that, with the application of noise mitigation measures, there are no exceedances of the Project trigger levels, and the assessment criteria can be achieved for all receptors during the daytime, evening, and night-time periods under noise-enhancing meteorological conditions.

The predicted night-time noise levels at residential receptors during operation of the Project do not exceed 50 dB(A) $L_{Aeq,15\text{ min}}$ and therefore a detailed sleep disturbance assessment is not required. Given the noise sources associated with the operation of the Project are all continuous and the characteristics of noise produced are consistent in nature (i.e. it is not expected to have large spikes in acoustic energy during operation), consideration of compliance against the L_{AFmax} sleep disturbance criteria is unwarranted.

Table 6.6-19: Predicted operational noise levels for all receptors with mitigation

Receptor	Project trigger level, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq} , 15min)	Evening (L _{Aeq} , 15min)	Night (L _{Aeq} , 15min)
R01 Ground Floor	50	48	43	46	44	39
R01 First Floor	50	48	43	47	45	40
R02 Ground Floor	50	48	43	45	43	39
R02 First Floor	50	48	43	47	45	40
R03 Ground Floor	50	48	43	45	43	38
R03 First Floor	50	48	43	46	44	40
R04 Ground Floor	50	48	43	45	43	38
R04 First Floor	50	48	43	44	42	37
R05 Ground Floor	50	48	43	45	43	38
R05 First Floor	50	48	43	40	38	33
R06 Ground Floor	50	48	43	45	43	38
R06 First Floor	50	48	43	39	37	32
R07 Ground Floor	50	48	43	44	42	38
R07 First Floor	50	48	43	43	41	36
R08 Ground Floor	50	48	43	44	42	38
R08 First Floor	50	48	43	39	37	32
R09	63	-	-	50	48	43
R10	63	-	-	47	45	41
R11	63	-	-	45	43	38
R12	63	-	-	40	38	34
R13	63	-	-	39	37	33

Receptor	Project trigger level, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq} , 15min)	Evening (L _{Aeq} , 15min)	Night (L _{Aeq} , 15min)
R14	63	-	-	43	41	36
R15	53	-	-	41	39	35
R16	53	-	-	41	39	34
R17	63	-	-	56	54	49
R18	63	-	-	38	36	32
R19	53	-	-	47	45	41
R20	53	-	-	45	43	38
R21	53	-	-	42	40	35
R22	50	48	43	46	44	40
R23	63	48	43	46	44	40
R24	63	-	-	48	46	41
R25	63	-	-	48	46	41
R26	50	48	43	45	43	38
R27	50	48	43	42	40	36
R28 Ground Floor	50	48	43	44	42	38
R28 First Floor	50	48	43	46	44	39
R29	50	48	43	44	42	37
R30	50	48	43	42	40	35
R31	50	48	43	43	41	36
R32	50	48	43	43	41	36
R33	63	48	43	42	40	35
R34	53	-	-	37	35	31

Receptor	Project trigger level, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq, 15min})	Evening (L _{Aeq, 15min})	Night (L _{Aeq, 15min})
R35	53	-	-	39	37	32
R36	48	48	43	39	37	32
R37 Ground Floor	50	48	43	44	42	38
R37 First Floor	50	48	43	46	44	39
R38	50	48	43	40	38	34
R39	50	48	43	41	39	35
R40	50	48	43	41	39	34
R41	63	48	43	36	34	29
R42 Ground Floor	50	48	43	47	45	40
R42 First Floor	50	48	43	49	47	42
R42 Second Floor	50	48	43	50	48	43
R43 First Floor	50	48	43	49	47	42
R43 Ground Floor	50	48	43	49	47	43
R43 Second Floor	50	48	43	50	48	43
R44 Ground Floor	50	48	43	39	37	32
R44 First Floor	50	48	43	43	41	37
R44 Second Floor	50	48	43	48	46	42
R45 Ground Floor	50	48	43	38	36	31
R45 First Floor	50	48	43	41	39	35
R45 Second Floor	50	48	43	46	44	40
R46 Ground Floor	50	48	43	42	40	35
R46 First Floor	50	48	43	43	41	37

Receptor	Project trigger level, dB(A)			Predicted noise levels, dB(A)		
	Day	Evening	Night	Day (L _{Aeq, 15min})	Evening (L _{Aeq, 15min})	Night (L _{Aeq, 15min})
R46 Second Floor	50	48	43	46	44	39
R47 Ground Floor	50	48	43	41	39	34
R47 First Floor	50	48	43	44	42	37
R47 Second Floor	50	48	43	47	45	40
R48 Ground Floor	50	48	43	44	42	37
R48 First Floor	50	48	43	47	45	41
R48 Second Floor	50	48	43	49	47	42

6.6.5.4 Operational traffic noise assessment

The Project would operate as an unmanned facility and generally be managed remotely. Operational traffic generation associated with the Project would comprise a small number of maintenance personnel accessing the Project and occasional deliveries, generating up to four vehicle movements per week.

Given these low traffic levels, the Project's operational traffic noise contribution would be negligible (less than 2 dB(A)). As such, the Project will be compliant with the road traffic noise criteria during operation.

6.6.5.5 Operational vibration assessment

Vibration is not anticipated to be generated by the onsite infrastructure and equipment during operation, and as such this has not been assessed

6.6.6 Mitigation and management measures

Mitigation measures are proposed to reduce the potential noise impacts of the Project to sensitive receivers. The relevant measures that would be implemented during detailed design, construction and operation of the Project are detailed in **Table 6.6-20**.

Table 6.6-20: Mitigation and management measures – noise and vibration

ID	Mitigation/management measure	Timing
NV-1	Further noise modelling will be conducted based on the detailed design of the Project to confirm noise predictions, potential impacts and associated mitigation measures.	Detailed design
NV-2	A Construction Noise and Vibration Management Plan (CNVMP) would be prepared as part of the CEMP. The CNVMP will identify: • Potential significant noise and vibration generating activities associated with the activity • Noise and vibration sensitive receptors • Measures to be implemented during construction to minimise noise and vibration impacts, such as restrictions on working hours, site inductions and toolbox talks, and best practice noise and vibration controls for minimising noise • An Out of Hours Work procedure • Noise and vibration monitoring procedures • Arrangements for consultation with affected neighbours and sensitive receptors, including notification and complaint handling procedures.	Pre-construction Construction
NV-3	All sensitive receptors likely to be affected by Project construction noise would be notified at least five days prior to commencement of works. The notification will include details of: • The nature of the construction work • Construction period and construction hours • Contact information for Project staff, both onsite and offsite • Complaint and incident reporting and how to obtain further information.	Construction
NV-4	Construction will generally be carried out during the standard daytime working hours (as defined in the ICNG). Works generating high noise and/or vibration levels will be scheduled during less sensitive time periods.	Construction
NV-5	High noise generating work (>75 dB(A) L_{Aeq} at receptor) carried out during standard construction hours will be in continuous blocks of no more than three hours with a minimum respite period of at least one hour between each block, where the location of the work is likely to impact the same receptor.	Construction

ID	Mitigation/management measure	Timing
NV-6	For deliveries to and from the Project Area: - Loading and unloading of materials/deliveries will occur in designated loading or unloading points. Where this is not feasible, loading and unloading will take place in areas away from sensitive receptors, as far as practicable - Construction work areas near sensitive receptors will be designed to minimise the need to reverse vehicles (and hence trigger reversing alarms).	Construction
NV-7	Non-tonal reversing beepers (or an equivalent mechanisms) will be fitted and used on all construction vehicles and mobile plant regularly used onsite.	Construction
NV-8	Permanent noise barriers will be installed around the Project to achieve compliance with the Project's operational noise trigger levels. These barriers will comply with the minimum dimensions outlined in the Noise and Vibration Impact Assessment (Appendix I).	Operation
NV-9	During commissioning of the Project, operational noise compliance monitoring will be conducted in proximity to the BESS equipment and the receptors closest to the Project, to validate that its initial operation achieves an acceptable acoustic outcome in accordance with the Project trigger levels.	Operation
NV-10	The approach for managing operational noise in accordance with the Project trigger levels, including operational noise compliance monitoring, will be set out in an Operational Noise Management Plan.	Operation

6.7 Traffic and transport

6.7.1 Secretary's Environmental Assessment Requirements

Table 6.7-1 sets out the SEARs relevant to traffic and transport and where the requirements have been addressed in this EIS.

Table 6.7-1: Relevant SEARs – traffic and transport

Relevant SEARs	
Transport	Where addressed
The EIS must address the following specific matters:	
an assessment of the peak and average traffic generation, including light vehicles, shuttle buses, heavy vehicles and high risk heavy vehicles requiring escort and construction worker transportation;	An assessment of peak and average traffic impacts, including a breakdown of the traffic volumes based on different vehicles is included in Section 6.7.4 .
an assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance;	The proposed site access routes for heavy vehicles, oversize and/or overmass (OSOM) vehicles and light vehicles are discussed in Section 6.7.4.2. The transport impacts to the access routes and site access points are discussed in Section 6.7.4.2. A review of the existing road safety data and casualty crash history is provided in Section 6.7.3.5.

Relevant SEARs	
	An assessment of the nearest State road intersection performance during construction is provided in Section 6.7.4.5 and during operation in Section 6.7.5.3 .
a cumulative impact assessment of traffic from nearby developments (including mining operations); and	The cumulative traffic impacts of nearby developments are discussed in Section 6.7.7 and detailed in Section 6.12 .
- provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including: - a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes) - clear figures of proposed road upgrades (including the site access point); and - road maintenance contributions, and other traffic control measures.	No road upgrades are required for this Project, as discussed in Section 6.7.4.3. Mitigation measures, including traffic control measures and road maintenance contributions, will be provided in a CTMP to address traffic and transport impacts. Further details are provided in Section 6.7.8.

6.7.2 Methodology

A Traffic Impact Assessment (TIA) has been prepared by Amber Organisation Pty Ltd (Amber) (2025) to assess the potential traffic impacts of the Project during its construction, operation and decommissioning phases. The TIA is provided in **Appendix J** and is summarised in this section.

The TIA has been undertaken in accordance with the Roads and Traffic Authority's (RTA) *Guide to Traffic Generating Developments* and relevant Austroads Guidelines and in consultation with Transport for NSW and Strathfield Council. Further details on consultation are provided in **Chapter 5.0**.

Key aspects of the TIA include:

- Details of both light and heavy vehicle (including OSOM) traffic volumes and proposed transport routes
- An assessment of the potential traffic impacts of the Project on road network function and safety
- An assessment of the capacity of the existing road network to accommodate the type and volume of traffic generated by the Project
- Details of measures to mitigate and/or manage potential impacts
- Details of access roads and how these connect to the existing road network, as well as their ongoing maintenance during operation.

6.7.2.1 Traffic surveys

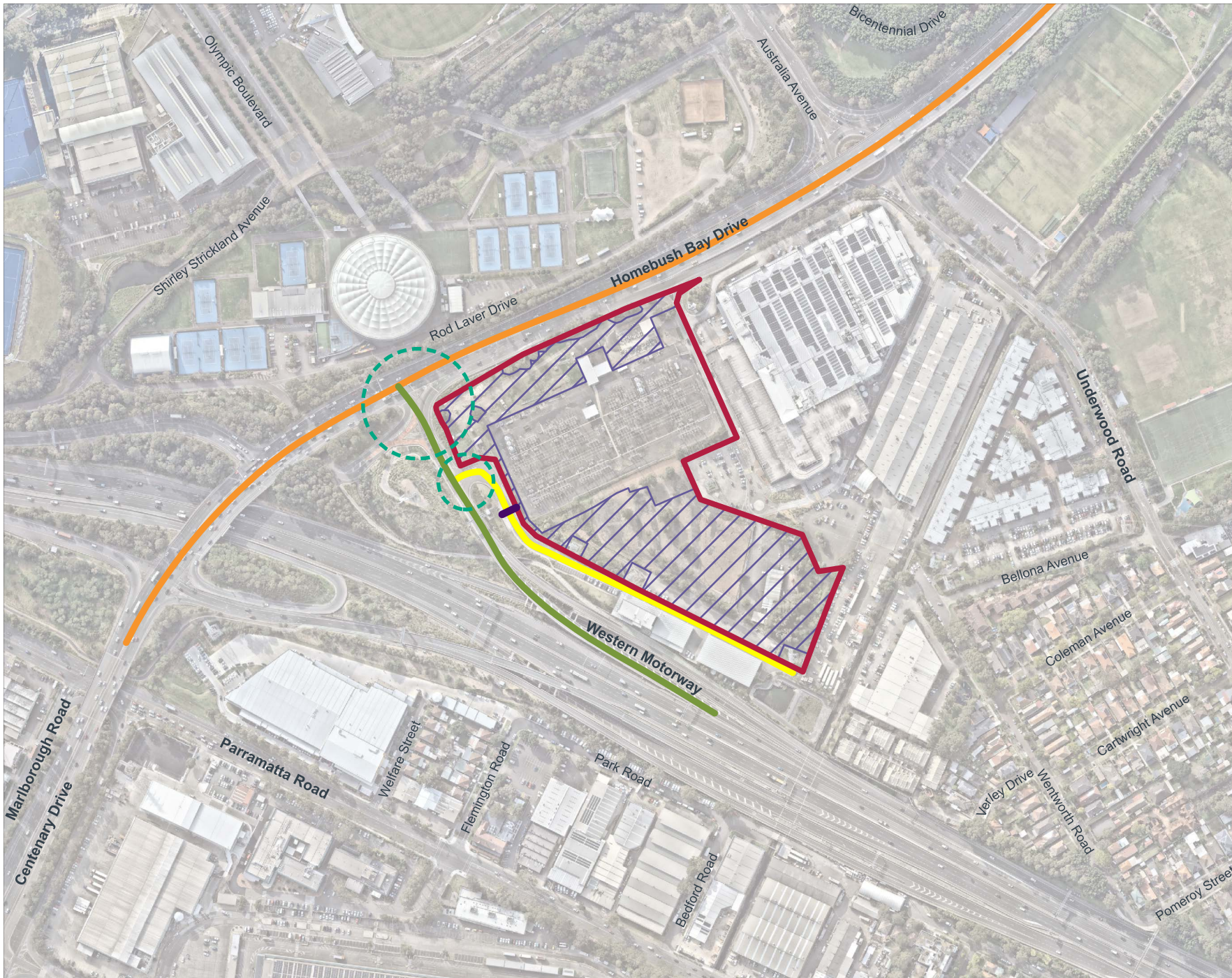
Traffic surveys were undertaken to establish existing traffic conditions of the surrounding road network. These comprised turning movement counts at key intersections and a tube count survey of the Access Road (the road joining to the east of the M4 Western Motorway on-ramp).

Turning movement count surveys were undertaken at the following State road intersections on Thursday 21 November 2024, between 6:00am and 10:00am and from 3:00pm to 7:00pm:

- Homebush Bay Drive/Western Motorway On-Ramp intersection
- Western Motorway On-Ramp/Access Road intersection.

A seven day tube count survey was completed on the Access Road between 20 and 27 November 2024 to establish the existing traffic volumes and speeds over a typical week.

The locations of the intersections, traffic surveys and tube count survey are shown in **Figure 6.7-1**.



**FIGURE 6.7-1:
INTERSECTIONS AND TRAFFIC
SURVEY LOCATIONS**

Legend

- The site
- Project Area
- Turning movement count
- Access Road
- Homebush Bay Drive
- Western Motorway On Ramp
- 7 day tube count location

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6.7.2.2 Traffic assessment

A traffic assessment was carried out to determine the ability of the surrounding road network to accommodate traffic anticipated to be generated during construction, operation and decommissioning of the Project.

The assessment focused on the impacts of light and heavy vehicles, which are predicted to represent the typical traffic impact of the Project on a day-to-day basis.

Traffic modelling was undertaken for the nearest State road intersections (Homebush Bay Drive/Western Motorway On-Ramp and the Western Motorway On-Ramp/Access Road) using Signalised and Unsignalised Intersection Design and Research Aid (SIDRA) intersection modelling software. Modelled traffic volumes are based on the morning and evening peak hours of construction (i.e. the Project's worst-case traffic period), with signal phasing of the traffic signals based on observations at the intersection during these peak periods.

A growth rate of 1.5% per annum over a two year period has been conservatively applied to the background traffic to reflect future traffic volumes on the surrounding road network.

The core measures of intersection performance using SIDRA include:

- **Degree of Saturation (DoS)** – a direct measure of congestion level based on the ratio of demand or arrival flow to capacity. A degree of saturation greater than 1.0 indicates oversaturated conditions in which long queues of vehicles build up on critical intersection approaches (Austroads, 2020a)
- **95th percentile Back of Queue distance** - a statistical value which represents the queuing experienced at the approach to the intersection
- **Vehicle delay** – overall vehicle delay at the intersection
- **Level of Service (LOS)** - a qualitative measure used to describe the operating conditions of a section of road or an intersection. LOS scales from A (best) to F (worst). LOS A represents freeflow conditions and minimal delays, while LOS F indicates a forced flow with stop start operation, long queues and delays. The best indicator of the LOS at an intersection is the average delay experienced by vehicles at that intersection. The assessment of LOS is provided in **Section 6.7.4.5**.

The DoS, delay and queue length parameters are used together to assess intersection performance. The assessment considers the net change between the existing traffic conditions and the future scenario during construction or operation, at each intersection.

6.7.2.3 Route assessment

Appropriate routes for heavy vehicles (up to 26 m in length) and OSOM vehicles accessing the site during construction were determined based on a review of the National Heavy Vehicle Regulator (NHVR) Network maps (NHVR, 2025). including:

- NSW Oversize Overmass Load Carrying Vehicles Network Map (Transport for NSW, 2025a)
- Restricted Access Vehicles (RAV) maps (Transport for NSW, 2025c)
- NSW Special Purpose Vehicle Network maps (Transport for NSW, 2025d)
- Vehicles and routing map for B-doubles (Transport for NSW, 2025b).

Further details of the proposed construction access routes are provided in **Section 6.7.4.2**.

6.7.2.4 Swept path assessment

A swept path assessment was undertaken to determine whether the proposed access routes would be able to accommodate simultaneous two-way traffic and safe entry and exit for all vehicle types.

6.7.2.5 Sight distance assessment

A desktop review of the sightlines for vehicles exiting the site has been undertaken. An appropriate design speed has been assumed and Safe Intersection Sight Distance (SISD) determined in accordance with Austroads *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (Austroads, 2023).

6.7.3 Existing environment

6.7.3.1 Road network

The road network surrounding the Project is comprised of a combination of State and local roads. This network is summarised in **Table 6.7-2**. The key intersections are outlined in **Table 6.7-3**.

Table 6.7-2: Road network

Road	Typical width	Speed limit (km/hr)	Alignment
State roads			
Western Motorway (M4)	Approximately 42 m to 51 m providing three to four through lanes in each direction which are separated via barriers.	90	General north-west to south-east alignment.
Homebush Bay Drive (A3)	Approximately 24.0 m to 32.1 m providing three through lanes in each direction.	80	General north-east to south-west alignment between its continuation as Concord Road in the north-east and Centenary Drive in the south-west.
Western Motorway on-ramp	Approximately 10.6 m providing two through lanes and a bicycle lane in the south-east direction.	60	General north-west to south-east alignment between Homebush Bay Drive in the north-west and M4 Western Motorway in the south-east.
Local roads			
Access Road (adjacent to south-western site frontage)	5.0 to 9.3 m accommodating two-way vehicle movement as well as 90-degree parking and a footpath along the south side of the road.	50	General north-west to south-east alignment extending approximately 370 m south-east from the Western Motorway on-ramp.

Table 6.7-3: Intersection summary

Road name	Intersecting road(s)	Configuration	Control/turn treatments
Homebush Bay Drive	- Western Motorway on-ramp - Unnamed road connecting to Rod Laver Drive	T-intersection (signalised)	Traffic signals are provided for each approach. A channelised right turn lane is provided for vehicles turning right from Homebush Bay Drive onto the Western Motorway on-ramp. Left out movements from the unnamed road to Rod Laver Drive are under signal control at Homebush Bay Drive. Right out movements are allowed for buses only with priority given to the on-ramp traffic.
Western Motorway on-ramp	Access Road (adjacent to south-western site frontage)	T-intersection	Priority control intersection with vehicles exiting the Access Road required to give way. Restricted to left in – left out movements only.

6.7.3.2 Traffic volumes and intersection performance

Homebush Bay Drive/Western Motorway On-Ramp intersection

The survey results indicate the intersection currently carries a high level of traffic in the order of 6,322 vehicles in the morning peak hour (7:45am to 8:45am) and 6,275 vehicles in the evening peak hour (4:15pm to 5:15pm).

The majority of vehicle trips during the morning and evening peak periods are through traffic movements travelling east along Homebush Bay Drive. Most turning movements are left turns from the east onto the Western Motorway on-ramp with a higher number of movements recorded during the morning peak hour than the evening.

The southern leg of the intersection (M4 Western Motorway on-ramp) connects to Rod Laver Drive and is rarely used due to barricades preventing entry from Rod Laver Drive under normal traffic conditions. The survey recorded one heavy vehicle using this approach.

For vehicles travelling east along Homebush Bay Drive, the right turn movement onto the Western Motorway on-ramp currently operates at LOS D in the morning peak and LOS F in the evening peak. The existing 95th percentile queue length for the right turn movement is 124.1 metres, which exceeds the storage capacity of the right turn lane, and on occasion extends to the intersection of Homebush Bay Drive and the M4 Western Motorway on-ramp (westbound). In addition, this right turn movement experiences an existing average delay of 55.9 seconds in the morning peak and 73.5 seconds in the evening peak.

Nonetheless, the SIDRA results show that the DoS is less than 1 for all vehicle approaches/movements, which indicates the intersection is not oversaturated. Under existing conditions, both Homebush Bay Drive and the Western Motorway on-ramp can accommodate a level of traffic consistent with their classification.

Western Motorway On-Ramp/Access Road intersection

This intersection currently carries a moderate level of traffic, in the order of 897 vehicles in the morning peak hour (7:30am to 8:30am) and 739 vehicles in the evening peak hour (4:45pm to 5:45pm).

A small number of vehicles turn left into and out of the Access Road in each of the peak hours, which are typically split equally between entry and exit movements. The greatest existing delay at the intersection is the left turn movement from the Access Road onto the Western Motorway on-ramp, which experiences a delay of 7.6 seconds in the morning peak and a 95th percentile queue length of 0.2 m. The 95th percentile queue length increases to 0.4 m in the evening peak. The DoS is less than 1 for all vehicle approaches and movements during both peak hours, which indicates the intersection is not oversaturated. The intersection currently operates at LOS A.

Overall, the results indicate both roads accommodate a level of traffic consistent with their classification.

Access Road

The traffic survey data indicates the Access Road currently experiences a low level of daily traffic in the order of 306 vehicles per day. This is split relatively evenly between northbound and southbound vehicles.

The majority of movements along the Access Road occur between 5:00am and 7:00pm with the peak hour recorded between 4:00pm and 5:00pm.

The largest vehicle currently using the Access Road is up to a 6.4 m small rigid vehicle, with all other recorded vehicles being passenger vehicles. Heavy vehicles account for around 8% of the traffic using the road.

Speed humps are present along the Access Road. The speed of vehicles using the road is generally lower than the speed limit, averaging 34.1 km/hour.

Overall, the data indicates the Access Road currently accommodates a relatively low level of traffic for its classification.

6.7.3.3 Sustainable transport

Public transport

Bus route 526 (Burwood to Rhodes Shopping Centre) operates along Underwood Road, with a bus stop provided adjacent to DFO Homebush, approximately 330 m walking distance from the site. Services are generally provided between 5:15am and 1:15am at 10-30 minute intervals on weekdays and weekends, providing access to Strathfield Railway Station.

Several school buses also operate along Underwood Road including:

- 665S - Sydney Olympic Park Wharf to Domremy College
- 760S - Newington to Concord High
- 761S - Newington to Concord High.

Active transport

A 2 m wide bicycle lane is provided along the eastern side of the Western Motorway on-ramp which connects to the road shoulders of the M4 Western Motorway.

6.7.3.4 Restricted vehicle access

B-doubles

B-doubles are a combination of a prime mover towing two semi-trailers, all connected by B-couplings. There are certain rules and regulations that limit B-double access to particular roads. The following are relevant to the Project:

- The M4 Western Motorway and M4 East Tunnel is approved for B-doubles; however, no dangerous goods are permitted in the tunnel
- The Access Road is unrated and not on the approved B-double network. Further details are provided in **Section 6.7.4.2**.

OSOM vehicles

In general, OSOM loads exceed general access mass or dimension limits of 2.5 m wide, 19 m long, 4.6 m high and 4.5 tonnes (T) Gross Vehicle Mass (GVM). OSOM loads are defined as Class 1 vehicles under the Heavy Vehicle National Law. These vehicles are typically used to transport large, indivisible items, such as excavators and bulldozers.

The NSW Oversize Overmass Load Carrying Vehicles Network Approved Roads map (NHVR, 2025) shows that the State road network surrounding the Project is OSOM approved, with exception to the M4 East Tunnel, which has the following dimension restrictions: 2.5 m wide, 4.3 m high and 19 m long. If vehicles exceed these dimensions, a Class 1 permit is required prior to commencing the journey.

The maximum dimensions for OSOM vehicles using the approved OSOM vehicle routes is up to 5 m wide, 5 m high, 30 m long and 7.5 m rear overhang, with a maximum mass of 115 T for rows of 8 low loaders and 77.5 T for rows of 4 low loaders.

Special purpose vehicles (SPVs)

Vehicles built for a purpose other than carrying goods or passengers (such as a mobile crane, a concrete pump or drill rig) are defined as Special Purpose Vehicles (SPVs). These vehicles are considered Class 1 OSOM vehicles if they exceed mass or dimensional limits.

There are six SPV access networks for cranes travelling on approved State roads in NSW. Access to the site via the surrounding State road network is achievable for 4-axle all terrain cranes up to 48 tonnes and 5-axle all terrain cranes up to 50 tonnes (SPV Level 4). Three bridges have restricted use for 5-axle all terrain cranes up to 60 tonnes (SPV Level 6) as follows:

- Bridge over railway at Flemington, approximately 1.2 km south-west of the site
- M4 Western Motorway westbound bridge over Birnie Avenue at Lidcombe, approximately 1.1 km west of the site

- M4 Western Motorway westbound bridge over Hill Road at Lidcombe, approximately 2.1 km west of the site.

6.7.3.5 Crash history

The Centre for Road Safety Crash and Casualty Statistics (CRSCCS) database contains information of all recorded crashes in NSW. A search of the CRSCCS database over a five-year period from 2019 to 2023 was undertaken for the following roads:

The Western Motorway on-ramp

- Homebush Bay Drive
- The intersection between Homebush Bay Drive and the Western Motorway on-ramp
- The intersection between Homebush Bay Drive and the unnamed road between the Mason Park STSS/DFO Homebush along the north-eastern boundary of the site.

The review indicates that four crashes have been recorded at the intersection of Homebush Bay Drive and the M4 Western Motorway on-ramp, two of which resulted in moderate injuries. Two more crashes were recorded within 25 m of this intersection, resulting in minor injury or non-casualties.

Both roads are State roads, and the number of recorded crashes is unsurprising given the traffic volumes and speeds at the intersection. Given the road classifications and the associated traffic volumes on the roads, the road network is currently operating in a relatively safe manner.

No crashes have been recorded on any of the other roads or intersections.

6.7.4 Construction impact assessment

6.7.4.1 Construction traffic generation

Standard construction traffic

The peak traffic generating potential of the Project is during the construction phase. Trips generated during this phase are primarily associated with the workforce accessing the Project and the delivery of raw materials and plant.

Day-to day construction traffic comprises the following:

- Light vehicles – associated with transporting the workforce to and from the Project
- Heavy vehicles:
 - Rigid trucks (8 to 13 m in length) – used to deliver raw materials and smaller plant
 - Truck and dog (up to 19 m in length) - used to transport the majority materials to/from the site
 - Semi-trailers – used to transport larger equipment and materials
 - B-doubles (up to 26 m in length) – used to transport larger plant
 - Non-high risk OSOM (less than 26 m in length and under 3.5 m wide) – used to transport the containerised battery units, as well as cranes, drum rollers, dump trucks, concrete pumps, excavators, graders, compactors, pile driving/drilling rig, and cable trenching and laying equipment.

OSOM vehicles

No high risk OSOM vehicles are anticipated during the construction of the Project.

The largest vehicle expected to access the site during construction would be used to transport the containerised battery units. This vehicle would be kept under 3.5 metres width and 26 metres length. This vehicle would be permitted to travel on the Class 1 OSOM network and would therefore not require vehicle escort.

The combined switch room and control room building components are anticipated to arrive in parts and be assembled onsite. These components are anticipated to be transported by an OSOM vehicle classified as Class 1 and would not require vehicle escort.

It is anticipated that the non-high risk OSOM vehicles, including SPVs, required for the Project would comply with the Class 1 exemption notices and would be able to operate on the approved NSW SPV Network. Specific vehicle types and the permits they require would be confirmed and obtained, when needed, once the final construction methodology is determined.

Traffic volumes and distribution

During the peak construction period (6 month duration), the Project is anticipated to generate up to 154 vehicles trips per day, comprising 134 light vehicle trips and 20 heavy vehicle trips. During this period, up to 72 construction vehicles would travel during the morning and evening peak hours.

Vehicle trips would reduce during the average construction period to a total of 80 vehicle trips per day, comprising 68 light vehicles and 12 heavy vehicles. During the average construction period a total of 40 vehicle trips are anticipated during the morning and evening peak hours.

Non-high risk OSOM Project vehicles are not expected to create daily trips to and from the site. Arrivals and departures of OSOM vehicles would depend on the phase of the construction. Following arrival, OSOM vehicles would remain on site until no longer required, when they would depart. OSOM vehicle trips would be timed to occur outside of road network's peak hours.

The construction traffic generated for the Project has been added to the surveyed traffic volumes on the surrounding road network during construction peak hour and road network peak hour. The results of the traffic modelling indicate that existing traffic volumes on the surrounding road network during the construction peak hours are lower than the existing traffic volumes recorded during the road network peak hours, as shown in **Table 6.7-4**.

Table 6.7-4: Traffic volumes on the surrounding road network during construction – construction peak hour vs road network peak hour

Surrounding road network construction peak hour volumes (2026)		Surrounding road network peak hour volumes (2024)	
Morning peak (6am – 7am)	Evening peak (5pm – 6pm)	Morning peak (7.45am – 8.45am)	Evening peak (4.15pm – 5.15pm)
5,568	6,102	6,322	6,275

It is anticipated that the majority of the workforce for the construction of the Project would be located in Sydney. For the purpose of the assessment, it has been assumed that all staff would arrive onsite between 6:00am and 7:00am. However, staff generally have staggered finish times which results in the evening peak hour being less pronounced. Accordingly, it has been assumed that 80% of staff depart between 5:00pm and 6:00pm i.e. the evening construction peak hour.

6.7.4.2 Construction routes

Access routes

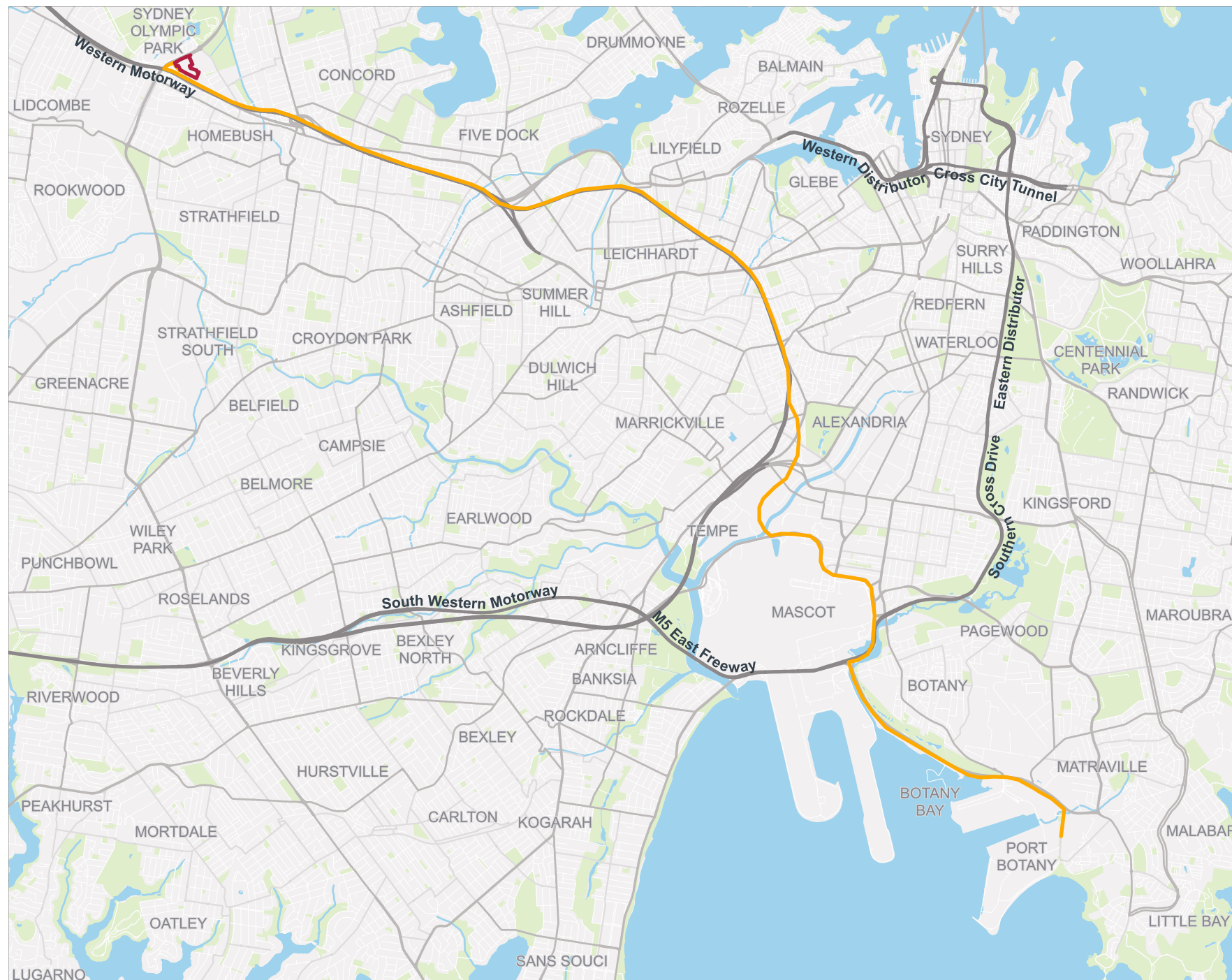
All construction traffic would access the site via Homebush Bay Drive and the Western Motorway on-ramp, which form part of the State road network and are rated to accommodate complying SPVs. This requires all entering vehicles to travel through the signalised Homebush Bay Drive/Western Motorway On-Ramp intersection and the unsignalised Western Motorway On-Ramp/Access Road intersection, and then along the existing driveway to the MCC (Access Road) into the site. All vehicles departing the site must turn left onto the Western Motorway on-ramp (eastbound) and travel to the east on the Western Motorway.

Materials and equipment would generally be sourced from the surrounding area where practicable, with larger plant, including the containerised battery units and control and switch room components, expected to be delivered from Port Botany or the Port of Newcastle. The proposed access routes from these ports to the site are shown in **Figure 6.7-2** and **Figure 6.7-3** respectively. These routes primarily utilise roads that are designated for B-doubles and are part of the Class 1 OSOM vehicle network. The vehicles proposed to transport the largest BESS components are able to access the site from the designated ports with the appropriate Class 1 permits.

It is expected that the vehicle loading (mass) along these routes would be within the allowable limit for all bridges, culverts and other structures on the State road network. A review of the load limits on all bridges and structures along the adopted routes will be undertaken as part of the permit process for OSOM vehicles. Formal approval will be sought from the rail authority for any railway crossings on the proposed routes.

The sight distance assessment identified that good sightlines are available at both the Homebush Bay Drive/Western Motorway On-Ramp and Western Motorway On-Ramp/Access Road intersections.

FIGURE 6.7-2:
CONSTRUCTION ACCESS ROUTE
FROM PORT BOTANY



Legend

- The site
- Construction access route

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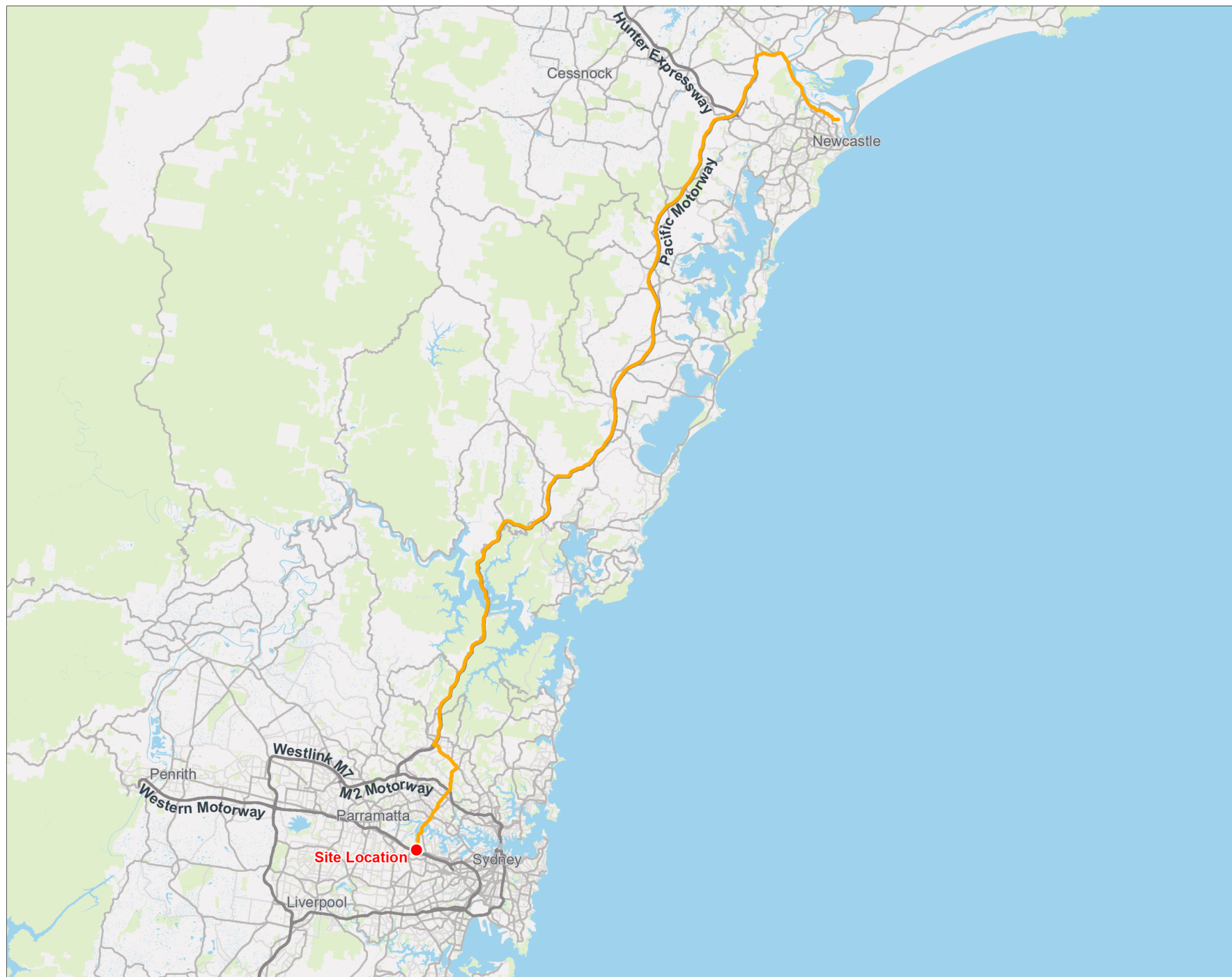
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0 10 20 km

FIGURE 6.7-3:
CONSTRUCTION ACCESS ROUTE
FROM PORT OF NEWCASTLE



Legend

— Construction access route

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Site access

From the Western Motorway On-Ramp/Access Road intersection, access to site would be along the Access Road to the MCC.

The Access Road has a 40 kilometres per hour (km/hr) speed limit and speed humps. Therefore, vehicles would be travelling at low speeds when approaching the site.

Separate site entry and exit points are proposed along the Access Road, with the site entrance to the north and the site exit to the south, as shown on **Figure 3-1**.

The Access Road is unrated and not on the approved B-double network. Approval from the relevant roads authority is required for its use. Discussions with Strathfield Council have been held in relation to the use of the Access Road and local roads for the Project. Further details are provided in **Chapter 5.0**. Relevant permits to use the Access Road for B-doubles and OSOM during construction and operation will be obtained prior to its use.

Heavy vehicles exiting the site would be required to give way to vehicles travelling on the southern section of the Access Road. Exiting vehicles would be controlled on the Access Road by traffic management, with priority given to entering vehicles. This is considered acceptable given the low volume of vehicles on the southern section of the Access Road, the low level of heavy vehicle movements during peak construction, the relatively straight alignment of the road, and that exiting vehicles would have good sightlines to vehicles on the road. The outcome of the sight distance assessment is provided in **Section 6.7.4.4**.

During construction, the Access Road will be monitored and maintained to ensure continued safe use by all road users. Details of the traffic management measures will be included in the CTMP.

6.7.4.3 Scheduled road upgrades

A swept path assessment of the nearby intersections and site entry and exit has been undertaken to ensure all proposed construction vehicles can be safely accommodated.

The assessment confirmed that simultaneous two-way movements of B-doubles cannot occur at the Western Motorway On-Ramp/Access Road intersection due to the consecutive high radius bends. However, passing can occur at the intersection by a 26 m B-double and a B99 vehicle, meaning that passenger vehicles can continue to access the MCC on the Access Road without disruption.

Given the requirement for these larger vehicles will be limited to the construction phase of the Project only, and the low number of these vehicles accessing the site during the peak construction phase (up to 12 B-double/containerised battery unit vehicles per day), it is considered appropriate to manage vehicle movements along the Access Road and at the intersection of Western Motorway On-Ramp/Access Road using traffic management measures rather than road widening. This aligns with feedback received from Transport for NSW as part of the consultation process, as detailed in **Chapter 5.0**.

Therefore, no road upgrades are proposed for the Project as part of this SSD application. Instead, traffic management measures are proposed to control construction vehicle movements, noting that the removal of a section of guard rail on the eastern side of the Access Road in the location of the proposed site entry will be undertaken as part of Ausgrid's plan to install HV connection infrastructure at the Mason Park STSS. These works would be assessed and determined by Ausgrid separately in accordance with Part 5 of the EP&A Act, as discussed in **Section 1.4.3**.

The swept path assessment on the Access Road for the site entrance are shown in **Figure 6.7-4** and for the site exit in **Figure 6.7-5**.

6.7.4.4 Sight distance assessment

A sight distance assessment was undertaken for vehicles exiting the site. Based on the 40 km/hr speed limit along the Access Road, a SISD of 78 m is required in accordance with Austroads requirements. To achieve this SISD for vehicles exiting the site, a section of fence would be removed and some minor trimming of vegetation (weeds/shrubs growing through the existing road base) would be required within the northern verge of the Access Road, as shown in **Figure 6.7-6**.

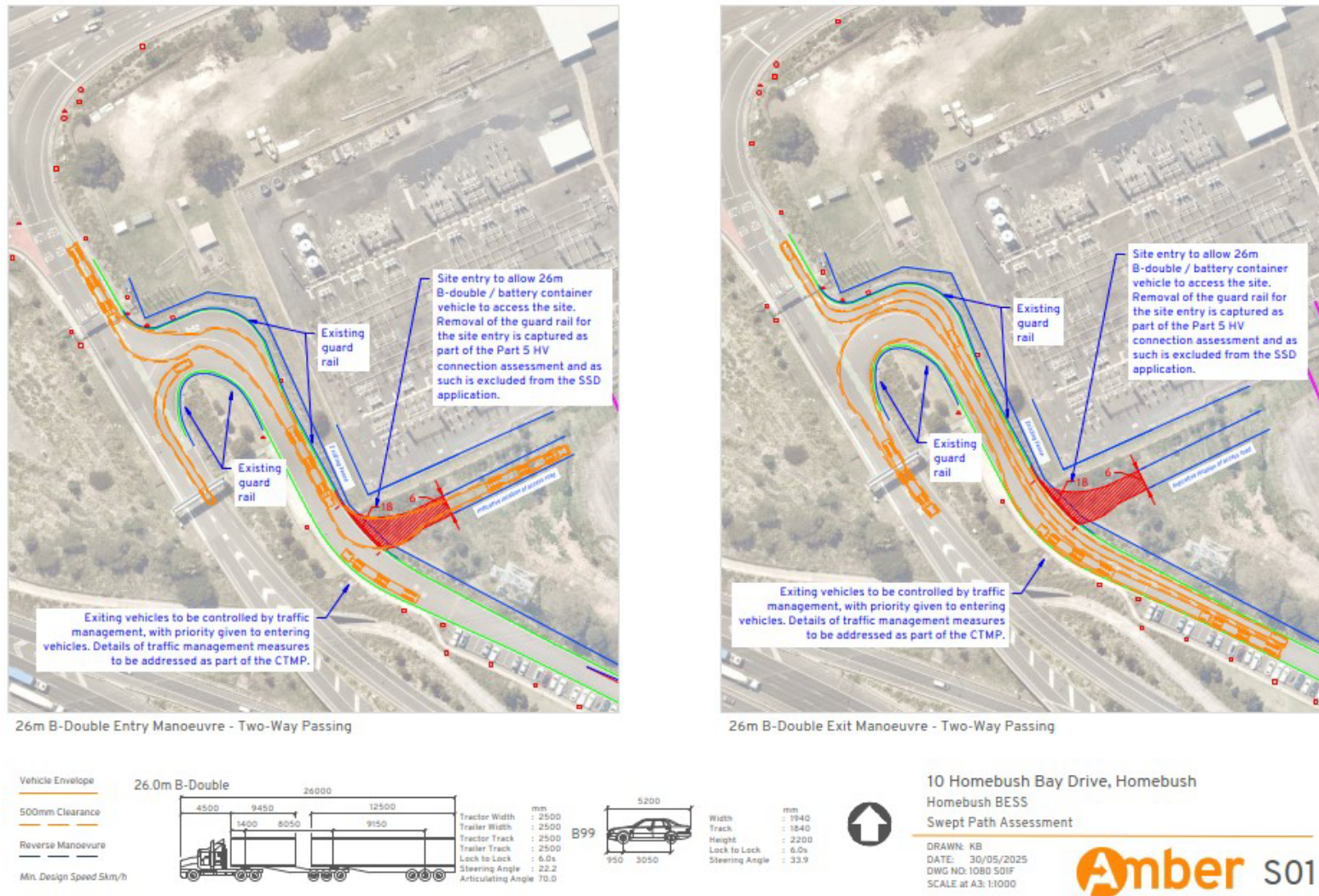


Figure 6.7-4: Proposed swept path assessment for site entrance

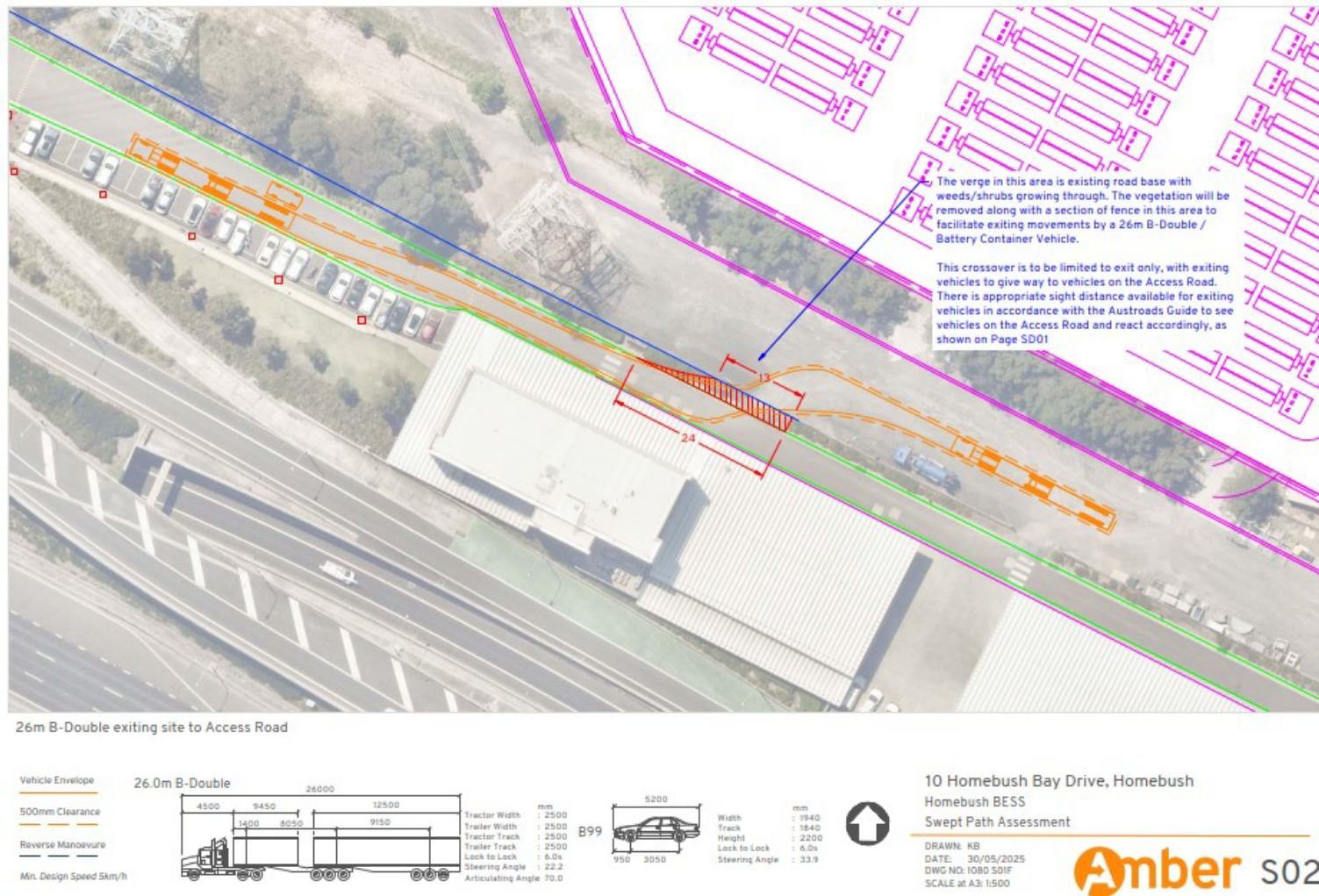


Figure 6.7-5: Proposed swept path assessment for site exit



Sight Distance at Site Exit

Sight Distance

Sight Line



10 Homebush Bay Drive, Homebush
Homebush BESS
Sight Distance Assessment

DRAWN: KB
DATE: 18/02/2025
DWG NO: 1080 S01C
SCALE at A3: 1:250

Amber SD01

Figure 6.7-6: Sight distance requirements at site exit

6.7.4.5 Road network and intersection performance

The Project is expected to generate its highest level of traffic volumes during the peak construction period. A summary of the SIDRA analysis for the two modelled intersections during this period is provided as follows.

Homebush Bay Drive/Western Motorway On-Ramp Intersection

The SIDRA analysis indicates that intersection will continue to operate generally consistent with existing conditions during the peak construction period.

All through traffic on Homebush Bay Drive and the Western Motorway on-ramp will continue to operate at LOS A during the peak construction period.

During the morning construction peak hour, vehicles turning right from Homebush Bay Drive onto the Western Motorway on-ramp will experience a minor increase in average delay of 3.6 seconds and an increase in 95th percentile queue length of 25.8 m, compared to existing conditions. This changes the LOS from D to E. It is considered that the operation of the right turn is acceptable given the impacts are temporary (only during the peak construction period).

Outside of the construction peak hours, construction traffic movements would comprise approximately four vehicle movements per hour. This increase in traffic would be within the daily variation of traffic volumes and can be readily accommodated, including during the road network peak hours.

All vehicles departing the site must turn left out of the Access Road onto the Western Motorway on-ramp and travel along the Western Motorway. As a result, during the evening peak there is negligible construction traffic travelling through the Homebush Bay Drive/Western Motorway On-Ramp intersection.

Overall, the intersection is expected to be able to accommodate traffic associated with the Project's peak construction period.

Western Motorway On-Ramp/Access Road Intersection

The Western Motorway On-Ramp/Access Road intersection is expected to operate with minimal queue lengths on all legs. In the evening peak, the 95th percentile queue length is projected to increase by 1.8 m for the left turn movement from the Access Road onto the Western Motorway on-ramp.

As a result, the DoS increases by 0.052 in the evening construction peak hour, though remains well below levels of saturation.

The intersection would continue to operate with good level of service (LOS A) at all times and overall is expected to be able to accommodate the peak construction traffic associated with the Project.

6.7.4.6 Sustainable transport

Public transport

The Project is not expected to directly impact any bus routes, or the school bus services along Underwood Road. Therefore, there are expected to be no impacts to public transport during construction.

Active transport

The intersection of Western Motorway On-Ramp/Access Road intersection has good sightlines for exiting vehicles, including to cyclists traveling in the bicycle lane on the Western Motorway on-ramp. Therefore, no impacts to active transport are anticipated during the construction of the Project.

6.7.4.7 Construction vehicle parking

Sufficient car parking would be provided onsite for staff during construction to ensure vehicles do not park on the surrounding road network. Therefore, there is not anticipated to be any on-street parking impacts during construction of the Project.

6.7.5 Operational impact assessment

6.7.5.1 Operational traffic generation

During operation, the Project is expected to generate a low amount of traffic. Around four Project related vehicle movements are anticipated per week, associated with maintenance personnel accessing the site.

There would also be occasional heavy vehicles delivering to the site, but only as required for maintenance.

6.7.5.2 Operational routes

Access routes

All operational traffic would utilise the same routes outlined in **Section 6.7.4.2**. All vehicles would access the site via the same site entrance and exit points shown in **Figure 3-1**. All access routes are suitable to accommodate the Project's expected operational traffic

Road upgrades

No road upgrades would be required to accommodate operational traffic.

6.7.5.3 Road network and intersection performance

The increase in traffic of up to four vehicle movements per week during operation would result in a negligible change to the existing traffic environment. Accordingly, the road network is able to readily accommodate the traffic generated by the Project during operation.

6.7.5.4 Sustainable transport

Public transport

Given the low number of vehicles accessing the operational Project, no impacts on public transport services are anticipated during operation.

Active transport

The Western Motorway On-Ramp/Access Road intersection has good sightlines for exiting vehicles, including to cyclists traveling in the bicycle lane on the M4 Western Motorway on-ramp. There would be no changes to this intersection during operation. As such, active transport routes would not be affected by the operation of the Project.

6.7.5.5 Operational vehicle parking

Two onsite parking spaces would be provided during operation, which would be sufficient to accommodate one to two maintenance personnel accessing the site per week. On-street parking would not be required and there would be no offsite parking impacts during operation.

6.7.6 Decommissioning impact assessment

The Project has an anticipated operational life of 50 years. At the end of its operational life, above ground infrastructure would be dismantled and removed from the Project Area.

Traffic generation during decommissioning would be similar to that during the average construction period. A Decommissioning Traffic Management Plan would be prepared prior to the decommissioning phase in consultation with the relevant road authorities. This would aim to maintain road safety and road network operations during decommissioning.

6.7.7 Cumulative traffic impacts

The primary traffic impact of the Project is generated during construction, which is anticipated to commence in late-2025 and take approximately 22 months.

A review of the DPHI major projects website within the Strathfield LGA and surrounding LGAs was undertaken to identify other potential traffic generating activities. A search was also completed of the Strathfield Council Application Tracker for Development Applications within 1 km of the Project.

The search identified a number of projects occurring in the locality; however, they do not propose to use the same access roads as the Project. As such, cumulative traffic impacts on the surrounding road

network are anticipated to be negligible. Further details are included in the cumulative impact assessment in **Section 6.12**.

6.7.8 Mitigation and management measures

The mitigation and management measures for traffic and transport that would be implemented during detailed design, construction, operation and decommissioning of the Project are detailed in **Table 6.7-5**.

Table 6.7-5: Mitigation and management measures – traffic and transport

ID	Mitigation/management measure	Timing
T-1	A Construction Traffic Management Plan (CTMP) will be prepared in accordance with the <i>Australian Standard 1742.3</i> and the <i>Work Health and Safety regulation 2017</i>. The CTMP would provide further information on the following: - Road transport volumes, distribution and vehicle types broken down into: - Hours and days of construction - Schedules for phasing/staging of the Project. - The origin, destination and routes for: - Employee and contractor light vehicles - Heavy vehicle traffic - OSOM vehicles. - A map of the primary haulage routes highlighting critical locations - Measures to ensure any proposed shuttle bus program to transport construction workers to/from the site can be practically achieved - Road maintenance contributions - A complaints resolution and disciplinary procedure - Local climatic conditions that may impact road safety throughout all Project phases (e.g. fog, wet and significant dry, dusty weather), and appropriate driving responses - Traffic management controls to manage vehicle movements when B-doubles are scheduled to enter the site - Onsite mitigation measures targeted at safety and reducing the impact of onsite transport including: - Onsite speed restrictions - Appropriate dust suppression measures - Maintenance program for on-site access tracks to ensure safe access - Loading/unloading and material storage restrictions - Driver code of conduct. - The CTMP will be prepared in consultation with Transport for NSW and Strathfield Council.	Pre-construction Construction
T-2	Pre-condition and post-condition surveys of the Access Road will be undertaken by the appointed contractor in consultation with Council. The Access Road will be monitored and maintained to ensure its continued safe use. Any faults attributable to construction of the Project will be rectified.	Pre-construction Post-construction
T-3	B-double and Class 1 permits will be obtained from the roads authority where required, prior to the commencement of journeys.	Prior to use of the routes
T-4	All Project OSOM vehicle movements will be scheduled to avoid other OSOM vehicles within the surrounding area as far as practicable. Scheduling will be undertaken as part of the permit application.	Pre-construction Construction

ID	Mitigation/management measure	Timing
T-5	Load limits on all bridges and structures along the proposed routes will be reviewed as part of the permit process for OSOM vehicles.	Pre-construction
T-6	Formal approval will be sought from the rail authority for any railway crossings on the proposed OSOM vehicle routes.	Pre-construction
T-7	Neighbouring properties will be consulted and notified regarding the timing of major deliveries, which may require additional traffic control and potentially disrupt access.	Pre-construction Construction
T-8	Specific warning signs advertising changes to traffic conditions will be implemented if deemed necessary on the construction access routes.	Construction
T-9	A Decommissioning Traffic Management Plan would be prepared prior to the decommissioning phase, in conjunction with the relevant roads authorities to ensure adequate road safety and road network operations are maintained.	Decommissioning

6.8 Surface water, groundwater and flooding

6.8.1 Secretary's Environmental Assessment Requirements

Table 6.8-1 sets out the SEARs relevant to surface water, groundwater and flooding and where the requirements have been addressed in this EIS.

Table 6.8-1: Relevant SEARs – water

Relevant SEARs	
Water	Where addressed
The EIS must address the following specific matters:	
an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management;	Potential impacts to surface water and groundwater are assessed in Section 6.8.4. Appropriate management and mitigation measures are provided in Section 6.8.5.
a site water balance for the development	An initial estimate of water demands and current availability for the Project is provided in Section 6.8.4.1. A conceptual site water balance is provided in Figure 6.8-4.
details of water requirements and supply arrangements for construction and operation (including consultation with suppliers)	Water requirements and supply arrangements are discussed on Section 6.8.4 and Section 6.8.5.
a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with <i>Managing Urban Stormwater: Soils & Construction (Landcom, 2004)</i> and <i>Managing Urban Stormwater: Soils and construction – Volume 2A manual (Landcom, 2008)</i>;	Erosion and sediment control measures are detailed in Section 6.8.5.

Relevant SEARs	
assessing the impacts of the development, including any changes to flood risk and overland flows on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required	Flood impacts are detailed in Section 6.8.4 and Section 6.8.5 . Design solutions to mitigate the impacts are provided in Section 6.8.5 .
where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the <i>DPI Guidelines for Controlled Activities on Waterfront Land (2018)</i> and (if necessary) <i>Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (DPI 2003)</i>, and <i>Policy & Guidelines for Fish Habitat Conservation & Management (DPE, 2013)</i>; and	Proximity of the Project to waterfront land is considered in Section 6.8.3.4 .
- Flood Risk: identification of 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; - 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 <i>Flood Impact and Risk Assessment – Flood Risk Management Guide LU01</i> - detailed design solutions and operational procedures to mitigate flood risk where required.	Discussion of how the Project affects flooding during construction and operation is provided in Section 6.8.4 . Section 6.8.5 outlines mitigation measures to manage any potential impacts to flooding.

6.8.2 Methodology

A WIA was prepared by GHD Pty Ltd (GHD) (2025). The WIA is provided as **Appendix K** and summarised in this section.

The WIA approach included:

- A review of relevant legislation, policy and guidelines to inform the assessment. A review of available information to establish existing environmental conditions, identify sensitive receptors, existing flood behaviour and drainage infrastructure. Sources used to establish existing environmental conditions included:
 - Scientific Information for Landowners (SILO)* operated by Queensland Government's Department of Environment and Science (DES, 2024)
 - Bureau of Meteorology (BoM, 2025)
 - WaterNSW* groundwater bore database (WaterNSW, 2020)
 - Strathfield LEP
 - DCP 2022
 - TUFLOW* (WBM and University of Queensland, 1990)
- An assessment of the potential construction and operational impacts the Project could have on hydrology, flooding, surface water quality, groundwater and water supply
- Modelling the existing flooding scenarios using TUFLOW to determine the 1% annual exceedance probability (AEP) and the probable maximum flood (PMF) events in 2030, 2050 and 2080, and the 5% AEP in 2030
- Identification of appropriate measures to avoid or mitigate potential impacts on water related receptors.

6.8.3 Existing environment

6.8.3.1 Homebush Bay catchment

The site is located in the Homebush Bay catchment, as shown in **Figure 6.8-1**. This catchment covers an area of 28 km² and is part of the broader Sydney Harbour and Parramatta River catchment. The two main freshwater rivers within the catchment are the Parramatta and Lane Cove rivers.

Water use within the catchment supports a large population and a diverse range of users, including tourism operators, local councils and industrial users. The Sydney Harbour and Parramatta River catchment is bounded by the Georges River catchment to the south and the Hawksbury-Nepean River catchment to the north and west.

The elevations within the catchment range from less than 10 m Australian Height Datum (AHD) to up to 30 m AHD in the upper areas of the catchment. Much of the catchment's topography has been altered through reclamation of land, as well as filling of floodplains and excavation works.

The catchment consists of two sub catchments (Haslams Creek and Powells Creek). The major tributaries are Haslams Creek, Powells Creek, Boundary Creek and Saleyards Creek.

6.8.3.2 Climate

A review of Bureau of Meteorology (BoM) climate Köppen classification mapping (BoM, 2025) indicates the site is in a temperate climate zone and is characterised by warm summers, with no dry season.

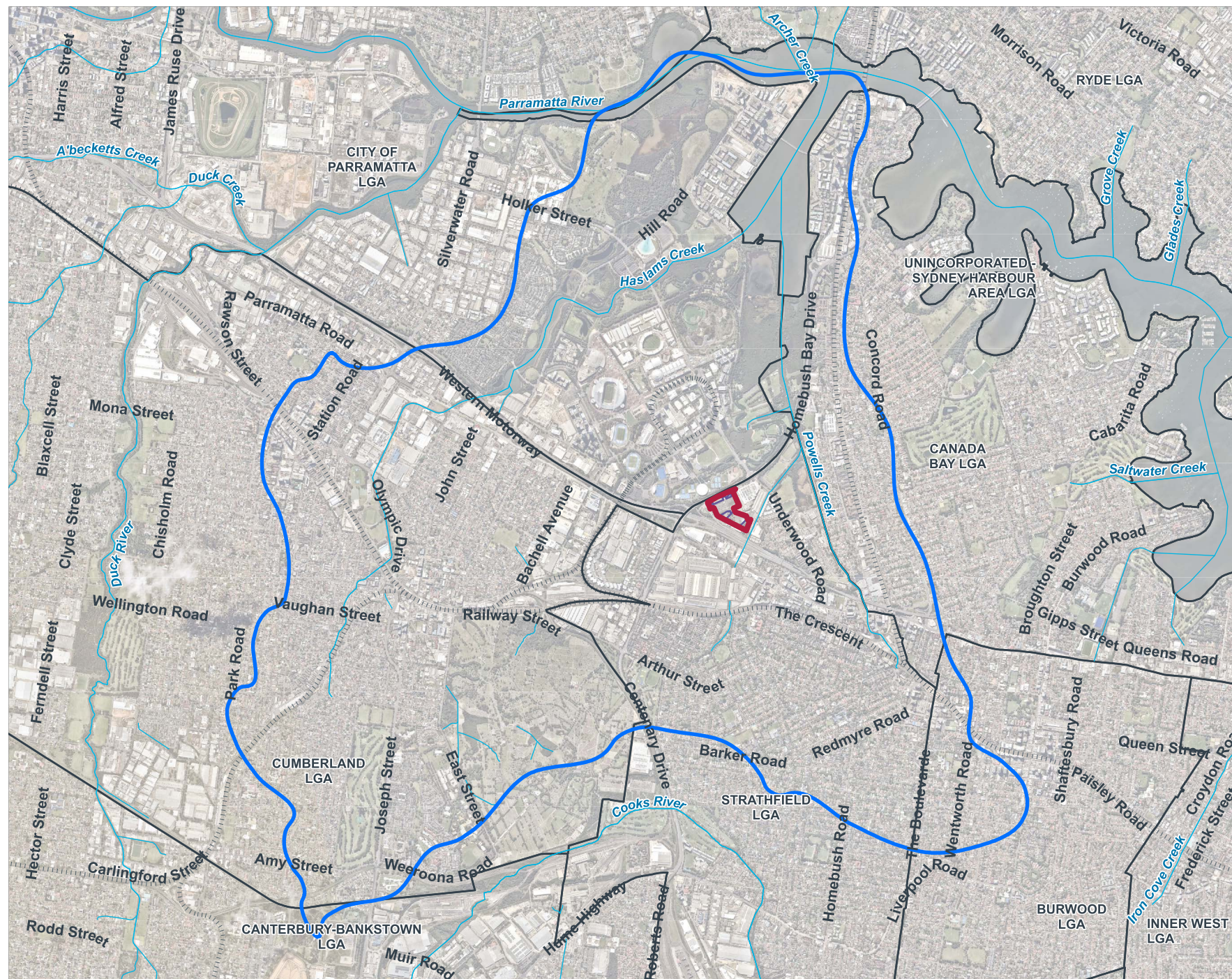
Strong seasonality is observed in temperature, with maximum temperatures typically exceeding 30 degrees Celsius (°C) in summer months and 15 °C in winter months.

Monthly rainfall is relatively uniform throughout the year, with slightly increased median rainfall occurring in February and March compared with other months. The annual average rainfall is 959 mm, with a maximum of 1,920.8 mm recorded in 2022 and a minimum of 501.5 mm recorded in 1979.

Strong seasonality in evapotranspiration is observed throughout the year, with average annual levels of approximately 1,500 mm. December through to March experiences the highest monthly totals of evapotranspiration.

A moisture deficit, where annual evapotranspiration exceeds annual rainfall, is observed in every month, resulting in an overall annual moisture deficit of 563.6 mm across year. This indicates that environmental conditions are predominantly influenced by evapotranspiration throughout the year.

FIGURE 6.8-1:
HOMEBUSH BAY CATCHMENT



Legend

- The site
- ▨ Project Area
- Homebush Bay catchment area
- Local Government Area
- Watercourses

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6.8.3.3 Topography

The topography of the site slopes from north-west to south-east and generally drains to the south-east towards Saleyards Creek, a highly modified drainage channel which is a tributary to Powells Creek. Saleyards Creek flows in a south-west to north-east orientation.

The elevation of the north-western portion of the site is approximately 10.4 m AHD to 11.4 AHD, with a slope of approximately 1%. Elevations towards the south-eastern portion of the site vary between 12 m AHD at its highest point to 5.5 m AHD at its lowest point, with slopes being generally steeper, in the range of 3 to 4%.

The topography of the site is provided in **Figure 6.4-2**.

6.8.3.4 Hydrology and drainage

Surface watercourses

Under the Strahler Stream Classification System (Strahler, 1952), watercourse classification ranges from first-order ephemeral creeks to fourth-order permanent rivers. First-order watercourses represent minor streams, while fourth-order systems, are larger and more permanent, supporting a greater variety of ecological resources.

Regionally, the site is located in the Parramatta River catchment within the Sydney basin. The Parramatta River is a fourth order watercourse which discharges to the Tasman Sea, some 25 km downstream. The river flows west to east and is located approximately 4 km north of the site at its nearest point.

There are two watercourses in the vicinity of the site. The closest is Saleyards Creek, an ephemeral open drainage channel of shallow depth, lined with concrete and contained with shallow vertical concrete banks, located 100 m east of the site. Saleyards Creek is assigned order 0 on the Strahler stream ordering system and forms part of the local stormwater drainage network. It traverses the Mason Park Wetlands before intersecting with Powells Creek approximately 800 m north-east of the site. The total catchment area of Saleyards Creek to its confluence with Powells Creek is approximately 3.2 km² (WMAwater, 2016).

Powells Creek is a highly modified first order watercourse which drains into Homebush Bay and then discharges into the Parramatta River. Powells Creek is an open concrete-lined channel of shallow depth with inlet pits and pipes, located approximately 600 m north-east of the site. Dense mangrove vegetation is present downstream where the creek discharges into Homebush Bay (Badu Mangroves Wetlands). The total catchment area of Powells Creek is approximately 8.1 km² (WMAwater, 2016).

The site is not located within 40 metres of waterfront land, which collectively comprises rivers, lakes or wetlands. Watercourses and waterbodies in the vicinity of the site are shown in **Figure 6.8-2**.

Overland flows

Surface water within the site is generally conveyed to an existing basin located to the east of the site.

In the location of the existing STSS, flood waters are generally conveyed along the drainage pathway north of the site, where flows are partially retained by a small basin.



FIGURE 6.8-2:
WATERCOURSES AND
WATERBODIES

- Legend**
- The site
 - Project Area
 - Waterbodies
 - Watercourses

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6.8.3.5 Groundwater

Encountered groundwater

Geotechnical investigations were undertaken for the Project by Alliance Geotechnical (2024) in December 2024, comprising the drilling of five boreholes within the site. Groundwater as seepage at 1 m below ground level (BGL) was identified in one of the boreholes (BH05). Based on the surface elevation at the borehole (3.8 m AHD), this could indicate that groundwater is present at relatively shallower depths within the low-lying portions of the site.

Groundwater seepage condition is subject to seasonal and climatic conditions and may vary across the Project Area. Groundwater levels within the site may also be influenced by prevalent water levels in nearby waterways, such as the ephemeral tributary of Powells Creek to the south-east of the site.

Groundwater receptors

A search of the WaterNSW groundwater database (WaterNSW, 2025) identified groundwater bores within 1 km of the site, as detailed in **Table 6.8-2** and mapped in **Appendix K**. In the absence of groundwater elevation information, the approximate groundwater elevations presented in **Table 6.8-2** were calculated based on digital elevation model (NSW SS 2013) elevations and standing groundwater water levels.

Table 6.8-2: Groundwater monitoring bores

ID	Bore depth (m)	Lithology (m)	Groundwater standing water level (m)	Approximate groundwater elevation (m AHD)	Approx. distance to the site (m)
GW102560	4	-	1.83	3.6	290
GW111671	5.3	0.6 fill 0.6 to 5.3 clay	0.68	1.1	490
GW111672	5.4	0 to 1.5 m Fill 1.5 to 5.4 m Clay	1.35	0.0	550
GW111673	5.3	0 to 0.6 m Fill 0.6 to 5.3 Clay	0.68	3.3	570
GW111674	5.4	0 to 1.5 fill 1.5 to 3.9 Clay	1.35	2.6	590
GW102559	4	-	1.83	5.5	600
GW102558	4	-	-	-	710
GW102561	4	-	1.83	-0.4	720
GW102670	2	0 to 1 soil 1 to 2 sandstone	-	-	720
GW102562	4	-	1.83	2.9	790
GW114858	1.9	0 to 0.3 topsoil 0.3 to 0.7 silty sand 0.7 to 1.3 dark grey 1.3 to 3.8 silty clay dark grey	-		860
GW102557	4	-	-	-	860
GW102645	10	0 to 5 weathered shales 5 to 10 shale	7.30	2.2	870
GW114859	2	0 to 0.2 topsoil 0.2 to 0.4 light brown sand 0.4 to 1.3 fill waste, dark brown 1.3 to 2.0 silty clay dark grey	1.30	0.5	870

ID	Bore depth (m)	Lithology (m)	Groundwater standing water level (m)	Approximate groundwater elevation (m AHD)	Approx. distance to the site (m)
GW114861	5.6	0 to 0.3 Topsoil 0.3 to 0.7 silty sand 0.7 to 1.3 Fill waste dark grey 1.3 to 5.3 silty clay dark grey	1.9	0.2	900
GW114860	2.3	0 to 0.2 topsoil 0.2 to 1.7 silty gravelly sand 1.7 to 2.3 shale grey hard	-		920
GW102556	4	-	1.830	4.9	950

Table 6.8-2 indicates that groundwater elevations within 1 km of the Project are shallow. To the north of the Project Area, groundwater elevations range from -0.4 m to 5.5 m AHD and to the south elevations range from 2.2 m to 3.6 m AHD. To the east of the Project, groundwater elevations range from 3.3 m to 1.1 m AHD.

Groundwater dependent ecosystems

A search of the Australian Groundwater Dependent Ecosystems Atlas (BoM, 2025) identified no groundwater dependent ecosystems (GDEs) within the site. In the surrounding area, Mason Park Wetlands are identified as a moderate potential GDE, and Bressington Park is mapped as having low potential GDE. The Badu Mangroves Wetlands in Bicentennial Park, located approximately 1.2 km to the north of the site, are mapped as having a high potential GDE.

6.8.3.6 Water quality

Existing water quality conditions of both Saleyards Creek and Powells Creek have been noted in the *Sydney Metro West Environmental Impact Statement* (Sydney Metro, 2020).

The water quality characteristics of both Saleyards Creek and Powells Creek comprise low dissolved oxygen levels, elevated nutrient and heavy metal concentrations and high turbidity.

6.8.3.7 Existing flooding conditions

The Powells Creek and Saleyards Creek Revised Flood Study (WMAwater, 2016), undertaken on behalf of Strathfield Council, was reviewed to understand the flooding conditions of the site. GHD also developed a flood model to assess local flood conditions and potential changes associated with the Project. This model was simulated using rain-on-grid with reference to *Australian Rainfall and Runoff 2019* (v4.2) (Babister et al. 2019).

Regional flooding and flood prone land

The NSW Flood Risk Management Manual (DPHI, 2023) defines flood prone land as land that is susceptible to a PMF event.

Under the PMF event, the site (without the Project) is modelled as experiencing between 0 m and 0.3 m of inundation, with areas along the south-eastern edge of the existing Mason Park STSS experiencing between 0.3 and 0.5 m of inundation. Flood mapping by WMAwater (2016) is provided in **Figure 6.8-3**.

Throughout the site, existing flood velocities are relatively low in all predicted events (without the Project), with the maximum velocity reached being 1.25 m/s.

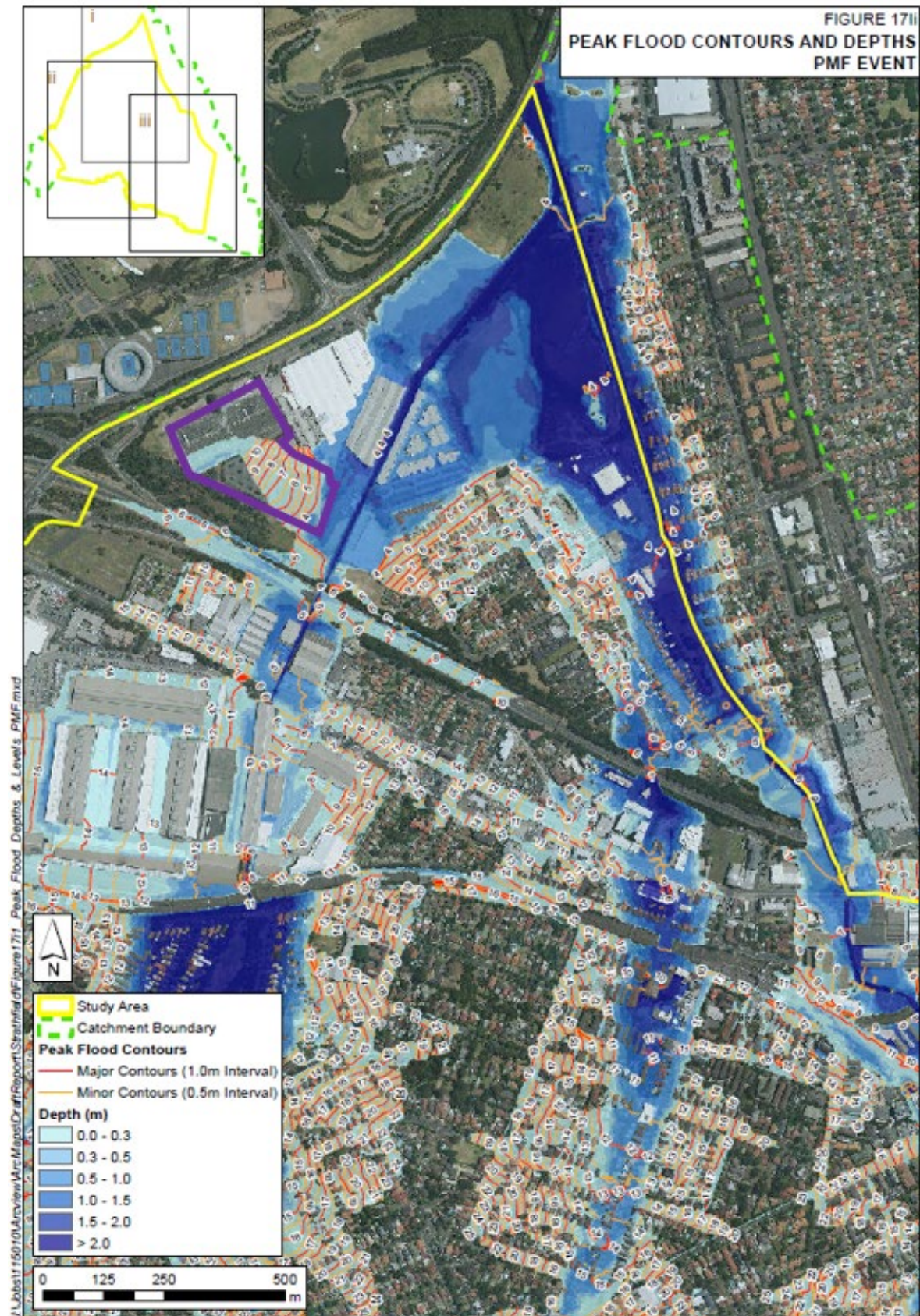


Figure 6.8-3: Flood mapping of the Probable Maximum Flood event (WMAwater, 2016)

The WIA concluded that the TUFLOW model developed by WMAwater was over-estimating flood extents and was not representative of actual flood conditions within the site.

A Planning Certificate was requested from Strathfield Council to understand the susceptibility of the site to local flooding. The Planning Certificate, provided in **Appendix K**, indicated that the site has been identified as being within a flood planning area, noting that any developments on the site may be subject to specific flood development controls.

According to the *Powells Creek and Saleyards Creek Revised Flood Study* (WMAwater, 2016), the site is mapped as being in a both mainstream and overland flood planning area. The study also notes that the southern portion of the site has received a “flood fringe” provisional hydraulic categorisation in the 5% AEP, 1% AEP and PMF events (areas outside the floodway where peak flood depth is less than 1 m).

Additionally, the site has a “low” provisional hydraulic hazard classification for the same events, according to hazard categories stipulated in the NSW Floodplain Development Manual (DPHI, 2023). The Planning Certificate also stated that it was unknown whether any portion of the site was located between the flood planning level and PMF, and hence subject to additional flood-related development controls.

Local flood depth and level

The flood risk of the site was modelled in years 2030, 2050, 2080 and under existing conditions, i.e. without the Project.

Sections of the site were identified to be subject to minor flooding, with a low risk of flooding across the northern boundary of the site due to overland flow. The eastern portion of the site and Saleyards Creek are subject to inundation at greater depths.

In the central portion of the site (the Project's Operational Footprint), flood depths of up to 150 mm in the 1% AEP event were identified.

In the location of the existing Mason Park STSS, the modelled 1% AEP event identified flood depths as potentially reaching up to 300 mm and up to 750 mm in the PMF event.

Under all modelled events, the eastern portion of the site may experience flooding up to depths of 2 m, while the flood depths in Saleyards Creek could reach greater than 2 m, with some variation in extents of these depths between flood events.

Similar depths and extents are anticipated in 2050 future scenario, with minor increases in extent but negligible increases in depth under both the 1% AEP event and the PMF event (relative to 2030).

In the 2080 future scenario (without the Project), depths of up to approximately 150 mm are anticipated in the 1% AEP event, increasing to around 300 mm in the conservative PMF event. Flood levels across the Project Area in the PMF event range from 5 m to 11 m AHD, along the direction of fall.

Flood mapping of modelled flood depths, elevation contours, extent and velocity is presented in **Appendix K**.

Local flood velocity

Flood velocity mapping included in **Appendix K** indicates slow flowing flood waters within the site, generally flowing north-west to south-east, along the direction of fall and up to 1 m/s. Under the 1% AEP flood event (without the Project) flood velocities are modelled to reach 1.75 m/s adjacent to the northern and southern boundaries of the site.

Under the PMF event flood velocities in the location of the Mason Park STSS are generally low, reaching 0.75 m/s, however, reach up to 5 m/s in the central portion of the site (the Project's Operational Footprint). In all modelled events (including the PMF), the velocities modelled in the east of the site experience up to 5 m/s, while velocities along the Saleyards Creek drainage channel are anticipated to be greater than 5 m/s.

Local flood hazard

The *NSW Flood Risk Management Manual FB03* (DPE, 2023), categorises flood hazards into six categories ranging from least to most hazardous, with H1 being the lowest and H6 being the highest, as detailed in **Table 6.8-3**.

Table 6.8-3: NSW Flood Risk Management Manual FB03 Flood Risk Categories

Hazard vulnerability classification	Description
H1	Generally safe for vehicles, people and buildings
H2	Unsafe for small vehicles
H3	Unsafe for vehicles, children and the elderly
H4	Unsafe for vehicles and people
H5	Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
H6	Unsafe for vehicles and people. All building types considered vulnerable to failure.

In all modelled flood events under the 1% AEP, 2030 PMF and 2050 PMF events (without the Project), the flood hazard is modelled typically at H1 across the site, which is generally safe for vehicles, people and buildings. This is due to the existing low velocities and shallow depths.

Flood hazards up to H3 are anticipated in localised areas of the existing Mason Park STSS, while one small pocket of H5 flood hazard was identified in the north-western portion of the site.

To the east of the site, under all modelled events, flood hazard is anticipated to be up to H5, while Saleyards Creek is anticipated to experience up to H6, owing to existing high velocities and depths in these locations.

Flood hazard mapping is provided in **Appendix K**.

6.8.4 Impact assessment

6.8.4.1 Construction

Hydrology and flooding

A qualitative assessment of flood impacts during construction has been undertaken due to the short duration of the proposed construction period (approximately 22 months).

The WIA anticipated that without the implementation of appropriate flood management measures, inundation of the Project Area by floodwater has the potential to:

- Detrimentially impact downstream waterways through the transport of sediments and construction materials by floodwaters
- Obstruct the passage of floodwater and overland flow through the provision of temporary measures such as construction compounds and stockpiles
- Result in restricted accessibility to work areas due to ponded water or soft ground conditions.

Direct flood impacts during construction would be temporary in nature and anticipated to be negligible, though may pose an indirect impact associated with construction phase water quality. Impacts on water quality are discussed in the following section.

The Project does not involve construction work within 40 m of waterfront land and therefore there would be no impacts to any waterfront land.

Impacts associated with flooding and hydrology during construction are not expected to be significant, provided the mitigation measures outlined in **Section 6.8.5** are adhered to.

Surface water quality

Potential impacts to surface water quality during construction may arise from the following activities:

- Earthworks, excavation and disturbance of soils
- Handling and operation of equipment containing hazardous materials, the maintenance and refuelling of plant, handling of battery components and accidental spills of hazardous materials.

Disturbance of soils and stockpiles as a result of earthworks and excavation has the potential to affect surface water quality. Once disturbed, these soils have the potential to be mobilised during high rainfall events and contaminate downstream waterways. As a result, the primary contaminant of concern to surface water during construction is suspended solids, resulting in increased turbidity of waterways.

Considering the scale of the Project, overall soil disturbance is expected to be minor, and therefore, overall impacts to surface water quality resulting from sedimentation can be managed through appropriate mitigation measures.

The activities and processes whereby hazardous materials may pose a risk to surface water include:

- Interactions with ASS
- Maintenance and refuelling of plant (e.g., hydrocarbons)
- Installation of concrete slabs (e.g., alkalinity)
- Handling of battery components (e.g., metals)
- Accidental spills of stored materials (e.g., fuels, oils)
- Accidental spills during the installation of transformers or similar infrastructure (e.g., mineral oils)
- Unexpected contamination that poses a risk to water quality.

Accidental spills of hazardous materials could mobilise into and contaminate downstream waterways, resulting in impacts to flora and fauna.

These surface water impacts are generally considered minor and are proposed to be managed with the mitigation measures outlined in **Section 6.8.5**.

Groundwater

Excavation activities during construction of the Project, such as cable trenching, have the potential to result in exposure of groundwater. This exposure could lead to impacts on groundwater including changes in groundwater levels, contamination from construction materials and increased turbidity. Additionally, the disruption of natural groundwater flow patterns could affect nearby ecosystems and water resources.

Water supply

Water would be required for certain construction activities, such as dust suppression. A conservative estimate of the quantity required is 5.7 ML across the 22 month construction period. This excludes water used for concrete batching, which would occur offsite.

All water required for construction of the Project would be externally sourced and delivered to the site via a water tanker. Potable water would be supplied via bottled water or through the existing potable water supply within the Mason Park STSS. As such, impacts to the existing water supply during construction, including surface or groundwater resources, would be negligible.

Water balance

A conceptual site water balance during construction summarising the demands, water uses and outflows of the different water types is presented in **Figure 6.8-4**.

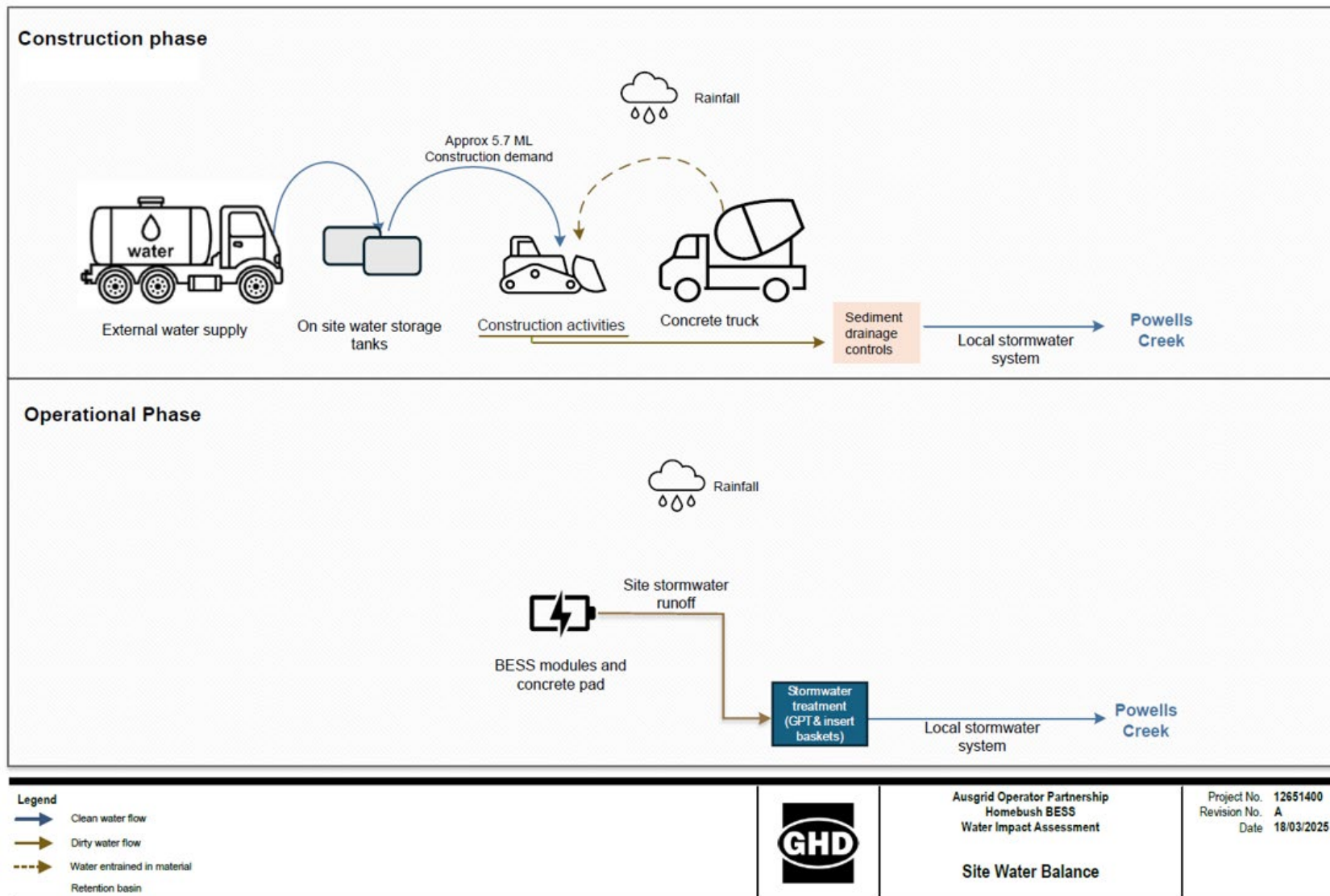


Figure 6.8-4: Conceptual site water balance (GHD, 2025)

6.8.4.2 Operation

Hydrology and flooding

Based on the existing local flood conditions of the Project Area, as detailed in **Section 6.8.3.7**, and the relative increase in hardstand area associated with the Project, flood measures to minimise operational phase flooding were included as part of the concept design. The measures intend to manage increased runoff quantities generated from the increase in impervious area associated with the development, and include:

- Grading of the hardstand and perimeter earthworks to minimise potential impacts associated with increased quantities of runoff and obstruction of overland flows
- Stormwater infrastructure to convey runoff around the hardstanding into existing basins to minimise potential impacts to nearby receptors.

The flood mapping indicates that flood waters would disperse from the Project Area to the local drainage network. Further details are contained in **Appendix K**.

In all events up to the PMF for current climate conditions and future climate, flood conditions are anticipated to slightly improve for the area outside the Project Area.

During all of the PMF events modelled, minor increases in flood depth to the south of the Project Area are anticipated, however this does not result in changes to the category of peak flood hazard compared to the existing case (as set out in **Section 6.8.3.7**), given these areas are low-lying and subject to inundation and tailwater from Saleyards Creek.

Overall, notable changes during operation are limited to the PMF event, however these changes are considered relatively minor and are not anticipated to result in material changes to flood risk given the existing flood conditions.

Based on both the existing and proposed future flood conditions within the Project Area, while changes to flood conditions are not anticipated to be significant, portions of the Project Area are susceptible to localised flooding, and this will be considered as part of the construction and operation of the Project.

Surface water quality

Development of impervious areas can result in changes to water quality, particularly concerning pollutant loads to downstream waterways. The Project proposes 1.5 ha of new impervious hardstand area within the Project Area for the containerised battery units.

A stormwater quality treatment train was developed as part of the Project's conceptual design, which considers the implementation of five stormwater drainage pit insert baskets, and an end of system gross pollutant trap, to treat up to 240 litres per second of water.

The conceptual stormwater quality treatment train was modelled to assess its effectiveness, and the results indicate that it is expected to achieve Strathfield Council's pollutant load reduction targets, as detailed in **Appendix K**. Considering this, the operation of the Project is not expected to adversely affect surface water quality.

Specific activities, such as maintenance activities, during the operation of the Project will require the handling of hazardous materials (i.e. hydrocarbons, fuel, transformer oils). The potential exists for the accidental release of these hazardous materials into downstream waterways, via direct or indirect flows, which may result in impacts to local surface water quality during operation.

Handling of hazardous materials is not expected to occur regularly. Potential water quality impacts associated with hazardous material handling may result in moderate localised impacts to nearby waterways during operation but is not anticipated to result in any substantial changes to the Parramatta River downstream of the Project. Any impacts to surface water quality as a result of handling of hazardous materials will be able to be managed through mitigation measures outlined in **Section 6.8.5**.

Groundwater

No interaction with the subsurface is proposed during operation, and therefore operational impacts on groundwater are not expected.

Water supply

A fire management strategy will be prepared prior to the commencement of construction. This study will outline how water will be used for emergency purposes during operation, including any storage volumes needed onsite. Any other water for operation, which is expected to be limited to domestic uses and some external use only, would be sourced through a new potable water connection installed for the Project.

As such, impacts to the existing water supply during operation, including surface or groundwater resources, would be negligible.

Water balance

A conceptual site water balance during operation summarising the demands, water uses and outflows of the different water types is presented in **Figure 6.8-4**.

6.8.5 Mitigation and management measures

Implementing mitigation measures would aim to reduce the potential impacts on surface water, groundwater and flooding from the Project to the greatest extent practicable. The management measures that would be implemented during detailed design, construction and operation of the Project are detailed in **Table 6.8-4**.

Table 6.8-4: Mitigation and management measures – surface water, groundwater and flooding

ID	Mitigation/management measure	Timing
SWGF-1	Detailed design will consider the management of stormwater quantity and quality, informed by water quality modelling, to ensure that the Project's stormwater drainage infrastructure manages floodwater appropriately and the requirements in the Strathfield Council Development Control Plan are met.	Detailed design
SWGF-2	A water quality treatment train will be included in the detailed design and implemented during construction to address the changes in pollutant loads generated by the increased impervious area within the Project Area. The stormwater treatment train will be appropriately sized to manage the four exceedances per year design storm.	Detailed design Construction
SWGF-3	Prior to construction, a Flood Emergency Response Plan (FERP) would be prepared. This would form part of the CEMP and would document how the risks to life and property within the Construction Footprint would be safely managed during construction. The FERP would be implemented during the construction period.	Pre-construction Construction
SWGF-4	A construction Soil and Water Management Plan (SWMP), including an Erosion and Sediment Control Plan (ESCP) will be prepared in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004). These will be prepared by a Certified Practitioner of Erosion and Sediment Control (CPESC) or an accredited soil scientist, and implemented during construction. The ESCP will include a protocol for erosion control inspections to detect and mitigate impacts during construction.	Construction
SWGF-5	Potable water storages will be managed and maintained in accordance with the <i>Australian Drinking Water Guidelines</i> (National Health and Medical Research Council, 2011).	Construction Operation

ID	Mitigation/management measure	Timing
SWGF-6	Operational controls relevant to water will be included in a site-specific Operational Environment Management Plan (OEMP). The following measures will be included: - Procedures to maintain drainage features within the Project Area, including open channels, culverts, water quality controls and all pits and outlets. These will be maintained in accordance with the manufacturer's specifications and kept free-draining. - Procedures to appropriately manage the storage of hazardous materials within the Project's Operational Footprint, as well as protocols and controls to ensure that any major spills are managed and contained.	Operation

6.9 Hazards and risk

6.9.1 Secretary's Environmental Assessment Requirements

Table 6.9-1 sets out the SEARs relevant to hazards and risk and where the requirements have been addressed in this EIS.

Table 6.9-1: Relevant SEARs – hazards and risk

Relevant SEARs	
Hazards	Where addressed
This EIS must address the following specific matters:	
<i>Health</i> - an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the <i>International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields</i>;	Potential hazards and risks (including health risks) are assessed in Section 6.9.4 .
<i>Bushfire</i> – identify potential hazards and risks associated with bushfires including the risks that a BESS would cause a bush fire and demonstrate compliance with <i>Planning for Bush Fire Protection 2019</i>;	Potential hazards and risk associated with bushfires is discussed in Section 6.9.3 .
Battery Energy Storage System – a Preliminary Hazard Analysis (PHA) prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis</i> (DoP, 2011) and Multi-Level Risk Assessment. The PHA must consider all recent standards and codes and verify separation distances to on-site and off-site receptors to prevent fire propagation and compliance with <i>Hazardous Industry Advisory Paper No. 4, Risk Criteria for Land Use Safety Planning</i>.	The PHA, including preliminary risk screening, is included in Appendix L and summarised in this section (Section 6.9).

6.9.2 Methodology

A Preliminary Hazard Analysis (PHA) was prepared by Planager (2025) to identify and assess potential hazards and risks associated with the construction and operation of the Project to people, property and the environment. The PHA is provided in **Appendix L** and is summarised in this section.

The PHA has been prepared in accordance with the following government policy and guideline documents:

- Resilience and Hazards SEPP 2021 - *Chapter 3 Hazardous and offensive development* (DPIE, 2021)
- Hazardous and Offensive Development Application Guidelines: Applying SEPP 33* (NSW Department of Planning (DoP), 2011) (Applying SEPP 33)

- *Hazardous Industry Planning Advisory Paper No 6 – Guidelines for Hazard Analysis* (DoP, 2011a) (HIPAP No 6)
- *Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning* (DoP, 2011b) (HIPAP No 4)
- *Hazardous Industry Planning Advisory Paper No 10 - HIPAP 10: Land Use Safety Planning* (NSW DoP, 2011) (HIPAP No 10)
- *Assessment Guideline: Multi-level Risk Assessment* (NSW Department of Planning and Infrastructure, 2011) (MLRA)
- *Planning for Bushfire Protection: A guide for councils, planners, fire authorities and developers* (NSW Rural Fire Service, 2019).

The following steps were undertaken to prepare the PHA:

- Establish the existing environment and surrounding land uses
- A risk screening in accordance with the MLRA to determine whether the Project is considered a 'potentially hazardous industry' as defined in the *Hazardous and Offensive Development Application Guidelines: Applying SEPP 33*, with consideration of the following factors:
 - Storage of hazardous materials
 - Transport of hazardous materials to and from the Project Area
 - Other types of hazards
- A desktop review to identify all reasonably foreseeable hazards and associated events that may arise during construction and operation of the Project
- The risk of onsite and offsite impacts resulting from identified hazards were assessed, including from electric and magnetic fields
- The tolerability of each risk was evaluated through a risk matrix after risk treatments have been applied.

6.9.2.1 Electric and magnetic field assessment

Electrical equipment, when in service, produces an electric field and a magnetic field. In combination, these fields cause energy to be transferred along electric wires.

- **Electric fields:** Associated with voltage (i.e., like pressure in a hose, pushing electricity through a wire). Being related to voltage, the electric fields associated with high voltage equipment remain relatively constant over time, except where the operating voltage changes. The strength of the electric field depends on the voltage and is present in any live wire whether an electrical appliance is being used or not
- **Magnetic fields:** Associated with amperage (i.e., electrical current, like the flow of water in a hose). Being related to current, the magnetic field strength resulting from an electrical installation varies continually with time as the load on the equipment varies.

6.9.3 Existing environment

The Project's exposure to existing environmental risks is summarised in **Table 6.9-2**.

Table 6.9-2: Environmental baseline

Risk	Potential outcome	Site specific risk
Bushfire	Bushfire may result in damage to infrastructure, initiation of thermal runaway reaction and fire at the containerised battery units or transformers, of loss of life.	Given the low amount of vegetation in the Project Area and the site not being located on bushfire prone land, the risk of a bush fire threatening the Project is very low. A bushfire assessment in accordance with <i>Planning for Bush Fire Protection 2019</i> is not warranted for the Project. Therefore, the risk of bushfire is not considered further in the PHA or this section.
Flooding	Flooding could result in the accidental spill or discharge of chemicals or hydrocarbons, such as fuels and oils in vehicles and/or equipment, which could contaminate surface water and/or groundwater.	A WIA was prepared for the Project and is included in Appendix K. The assessment identified lower-lying areas within the Project Area that are currently susceptible to localised flooding, subject to inundation and tailwater from Saleyards Creek. Future predicted flood conditions with the Project anticipate minor increases in flood depth to the south of the Project Area. Whilst changes to flood conditions are not anticipated to be significant, portions of the site would continue to be susceptible to localised flooding. The risk of flooding has been screened out and is not considered further in the PHA or this section. Further details of existing flooding risks associated with the Project are provided in Section 6.8.
Earthquake and landslide	Earthquakes and landslides could result in an initiation of a thermal runaway reaction and fire at the containerised battery units, and an oil spill and fire at the transformers.	A search of the National Seismic Hazard Assessment hazard map (Geoscience Australia, 2018) on 15 November 2024 indicated a low risk of earthquakes occurring at the site. A search of the NSW Planning Portal Spatial Viewer on 15 November 2024 indicated that the site is not located within a known mapped mine subsidence district. The risk associated with landslide and earthquake is low and has therefore been screened out of the PHA and is not considered further in either the PHA or this section.

Risk	Potential outcome	Site specific risk
Lightning strike	Lightning strike could result in damage to Project infrastructure, the initiation of a thermal runaway reaction and fire at the containerised battery units, and an oil spill or fire at the transformers.	The Bureau of Meteorology (BoM) annual average thunder days and lightning-ground flash density map (BoM, 2025) indicated that lightning-ground flash density is 1 to 3 flashes per square kilometre per year (km ² /year) and 20 to 25 thunder events per day per km ² /year, which is similar to that for much of the east coast of NSW (BoM, 2024).

6.9.4 Impact assessment

6.9.4.1 Preliminary risk screening

In accordance with the Applying SEPP 33 guideline, the following hazards were considered in the preliminary risk screening:

- Storage of hazardous materials:
 - Compressed refrigerant gas in the containerised battery units - 3 kg per containerised battery unit, totalling 336 kg onsite
 - Flammable liquids in small containers - solvents not exceeding 20 litres, or diesel for use in the diesel generator not exceeding 5 tonnes
 - Weedicide/herbicide - small amounts held onsite in dangerous goods cabinets, not exceeding 1 tonne
 - Corrosive liquids in small containers - acids for use during maintenance cleaning, held onsite in dangerous goods cabinets, not exceeding 5 tonnes
 - LiFePO₄ batteries within containerised battery units
 - Coolant (a mixture of ethylene and glycol) in the containerised battery units - up to 400 litres per containerised battery unit
 - Oil and other petroleum products for use in switchgear and transformers - up to 224 m³ in the MV transformers
- Transport of hazardous materials:
 - LiFePO₄ batteries in the containerised battery units
 - Coolant in each containerised battery unit
 - Compressed refrigerant gas in the containerised battery units
 - Petroleum and diesel products
- Other types of hazards considered relevant to the Project:
 - Incompatible materials (hazardous and non-hazardous materials)
 - Hazardous wastes
 - Activities associated with dangerous goods and other hazardous materials (i.e. storage, processing, reaction)
 - Storage or processing operations involving high (or extremely low) temperatures and/or pressures
 - Details of known past incidents (and near misses) involving hazardous materials and processes in similar industries.

The results of the preliminary risk screening for the Project were:

- The expected storage of hazardous materials associated with the Project would not exceed the relevant risk threshold

- The expected transport of hazardous materials associated with the Project would not exceed the relevant risk threshold.

On the basis of storage and transport of hazardous materials, the Project would not be considered 'potentially hazardous industry' under the definition within the MLRA guidelines, which correspond to that in Chapter 3 of the Resilience and Hazards SEPP.

However, based on *Other types of hazards* identified (and the Project SEARs), an assessment of the potential hazards associated with the Project through a PHA is required under Chapter 3 of the Resilience and Hazards SEPP. The PHA is included in **Appendix L** and summarised in the following sections.

6.9.4.2 Preliminary hazard and risk assessment

In accordance with the findings of the preliminary risk screening, and the SEARs, a preliminary hazard and risk assessment has been prepared for the Project.

Table 6.9-3 summarises the hazardous event scenarios with potential to result in impacts rated as a 'Major' (or greater) consequence to people (serious injuries with long-last effecting and/or fatality), the environment and/or to nearby infrastructure. All 'Major' (or greater) impacts identified for the Project relate to onsite risks, and therefore offsite risks are not included in **Table 6.9-3**.

Overall, the onsite and offsite risk profile is rated as either 'as low as reasonably practicable' (ALARP) or better ('Acceptable').

A detailed evaluation of potentially hazardous incident scenarios is provided in **Appendix L**.

Table 6.9-3: Hazard analysis and risk assessment

ID	Hazardous incident	Findings	Onsite ranking		
			Consequence	Likelihood	Risk
1	Thermal runaway (including due to spontaneous ignition) and fire in a containerised battery unit	A battery fire event may be initiated by a thermal runaway and spontaneous ignition within a battery cell which propagates to other parts (e.g. cells, modules, racks) within the containerised battery unit. This may be caused by an electrical system failure (e.g. damage to wiring, fuse or breaker failure) or by mechanical interference (e.g. mishandling, rodent, damage impact during construction activities). The following risks are possible from a thermal runaway event: • Generation of heat from a fire • Generation of toxic combustion gases from a fire • Overpressure from a deflagration event. The worst-case consequences of a worst-case-credible fire include possible escalation to adjacent cells and modules and neighbouring containerised battery units, with further escalation to other areas within the site. This could result in possible injury/fatality from heat generation and exposure to toxic combustion products and deflagration overpressure. The closest offsite receptor is the car park (multi-storey building) at the DFO Homebush to the north-east of the site, which is located around 18 m from the containerised battery units. With this clearance, the heat radiation level associated with the containerised battery unit fire would be less than 2 kW/m², which is below the 3 kW/m² threshold commonly defined as the heat radiation level which could cause discomfort. As such, heat radiation associated with a fire at the Project is not likely to be significant.	Generation of heat from a fire		
			Major (site personnel)	Remote	ALARP
			Toxic combustion gases		
			Severe (site personnel)	Remote	ALARP
			Deflagration overpressure		
2	Electrical fault or failure to control electrical energy at electrical equipment (MV transformers, electrical cabling etc.) causing fire, arc flash, or EMF	The Project will generate sufficient energy to cause an arc flash in the case of a short circuit or fault. Arc flashes can be dangerous since they can cause serious burns and/or electrocution. Arc flash temperatures can exceed 12,000°C and are therefore capable of melting metal, causing fires and/or explosions. The requirements under the Australian Standards and typical management practices for Low and Medium Voltage systems are sufficient to ensure the risk associated with fire at the electrical infrastructure associated with the Project would be managed to ALARP principles.	Severe (site personnel)	Remote	ALARP

ID	Hazardous incident	Findings	Onsite ranking		
			Consequence	Likelihood	Risk
3	Fire in nearby area causes damage and escalation to Project infrastructure	Encroachment of offsite fire onto Project infrastructure could result in injury/fatality, asset damage and potential initiation of thermal runaway in the containerised battery units.	Major (site personnel)	Remote	ALARP
4	Incident during construction activity causes impact with infrastructure or loss of control	Construction activities have the potential to damage the existing light poles and overhead cables. The risk associated with the presence of light poles and overhead cables across the Project Area is low and can be managed using Australian Standards and Ausgrid Codes of Practice. Construction risks are well known and understood, and existing Codes and Standards are established within the industry to manage construction risk to an acceptable level.	Severe (construction personnel)	Rare	Acceptable

6.9.4.3 Electric and magnetic fields

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) states that there is no established scientific evidence that exposure to electric and magnetic fields (EMF) causes adverse health effects (ARPANSA, n.d.). Notwithstanding, EMF has been considered in association with the operation of the Project. An assessment has been undertaken to understand the EMFs likely to be generated and their potential to impact workers and the public.

Typical values of magnetic fields measured near powerlines and substations are listed in **Table 6.9-4**.

Table 6.9-4: Typical values of magnetic fields of infrastructure associated with the Project (ARPANSA)

Source	Location of measure	Range of measurement milligauss (mG)
Substation	At substation fence	1 – 8
High voltage powerlines	Directly underneath (if overhead)	10 – 200
High voltage powerlines	At edge of easement	2 – 50
33 kV underground cable	At one metre above ground	24
	20 m from source	1
33 kV above ground cable	Directly underneath	10 – 200
	At edge of easement	2 – 50
Power control unit – assuming the same levels as substation	Outside the power control unit	1 – 8
BESS – assuming the same levels as substation	Outside containerised battery unit	1 – 8

In 2016, ARPANSA adopted the international guideline for recommended electric and magnetic fields limits (ICNIRP, 2020), as set out in **Table 6.9-5**. The reference levels set out in this guideline are derived from the levels at which interactions with the central nervous system are established, with a safety factor applied and a further adjustment to simplify compliance measurement. It should be noted that these criteria are independent of duration of exposure.

Table 6.9-5: ARPANSA limits – electric and magnetic fields, (2002, updated 2016)

Field type	Public limits		Operational limits	
	Magnetic field (mG)	Electric field (volts per metre)	Magnetic field (mG)	Electric field (volts per metre)
Reference Levels for Time Varying Fields at 50 Hz (AC)	1,000	5,000	5,000	10,000
Guidance Levels for Static Fields (DC)	566,000	14,100	2,830,000	28,300

Notes: Limits for magnetic fields have been shown in the above table in milligauss (mG) for consistency with the rest of this section. The ARPANSA guidelines display these values in microTesla (μT). For comparison, 10 mG = 1 μT.

The magnitude of the EMF at a location is inversely proportional to the distance from the current carrying elements. As such, increasing the distance between the conductor and the receiver is a valid approach to managing EMF exposure.

The closest receivers to the EMF emitting infrastructure associated with the Project are the MCC (approximately 50 m), DFO Homebush (113 m), and residential receivers on Verley Drive (with the closest at around 72 m). These distances are generally considered safe from exposure to electric or magnetic fields.

Given the typical separation distance between the EMF emitting equipment from sensitive receivers, and the low levels of EMF expected to be produced by the Project, the effect from EMF would be negligible.

It is considered unlikely that the EMF generated by the Project will exceed the ICNIRP and ARPANSA occupational and public exposure reference levels detailed in **Table 6.9-5**.

ALARP principles

The Project is not considered a potentially hazardous industry in accordance with Applying SEPP 33, based on the storage and transport of hazardous materials. Potential hazards from the Project are associated with the risk of a fire with the LiFePO₄ batteries and of environmental pollution from a spill of oil or other pollutant, with other risks associated with electricity and standard construction related hazards.

It is concluded that the Project can be managed in accordance with the established risk criteria in accordance with ALARP principles. Management and mitigation measures are provided in **Section 6.9.5**.

6.9.5 Mitigation and management measures

Management and mitigation measures that will be implemented for the Project to address hazards and risks are listed in **Table 6.9-6**. Most hazards identified in the assessment can be avoided or mitigated by employing a combination of standard measures.

Table 6.9-6: Mitigation and management measures - hazards and risks

ID	Mitigation/management measure	Timing
HR-1	Project to be designed and operated to all relevant Australian Standards and to one or more of the major international BESS Codes, e.g. NFPA 855.	Detailed design
HR-2	The Project will be certified under internationally recognised test methods such as the Underwriters Limited (UL) 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage System.	Detailed design
HR-3	A Fire Safety Study (FSS) will be prepared in accordance with <i>HIPAP No. 2 Fire Safety Study Guidelines</i> (DoP, 2011) in consultation with FRNSW and DPHI. Adherence to the requirements specified in the FRNSW <i>Fire Safety Guideline Technical Information: Large-scale external lithium-ion battery energy storage systems - Fire safety study considerations</i> (D22/107002) will be demonstrated. The FSS will determine minimum separation distances in accordance with the requirements in Codes and Standards and containment of water used onsite in the event of a fire, where required.	Pre-construction
HR-4	The Preliminary Hazard Analysis prepared for the Project (provided in Appendix L) will be re-evaluated based on detailed design to ensure that aspects considered (i.e. control measures, clearances between containerised battery units, separation distances) and associated mitigation measures are still valid.	Detailed design
HR-5	The level of lightning protection required will be determined in accordance with AS/NZS 1768-2021 Lightning protection and implemented during construction.	Detailed design Construction
HR-6	Measures to prevent leaks and secondary containment of a spill, including at the transformers, will be considered in detailed design.	Detailed design

ID	Mitigation/management measure	Timing
HR-7	The existing redundant wooden light poles in the Project Area will be removed prior to commencement of construction to avoid potential damage to containerised battery units and initiation of a thermal runaway and fire.	Pre-construction
HR-8	An Emergency Response Plan and a Pollution Incident Response Management Plan will be developed and implemented for the Project. The plans will establish evacuation protocols, appropriate response to gas and pressure release, bunding requirements for transformer oils, and protocols for major spills.	Detailed design Construction Operation
HR-9	Warning signs will be installed and maintained as per Code and Standards requirements, and will include signage for dangerous goods, electrical hazards, arc flash and entry procedures.	Detailed design Construction
HR-10	Installation and maintenance will be conducted by trained personnel, and induction of personnel will take place prior to work commencing.	Construction Operation
HR-11	Work will be conducted in accordance with recognised major Codes of Practice, including procedures, using Job Safety Analysis, Safe Work Method Statements, permits to work and isolation, control of modifications, inspection and audit regimes.	Construction
HR-12	Controls will be included in the CEMP/OEMP and implemented to manage any potentially hazardous liquid material and dangerous goods in accordance with Australian Standards requirements, including AS 1940 for flammable liquids control.	Construction Operation
HR-13	Preventative maintenance practices will be put in place, including maintenance schedules and calibration of equipment, instruments and sensors, asset protection zone, and vegetation management within the operational footprint, as required. Condition monitoring will be conducted.	Operation
HR-14	Only restricted personnel allowed onsite and only certified persons to open door and enter containerised battery units.	Operation

6.10 Social and economic

6.10.1 Secretary's Environmental Assessment Requirements

Table 6.10-1 sets out the SEARs relevant to Social and Economic impacts and where these requirements have been addressed in this EIS.

Table 6.10-1: Relevant SEARs – social and economic

Relevant SEARs	Where addressed
Social	
This EIS must address the following:	
an assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the <i>Social Impact Assessment Guideline</i> (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation	An assessment of the social impacts of the Project is provided in Section 6.10.4 and Appendix M .
Economic	
This EIS must address the following:	
an assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing, having regard to the <i>Benefit Sharing Guideline 2024</i> and <i>Private Agreement Guideline 2024</i>.	An assessment of the economic impacts of the Project is provided in Section 6.10.4 and Appendix M .

6.10.2 Methodology

A Social Economic Impact Assessment (SEIA) has been prepared by Aurecon (2025) to assess the impacts of the Project in accordance with the *Social Impact Assessment Guideline* (DPE, 2023) and *Technical Supplement: Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023). The SEIA assessed the social and economic impacts that the construction and operation of the Project would have on the broader Sydney region and NSW. The SEIA is included in **Appendix M** and summarised in this section.

6.10.2.1 Study areas

The methodology for the SEIA relies on Australian Bureau of Statistics (ABS) Statistical Area 2 (SA2) boundaries to define study areas and determine the Project's direct and indirect socio-economic impacts. The study areas used in the SEIA contribute to developing an understanding of the existing environment surrounding the Project. The study areas are outlined in **Table 6.10-2** and shown in **Figure 6.10-1**.

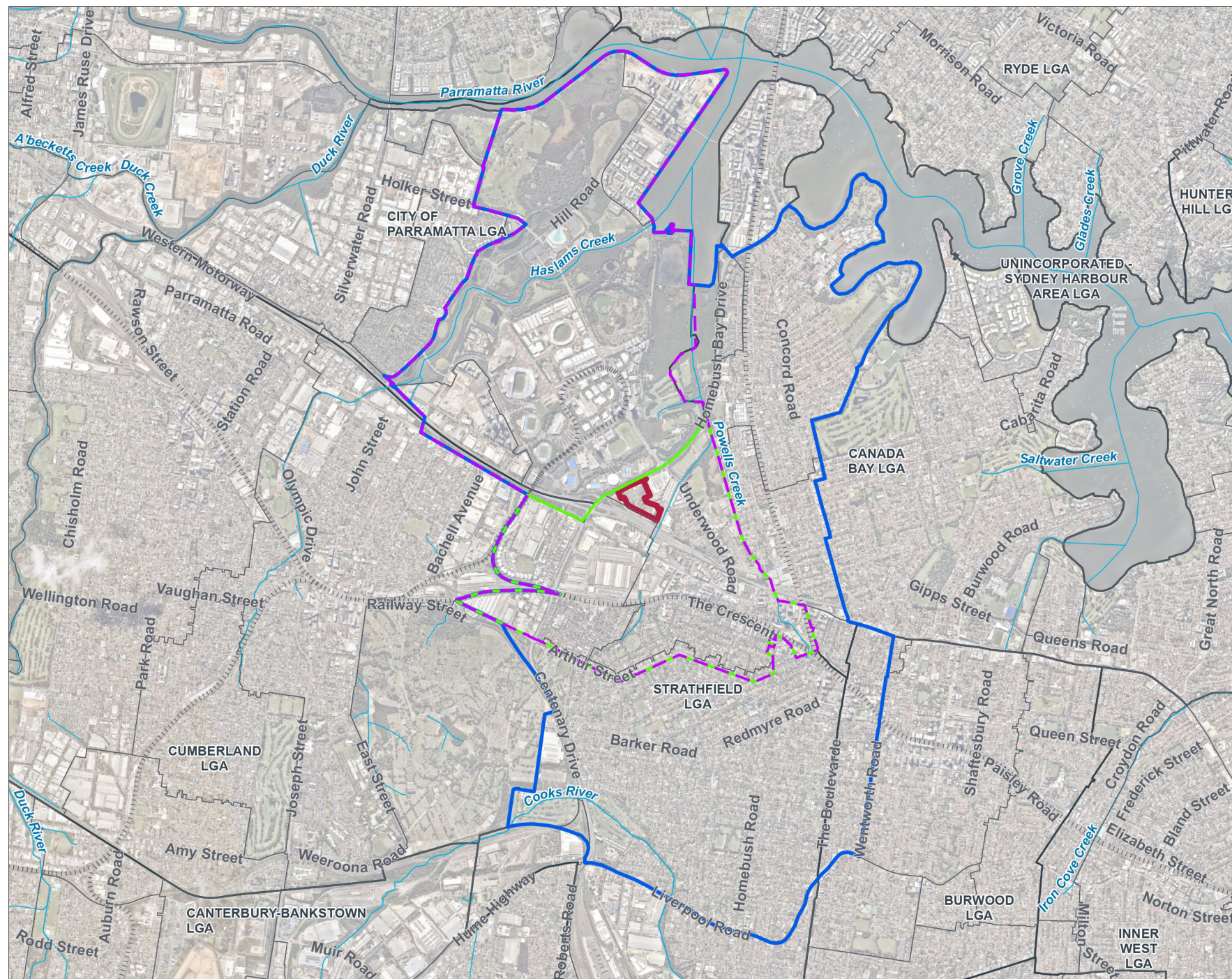
Table 6.10-2: SEIA study areas

Study area	Description
Social study area	
Social Locality (SL)	- Defined as the SA2 boundaries for Homebush and Wentworth Point - Sydney Olympic Park - The SL is exclusively used in the social impact assessment to provide an overview of the surrounding social environment, including community characteristics, infrastructure and other key social features.
Economic study area	
Primary Study Area (PSA)	- Defined using the ABS Homebush SA2 boundary - The PSA is exclusively used in the economic impact assessment to provide an overview of skills in the area which may be benefit or be used for the Project.

Study area	Description
Secondary Study Area (SSA)	• Defined as the SA2 boundaries for Homebush, Wentworth Point - Sydney Olympic Park, Concord West – North Strathfield, Strathfield – East, and Strathfield – West • The SSA is exclusively used in the economic impact assessment covering labour market skills and capacity to support the construction and operation of the Project.

The economic impact of the Project was assessed for NSW and for the Region. For the purposes of the assessment, the Region was defined as the Eastern and Central Districts of the Greater Sydney Region.

FIGURE 6.10-1:
SOCIAL AND ECONOMIC
STUDY AREAS



Legend

- The site
- Primary Study Area
- Secondary Study Area
- Social Locality
- Local Government Area
- Watercourses

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6.10.2.2 Social impact assessment methodology

For the Social Impact Assessment, a structured framework, informed by the NSW DPE *Social Impact Assessment Guideline* (DPE, 2023) and accompanying *Technical Supplement - Social impact Assessment Guideline for State Significant Projects* (DPE, 2023) was used to understand and evaluate the following social factors:

- Way of life – how people live, get around, work, play and interact with one another on a day-to-day basis
- Community – its composition, cohesion, character, how it functions, and sense of place
- Accessibility – how people access and use infrastructure, services, and facilities
- Culture – people's shared beliefs, customs, values and stories, and connections to Country, land, water, places, and buildings
- Health and wellbeing – people's physical, mental, social, and spiritual wellbeing
- Surroundings – access to and use of natural and built environment, including ecosystem services, public safety, and security, as well as aesthetic value and amenity
- Livelihoods – including impacts on employment or business, experience of personal breach or disadvantage, and the distributive equity of impacts and benefits
- Decision-making systems - the extent to which people are able to participate in decisions that affect their lives, procedural fairness, and the resources provided for this purpose.

Impacts relating to each of the above factors were evaluated for their likelihood and magnitude. A Social Significance Rating was derived from this analysis, using the social impact significance matrix in **Table 6.10-3**, in accordance with the *Technical Supplement - Social impact Assessment Guideline for State Significant Projects* (DPE, 2023).

Table 6.10-3: Social impact significance matrix

		Magnitude level				
Likelihood level		1	2	3	4	5
		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very high	Very high
B	Likely	Low	Medium	High	High	Very high
D	Possible	Low	Medium	Medium	High	High
E	Unlikely	Low	Low	Medium	Medium	High
F	Very unlikely	Low	Low	Low	Medium	Medium

Source: *Technical Supplement - Social Impact Assessment Guideline for State Significant Projects* (NSW DPE, 2023)

6.10.2.3 Economic impact assessment methodology

The Economic Impact Assessment evaluated the direct and indirect benefits of the Project's capital and operating costs using an input-output model that reflects the NSW economy. Economic profiles were analysed to understand the Project's role in promoting stability and growth.

As of 2022-23, the Eastern and Central District GRP is estimated at \$286.3 billion (Economy.ID, 2025). This represents approximately 39.0% of NSW's GSP of \$773.6 billion (REMPPLAN, 2025). This percentage has been used to estimate the economic growth specific to the Region in the input-output modelling.

The following key economic multipliers were included in the Economic Impact Assessment:

- Output multiplier - for an industry, for example construction, is defined as the total value of production by all industries of the economy required to satisfy one extra dollar's worth of final

demand for that industry's output. This output represents the total value of all goods and services produced due to the impact of the Project

- Employment multiplier - calculated by dividing the number of employed persons in a given industry by the level of production generated by that industry
- Income multiplier - for a given industry is defined as the total value of income from wages, salaries and supplements required to satisfy a dollar's worth of final demand for the output of that industry. Income refers to the total amount of money earned by individuals, businesses, and entities resulting from the Project. This includes various sources, such as wages and salaries, profits from businesses, rent, interest, and other forms of earnings.

These multipliers were used to quantify the total economic impact based on production value, job creation, earnings, and productivity. By capturing direct and indirect effects, the assessment provided insights into the Project's contributions to local and regional economies, highlighting its overall economic significance.

Mitigation and enhancement measures were provided to minimise social and economic impacts, where identified.

6.10.3 Existing environment

6.10.3.1 Social profile

Local social infrastructure context

Key social infrastructure identified in the SL includes:

- The Western Sydney University campus located at Sydney Olympic Park
- Primary schools – Homebush West Public School, Homebush Public School and Wentworth Point Public School
- Secondary schools – Homebush Boys High School and Wentworth Point High School (opening in 2025 for Year 7 students)
- Daycare centres – Kinda-Mindi Early Learning Centre, Lighthouse Childcare Homebush West, Get Set Grow Early Learning Centre and Integricare Preschool Strathfield
- A variety of sporting facilities with a specific focus in Sydney Olympic Park, including Tennis World, Aquatic Centre and Athletic Centre, as well as Mason Park soccer fields
- A variety of local doctors and General Practitioners, and other health services, notably Primus Medical Centre, Flemington Medical Centre, Markets Medical & Dental Centre, Sydney Olympic Park GP and Vivant Medical Clinic Olympic Park
- Community venues – Strathfield Community Centre and Wentworth Point Community Centre and Library.
- Places of worship – Hwa Tsang Monastery and Christian denomination Churches including Holy Archangel Serbian Orthodox Church, Our Lady of The Assumption Catholic Church and St Dominic's Catholic Church.

Places of community interest

Places of community interest identified in the SL include: DFO Homebush, Sydney Olympic Park, Sydney Markets, Bicentennial Park, Badu Mangrove Wetlands, Mason Park Wetlands and Paramatta River.

Demographic profile

The SEIA examined the current characteristics of the community based on ABS 2021 Census data and projected resident population changes. The detailed demographic profile is provided in **Appendix M** and summarised as follows:

- The SL population is 41,234 and has a median age of 32, which is lower than the Greater Sydney median age of 37. This may indicate a younger population, with 25.9% of the SL aged between 25-34 years of age compared to 15.5% in Greater Sydney

- There is a relatively low Aboriginal and Torres Strait Islander population in the SL (0.4%) compared to Greater Sydney (1.7%)
- The overseas-born population is larger in the SL (65.5%) compared to Greater Sydney (38.6%). This may indicate higher cultural diversity than the Greater Sydney region. In the SL, the top five languages spoken besides English are Mandarin, Korean, Cantonese, Nepali, and Tamil
- A small population of the SL (1.9%) require assistance due to a disability, which is lower than Greater Sydney (5.2%)
- In the SL, 12.5% of the population has a long-term health condition, with the most common conditions including asthma, mental health conditions, diabetes, arthritis and heart disease. This is significantly lower than Greater Sydney, with 23.6% of the population experiencing a long-term health condition
- The dominant housing type is apartments, flats or units, accounting for 92.4% of households in the SL. This figure is significantly higher compared to Greater Sydney (30.7%). The largest share of households in the SL is rented houses (58.9%), which is significantly higher compared to Greater Sydney (35.9%). There is a lower proportion of outright home ownership in the SL (8.5%) compared to Greater Sydney (27.8%). Additionally, there is a slightly lower proportion of households that are owned with a mortgage in the SL (30.3%) compared to Greater Sydney (33.3%)
- The median weekly household income is relatively consistent across the SL (\$2,020) and Greater Sydney (\$2,077). The median mortgage repayment is also relatively consistent across the SL (\$2,214) and Greater Sydney (\$2,427)
- The median weekly rental payment is relatively consistent across the SL (\$480) and Greater Sydney (\$470)
- The top three industries of employment in the SL are Professional, Scientific and Technical Services, Health Care and Social Assistance and Retail Trade
- The dominant method of travel to work is by car, with 28.1% of employed workers in the SL travelling by car (either as a driver or passenger). This suggests a reliance on cars in the SL.

Future population projections

Population projections were sourced from the NSW Population Projections (NSW DPE, 2023) and rebased on the latest ABS estimated resident population figure from 2021-2041.

Overall population growth from 2021 to 2041 is projected to be higher in the SL (2.7%) in comparison to Greater Sydney (0.8%). Despite this, the SL is projected to experience a decline in rate of annual growth between 2016 and 2041.

The historical and projected population from 2021-2041 are provided in **Table 6.10-4**.

Table 6.10-4: Population projections

Population	2021	2026	2031	2036	2041
SL	41,738	50,236	59,751	65,229	67,837
Greater Sydney	5,231,147	5,169,245	5,489,148	5,814,649	6,142,275
Annual growth rate	2016 21	2021 26	2026 31	2031 36	2036 41
SL	9.86%	3.8%	3.5%	1.8%	0.8%
Greater Sydney	1.7%	-0.2%	1.2%	1.2%	1.1%

6.10.3.2 Economic profile

The key findings of the economic profile analysis undertaken in the SEIA is summarised as follows:

- As of June 2024, the PSA had an average unemployment rate of 3.5%, significantly higher than the SSA (2.1%) but lower than that for NSW (3.9%)
- As of the 2021 Census, Professionals are the largest occupational group in both the PSA (33.3%) and SSA (35.2%), followed by Managers and Clerical/Administrative Workers. The PSA has a higher proportion of Labourers (10.0%) and Machinery Operators/Drivers (5.8%), while Technicians and Trades Workers represent a similar share in both regions (around 9-10%)
- The 2023 ABS Business Count data highlight a highly fragmented business landscape in both the PSA and SSA, with most businesses being sole traders or small enterprises (1-19 employees), particularly in Transport, Real Estate, Construction, and Professional Services. Mid-sized businesses (20-199 employees) are limited and concentrated in sectors like Wholesale Trade, Health Care, and Accommodation & Food Services, while only a handful of large businesses (200+ employees) operate across a few industries. This indicates that the Project's service needs during construction and operation would primarily be met by small to medium enterprises
- As of 2021, both the PSA and SSA show a strong concentration of workers in mid-to-high income brackets, with the largest groups earning \$1,000-\$1,249 weekly (15.8% in PSA, 14.6% in SSA). Both of these are above the NSW average of 13.2%. The SSA also has a notable share earning \$2,000-\$2,999 (14.6%, above the NSW average of 13.4%). Both areas have fewer low-income earners compared to NSW, while high-income earners (\$3,500+ per week) make up 5.4% in PSA and 5.5% in SSA, slightly below the state average of 6.3%.

6.10.4 Impact assessment

6.10.4.1 Construction

Social

An assessment of the potential social impacts associated with the construction of the Project is provided in **Table 6.10-5**.

Table 6.10-5: Assessment of social impacts during construction of the Project

Social factor	Potential impact	Likelihood	Magnitude	Social significance rating
Way of life	During community consultation, concerns were raised in relation to current traffic conditions around DFO Homebush and the potential cumulative impact of construction traffic on conditions and safety. The TIA (in Appendix J and summarised in Section 6.7) found that the road network could accommodate peak construction traffic with minimal delays. However, the estimated increase of 20 heavy vehicles per day during peak construction periods, combined with existing community concerns, and a high reliance on cars to work, could lead to frustration, stress, heightened safety concerns, and a negative perception of the Project, affecting daily routines and quality of life.	Possible	Minor	Medium (negative)
Community	Some members of the community within the SL may be more sensitive to the impacts of the Project if impacts are not communicated in their language throughout construction. There is a high percentage of overseas-born people in the SL (65.5%) compared to Greater Sydney (38.6%), which may indicate a higher level of cultural diversity.	Unlikely	Minor	Low (negative)
Accessibility	There is potential for construction workers to park in surrounding streets and parking lots, such as the DFO Homebush, which could reduce available parking. This may lead to congestion and inconvenience for residents, shoppers, and visitors, impacting their ability to access local businesses and services. During consultation with community (detailed in Chapter 5.0), the community expressed concerns regarding this issue, highlighting potential frustration and reduced accessibility, particularly for those who rely on available parking in the area.	Possible	Minor	Low (negative)
	The increase in construction workers travelling to the Project Area may lead to higher demand for public transport. This, coupled with the cumulative impact of other nearby projects (identified in Section 6.12), could strain local transport services, making commuting less convenient for both workers and residents. Increased congestion on public transport could affect the accessibility and daily routines of people who rely on these services, leading to frustration and inconvenience.	Unlikely	Minor	Low (negative)

Social factor	Potential impact	Likelihood	Magnitude	Social significance rating
Culture	The ACHAR prepared for the Project (provided in Appendix F and summarised in Section 6.3) found the potential impact of the Project on Aboriginal cultural heritage to be minimal. No recorded sites were identified within the study area. While there is a low chance of unrecorded subsurface deposits, prior disturbance within the site reduces this likelihood. Ground disturbance associated with the Project may affect any undiscovered material, however it is unlikely. During engagement the Metropolitan LALC was contacted to be engaged in consultation, however a response was not received. Further details are provided in Chapter 5.0 and Appendix C .	Unlikely	Minor	Low (negative)
Livelihoods	The Project would likely create 100 direct FTE roles during construction. This may provide direct income, improving financial stability and quality of life for workers. Employing a local workforce is recommended, which could help reduce unemployment rates in the area. This increase in employment opportunities could boost economic stability, reduce unemployment, and contribute to the overall wellbeing of the community.	Likely	Minor	Medium (positive)
	Construction activities would likely increase the number of workers in the area and could boost local businesses. Local shops, restaurants, and services may see an increase in customers, resulting in higher sales. This increased economic activity could support the livelihoods of local business owners and workers, contributing to the overall economic stability and vitality of the community during the construction period.	Possible	Minor	Medium (positive)

Social factor	Potential impact	Likelihood	Magnitude	Social significance rating
	The NVIA for the Project (provided in Appendix I and summarised in Section 6.6) identified non-residential noise sensitive receptors that may be affected by construction activities, including users of the DFO Homebush to the north of the site. Noise impacts at this receptor could result in a reduction in foot traffic and shopping experience, causing a decline in customer visits. This could impact the number of shoppers and business earnings during construction. In general, the NVIA identified exceedances of the 'highly noise affected' criteria during Construction Scenario 0 and exceedances of the 'noise affected' criteria was predicted during all other construction scenarios. Predicted noise levels were based on a worst-case scenario, assuming minimum distances and no ground absorption. However, as construction activities will occur at varying distances from sensitive receptors, actual noise levels are expected to be lower than predicted in the NVIA. Additionally, the noise and vibration associated with the Project could impact workers' experiences, reducing their comfort and productivity onsite.	Possible	Minor	Medium (negative)
Health and wellbeing	The NVIA for the Project found that construction activities may create noise and vibration and impact at residential receivers to the south-east of the Project. The predicted construction noise levels identified in the NVIA were found to exceed Project-specific noise criteria during all construction scenarios, particularly during the earlier stages of construction. While the noise levels may cause temporary disturbances, particularly during the early stages of construction. The overall impact on residents is expected to be moderate, with minimal long-term effects on their way of life or wellbeing. Nevertheless, some community members, particularly residents, have voiced significant concerns regarding noise pollution during community consultation (as detailed in Chapter 5.0). This could lead to heightened negative perceptions and a decrease in wellbeing for local residents.	Possible	Minor	Medium (negative)
Surroundings	According to the VIA prepared for the Project (provided in Appendix H and summarised in Section 6.5), the potential visual impact on passing motorists and cyclists is expected to be very low. This impact is expected to be temporary and primarily experienced during transit, varying with the specific route taken. Due to the transient nature of this impact, it is unlikely to cause any enduring changes to motorists and cyclists experience.	Possible	Minimal	Low (negative)

Social factor	Potential impact	Likelihood	Magnitude	Social significance rating
	The closest residential receiver to the Project is located on Verley Drive, 72 m to the south-east of the Project. According to the VIA, residential visual receivers on Verley Drive would experience partial views of the Project during construction and the visual impact is expected to be minimal. Feedback from the community during community consultation (detailed in Chapter 5.0) raised concerns around the existing environment surrounding the Project, relating to noise from motorway traffic, businesses operating 24 hours a day, and dumped waste. Residents who live close to the Project expressed some concerns over visual impact. The impacts created by the Project may exacerbate existing perceptions and existing concerns about the area surrounding the Project. This is likely to include potential visual impacts. Any loss in aesthetic enjoyment could have a mild impact on emotional wellbeing but is not expected to result in substantial disruption or overall living experience.	Likely	Minor	Medium (negative)
	According to the VIA, the potential visual impact from the viewpoint at the DFO Homebush car park, located around 70 m north-east of the Project, is categorised as low. This impact is deemed to have low significance given the existing visual character of the area and car park. Consequently, the Project is not expected to substantially change the overall visual experience for those utilising the car park.	Possible	Minimal	Low (negative)
Decision-making systems	Engagement and consultation undertaken for the Project provided a direct channel for community and stakeholders to provide feedback, which provided the opportunity to consider and address community concerns and suggestions during the development of the Project. By actively listening to the community, the Project can be better aligned with local needs and priorities in order to minimise negative impacts.	Possible	Minor	Medium (positive)
Cumulative impacts	The area has several large planned or proposed developments which may combine with the impacts of this Project creating social pressures for local residents and road conditions through congestion or heavy vehicle usage. During community engagement, concerns have been expressed in relation to the number of demolition/construction sites in the area and associated impacts. Therefore, people may be more susceptible to cumulative impacts, and this may create social pressures on local residents and road congestion.	Possible	Minor	Medium (negative)

Economic

An assessment of the potential economic impacts associated with the construction of the Project is provided in **Table 6.10-6**.

Table 6.10-6: Assessment of economic impacts associated with the construction of the Project

Economic aspect	Potential impact during construction
Output	The Project is expected to provide a total direct output of \$103.5 million during construction to the NSW economy and \$38.1 million to the Region. Total (direct and indirect) output growth over the construction period would equate to \$180.5 million for the NSW economy and \$66.5 million for the Region. The impact on the current NSW GSP (\$777.3 billion) is anticipated to be minimal, contributing less than 0.01%.
Employment	The Project is expected to generate 100 direct FTEs during construction. At state level, the injection of capital expenditure to the NSW economy could lead to the creation of 169 indirect jobs over the construction duration of the Project. At the regional level, the Project is projected to stimulate the creation of 106 direct and indirect FTEs.
Income	The Project is projected to deliver a cumulative direct and indirect income uplift of \$11.9 million within the Region. At state level, the Project is anticipated to generate \$32.2 million in income for the NSW economy.

The overall construction expenditure required for the Project has the potential to create further opportunities for workers and businesses to economically thrive. The Project is expected to have an overall positive impact on economic productivity during construction.

6.10.4.2 Operation

Social

An assessment of the potential social impacts associated with the operation of the Project is provided in **Table 6.10-7**.

Table 6.10-7: Assessment of social impacts associated with the operation of the Project

Social factor	Potential impact	Likelihood	Magnitude	Social significance rating
Way of life	The Project would enhance network reliability and security, ensuring a more stable power supply. It is expected to support the faster and more cost-effective delivery of energy storage in the distribution network. This improvement could help lower overall energy costs, placing downward pressure on wholesale electricity prices. The community may benefit from reduced energy expenses, fostering economic stability and improving overall quality of life through more affordable and reliable energy access.	Likely	Minimal	Low (positive)
Health and wellbeing	Consultation with the community (detailed in Chapter 5.0) identified existing concerns amongst community members in relation to the potential impact of the Project on EMF and its possible health effects. The PHA prepared for the Project (provided in Appendix L and summarised in Section 6.9) concluded that there is no risk of adverse health effects from EMF exposure. However, the perception of such risks may still lead to anxiety among certain community members, which could impact their overall sense of wellbeing.	Possible	Minor	Medium (negative)
	Consultation with the community (detailed in Chapter 5.0) identified concerns in relation to the risk of battery fires, toxic gases, and interest in management strategies. The PHA concluded that fires are of an extremely low likelihood and rarity and should not impact the health of residents or surrounding people. Additionally, the PHA (provided in Appendix L and summarised in Section 6.9) prepared for the found that during any system failures, including fire, water would not be applied to the units and contaminated water would not be generated. However, the perceived risk of fires and toxic gases may affect the mental wellbeing of the community.	Possible	Minor	Medium (negative)

Economic

An assessment of the potential economic impacts associated with the operation of the Project is provided in **Table 6.10-8**.

Table 6.10-8: Assessment of economic impacts associated with the operation of the Project

Economic aspect	Potential impact during operation
Output	An annual (direct and indirect) output contribution of \$7.7 million into the NSW economy and \$2.8 million into the Region is expected as a result of operation of the Project. Over the operational phase of 50 years, the Project will lead to a total direct output of \$151 million during operation to the NSW economy and \$55.6 million to the Region. Total (direct and indirect) output growth over the Project's operational life would equate to \$385.7 million for the NSW economy and over \$142 million for the Region.
Employment	Operation of the Project is expected to support the creation of five part roles, equating to one FTE. Expected flow on supply chain affects are expected to create an additional 11 indirect FTEs in NSW and 4 FTEs in the Region per annum.
Income growth	The Project would lead to total (direct and indirect income) growth of \$1.2 million per annum for the NSW economy and \$0.4 million per annum for the Region. Over the 50 year operational life of the Project, a total (direct and indirect) income growth of \$59.2 million for the NSW economy and \$21.8 million for the Region is expected.

The operation of the Project is also expected to achieve substantial flow on benefits to the NSW economy. The Project is expected to support the transition to renewable energy within the NEM, as well as increasing the overall firming capacity of the NSW electricity grid. This could see a reduction in wholesale electricity prices, benefiting household consumers and businesses alike.

6.10.5 Mitigation and management measures

Construction and operational mitigation measures to manage potential social and economic impacts of the Project are outlined in **Table 6.10-9**.

Mitigation measures identified in other chapters of this EIS, including in **Chapter 5.0** and **Section 6.3** (Aboriginal heritage), **Section 6.5** (Visual amenity), **Section 6.6** (Noise and vibration), **Section 6.7** (Traffic and transport), are also relevant to the management of potential social impacts.

Cumulative social and economic impacts would be managed through the application of the mitigation measures outlined in **Section 6.12**.

Table 6.10-9: Mitigation and management measures - social and economic

ID	Mitigation/management measure	Timing
SE-1	Consultation will be carried out with Strathfield Council, local residents, and other key stakeholders to coordinate works to minimise impacts, manage cumulative impacts and enhance potential benefits.	Construction
SE-2	Future consultation will be undertaken that will focus on key stakeholder and community concerns and ensuring that misinformation is addressed when encountered. Communication channels and materials will be regularly updated and regularly monitored for stakeholder inquiries.	Construction

ID	Mitigation/management measure	Timing
SE-3	Residents and local businesses will be notified in advance of any work that may affect amenity (e.g. traffic or noise disruptions), enabling them to plan accordingly. If work is conducted outside standard construction hours, residents will receive sufficient notice to minimise disruption.	Construction
SE-4	Translated versions of documents will be provided upon request to ensure inclusive engagement practices.	Construction Operation
SE-5	The Project will seek to employ a local workforce, where feasible, including prioritising local hiring, engaging employment agencies and tracking the number of local hires.	Construction

6.11 Other issues

This section provides an overview of other environmental matters that, based on existing information and conditions onsite, require limited assessment. These matters include:

- Non-Aboriginal heritage
- Waste
- Air quality
- Embodied carbon emissions.

6.11.1 Non-Aboriginal heritage

6.11.1.1 Secretary's Environmental Assessment Requirements

Table 6.11-1 sets out the SEARs relevant to non-Aboriginal heritage and where the requirements have been addressed in this EIS.

Table 6.11-1: Relevant SEARS – non-Aboriginal heritage

Relevant SEARS	
Heritage	Where addressed
The EIS must address the following specific matter:	
• assess the impact to historic heritage having regard to the <i>Guidelines for Preparing a Statement of Heritage Impact</i>.	The impact that the Project will have on historic heritage is discussed in this section (Section 6.11.1)

6.11.1.2 Methodology

A desktop assessment was undertaken to identify registered or known non-Aboriginal heritage items with the potential to be impacted by the Project.

Desktop searches were undertaken in January 2025 of the following statutory and non-statutory historic registers:

- The Australian Heritage Database, which includes:
 - The Commonwealth Heritage List (Australian Government Department of Agriculture, Water and the Environment, 2025a)
 - The Register of the National Estate (Australian Heritage Council, 2025)
 - The National Heritage List (Australian Government Department of Agriculture, Water and the Environment, 2025b)
- NSW State Heritage Register (SHR) (Heritage NSW, 2025)
- NSW State Heritage Inventory (SHI) (NSW DPE, 2025)
- Strathfield LEP

- The National Trust of Australia (NSW)
- Section 170 Heritage and Conservation Register.

6.11.1.3 Existing environment

Historical context

Post colonisation around 1788, the Paramatta region was settled as a convict outpost and used for agriculture. One of the earliest land grants in the Homebush region was issued in 1793 to free settlers. The land was used for equestrian and agricultural activities. The late 19th and early 20th centuries saw Homebush Bay transition from a predominantly agricultural area to an industrial hub. The State Abattoirs were established in 1907, and the State Brickworks shortly after, transforming the area into a centre of industrial activity (Sydney Olympic Park Authority, n.d.-b). These developments significantly altered the natural landscape, including extensive land reclamation and the degradation of local waterways. The area's industrial heritage includes the shipwrecks of Homebush Bay, remnants of its maritime activities and land reclamation projects.

Historical aerial imagery displays that in the latter half of the 20th century, urban development increased with a dense network of roads, industrial facilities, and residential neighbourhoods dominating the landscape. Large-scale infrastructure projects, such as expanded roadways and rail lines and Sydney Olympic Park were also constructed. The landscape has undertaken near-complete urbanisation, with minimal remaining natural features.

Heritage items

A search of the national, state, and local heritage databases, including relevant LEPs, identified nine listed heritage items within 1 km of the site.

None of the heritage items identified are listed on the Commonwealth Heritage List or National Heritage List. No items were listed on the Register of the National Estate, a non-statutory archive.

Six items of heritage significance and one heritage conservation area within 1 km of the site are listed under Schedule 5 Environmental Heritage of the Strathfield LEP. One heritage item is listed in the Schedule 5 of the Canada Bay LEP 2013, and one is listed on the NSW SHR. Details of the heritage items identified are provided in **Table 6.11-3** and shown in **Figure 2-2**.

Table 6.11-2: Listed heritage items within 1 km of the Project Area

Site name	LEP	Item No.	Location	Approximate distance and direction from the site
LEP listed heritage sites				
Wentworth Hotel	Strathfield	I62	195 Parramatta Road, Homebush West, NSW 2140	160 m south-west
Welfare Street Conservation Area, Inter-war bungalow style group	Strathfield	C6	4-14 Welfare Street, Homebush West, NSW 2140	180 m south-west
Pumping Station	Strathfield	I50	Underwood Road (Mason Park), Homebush, NSW 2140	390 m east
Mason Park Wetlands	Strathfield	I49	Mason Park, Homebush, NSW 2140	442 m east
Former Ford Factory Building (brick façade)	Strathfield	I63	350–374 Parramatta Road, Homebush West, NSW 2140	630 m west
Weatherboard cottage and garden	Strathfield	I38	1 Short Street, East Homebush, NSW 2140	675 m south-east

Site name	LEP	Item No.	Location	Approximate distance and direction from the site
Spanish Mission house and garden	Strathfield	I28	80 Park Road (formerly 80 Wentworth Road), Homebush, NSW 2140	700 m south-east
Powell's Creek Reserve (Landscape)	Canada Bay	I467	64-66 Victoria Avenue, Concord West, NSW 2138	705 m north-east
State Heritage Register				
Hall of Champions (collection)	N/A	SHR #01295	Australia Avenue, State Sports Centre, Homebush, NSW 2140	415 m north-west

6.11.1.4 Impact assessment

Construction

Based on the desktop assessment, there are no registered or known significant historic (non-Aboriginal) heritage sites within or adjacent to the Project Area.

The nearest historic heritage item to the Project is Wentworth Hotel (LEP #I62), located approximately 160 m to the south-west of the Project Area. This item of local significance is separated from the Project Area by the M4 Western Motorway. Construction works would not extend beyond the Project Area and therefore there would be no direct physical impact to this heritage item.

The Welfare Street Conservation Area (#C6) is located around 180 m to the south-west of the Project Area and comprises a series of interwar cottages in Welfare Street and Flemington Road in Homebush West, which were built circa 1920 (Strathfield Heritage, 2025). Due to the distance from the Project Area and the presence of the M4 Western Motorway which separates the Conservation Area from the Project Area, no impacts on this local heritage item are anticipated during construction.

The Hall of Champions (collection) (SHR #01295) is listed on the NSW SHR and located around 415 m north-west of the Project Area. Its heritage significance is derived from it being the largest and most diverse collection of sporting memorabilia held by a museum in NSW (NSW SHI, 2025). Construction of the Project will not have any impact on this state heritage listed item.

Given the historical activities undertaken in the Project Area, including previous site disturbance associated with establishing the Mason Park STSS and overflow car park for the DFO Homebush within the Project Area, as detailed in **Section 6.3** and **Section 6.4**, it is highly unlikely that historic heritage items remains in the Project Area. As such the site has very low archaeological potential.

Operation

No impacts to historic heritage items are likely during operation of the Project.

6.11.1.5 Mitigation and management measures

The mitigation and management measures that would be implemented for the Project to address potential non-Aboriginal heritage impacts are provided in **Table 6.11-3**.

Table 6.11-3: Mitigation and management measures - non-Aboriginal heritage

ID	Mitigation/management measure	Timing
NAH-1	A procedure will be included in the CEMP to guide the response to the discovery of any previously unknown items of heritage significance (being items of State heritage significance and/or local heritage significance) during construction. This will include guidelines on regulatory consultation, and physical management, include collection and salvage, as relevant.	Construction

6.11.2 Waste

6.11.2.1 Secretary's Environmental Assessment Requirements

Table 6.11-4 sets out the SEARs relevant to waste and where the requirements have been addressed in this EIS.

Table 6.11-4: Relevant SEARs - waste

Relevant SEARs	
Waste	Where addressed
The EIS must address the following specific matters:	
identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council); and	This section (Section 6.11.2) identifies likely waste streams during construction, operation and decommissioning of the Project and outlines management measures to manage these.
provide a waste management plan (as appropriate)	A Waste Management Plan will be included in the CEMP which will be prepared prior to construction commencing.

6.11.2.2 Methodology

A qualitative desktop assessment has been carried out to estimate waste types and approximate quantities, identify potential impacts and identify appropriate management measures. This involved:

- Identifying potential waste generating activities during construction, operation and decommissioning
- Estimating the likely waste streams and associated quantities
- Identifying the likely classification of waste streams in accordance with the *NSW EPA Waste Classification Guidelines* (NSW EPA, 2014a)
- Describing proposed management and handling techniques for key waste streams, including storage and collection, minimisation and reuse.

6.11.2.3 Existing environment

The closest waste facility to the Project is the Cleanaway Auburn Resource Recovery Centre – Sydney Olympic Park Transfer Station, located in the Cumberland LGA approximately 1.9 km to the north-east of the site. The accepted waste types relevant to the Project include construction material, metal, green waste, paper, cardboard, plastics and rubber.

The nearest waste transfer station to the Project located in the Strathfield LGA is the Waste 360 transfer station at 63-65 Cosgrove Road, Strathfield South, located around 3.8 km to the south of the Project. The facility accepts green waste and building waste, including brick, concrete, rubble, soil, plasterboard, plastic, glass, timber/wood and metal.

6.11.2.4 Impact assessment

Construction

Construction of the Project has the potential to produce, but is not limited to, the following key waste streams.

- Excess spoil through site clearance activities and earthworks
- Vegetation from the removal of shrubs and trees
- Packaging materials associated with items, such as pallets, crates, cartons, plastics and wrapping materials

- Waste produced from the maintenance of construction equipment and machinery, including liquid wastes from cleaning, repairing and maintenance
- Waste produced from construction works including metal offcuts, excess concrete, excess cabling, broken panels and other material
- Sewage wastes generated through the use of worker's facilities, such as toilets
- General office and domestic wastes, such as paper and food wastes.

A summary of the potential key construction waste streams, waste classification, estimated waste volumes, and a description of the methodology likely to be adopted for the management of each waste type is provided in **Table 6.11-5**.

Table 6.11-5: Potential construction waste types, classifications, approximate volumes and management methods

Waste type / stream	Waste classification	Proposed handling, treatment, and/or disposal method	Estimated volume
Green waste (vegetation)	General solid waste – putrescible	Separated from other excavation waste and chipped, to be stored and used later for landscaping where possible. Excess woodchips would be sent to landscape suppliers or offsite recycling.	Vegetation clearing of approximately 1.29 ha required
Wastewater	Liquid waste	Collection, transport and pump-out for offsite disposal into existing sewer system.	Up to 500 litres per week at peak construction (10 litres per person per day)
Construction waste	General solid waste – putrescible	Reuse of materials would be prioritised where possible. Otherwise, waste will be transported to an offsite recycling or disposal facility.	Minimal
Demolition waste	General solid waste – putrescible	Reuse of materials would be prioritised where possible. Otherwise, waste would be transported to an offsite recycling or disposal facility.	Minimal
Construction and office personnel waste	General solid waste – putrescible	Waste would be recycled or separated where possible. Other general waste would be distributed to landfill.	Minimal
Excess spoil	General solid waste – putrescible	Spoil would be distributed to another project as fill or sent to a repurposing facility or a landfill. Confirmation of excess spoil will be determined following the preparation of a bulk earthworks plan as part of the detailed design.	Moderate
Contaminated fill or soils	To be classified subject to results of testing	Procedure for handling and disposal of contaminated fill or soils would be in line with the management measures presented in Section 6.4 . An unexpected finds protocol would be implemented.	Negligible/Minimal – low risk based on the soils classification in Appendix G

Adverse waste outcomes that have the potential to occur during construction include:

- Clean spoil directed to landfill due to inadequate re-use and recycling
- Waste being unnecessarily directed to landfill due to inadequate handling classification
- Excess waste being generated from mismanagement of ordering quantities (i.e. over-estimating)

- Contamination of soil, surface and/or groundwater from the inappropriate excavation, storage, transport and/or disposal of liquid or solid waste
- Risks to human health from the handling, storage, transport and/or disposal of contaminated waste
- Increased presence of pests due to incorrect storage, handling and transport of wastes.

As shown in **Table 6.11-5**, all waste generated during construction would be appropriately managed.

In order to avoid potential issues associated with odour generation, decreased visual amenity and creating environments that attract animals/pest species (e.g. rats and mice), waste removal would occur at regular intervals, or more frequently, if required.

With the implementation of the proposed waste management and mitigation measures provided in **Section 6.11.2.5**.

Operation

During operation, the most common waste streams generated by the Project would be:

- Maintenance and operations waste consisting of replaced equipment, packaging materials, scrap and excess materials and liquids such as transformer oils
- Domestic waste, such as office and food waste.

The Project would have low staffing requirements, with staff attending the site only on an intermittent basis. During operation, it is expected that only small quantities of general waste and recycling will be generated onsite by these workers.

Operational equipment waste such as replaced battery modules would be included in chemical waste collection. Any material that can be repurposed, will be returned to the supplier, otherwise those materials will be undergo recycling. Replacement of transformer oils would be carried out in accordance with the Project's OEMP which would detail handling, collection, storage, transportation and disposal measures in compliance with regulatory requirements.

Overall, the waste generated by the Project during operation will be minimal and can be managed using conventional waste collection, handling and disposal procedures in compliance with regulatory requirements.

Decommissioning

All waste and operating chemicals generated during decommissioning of the Project would be disposed of at a licenced facility in accordance with the *Protection of the Environment Operations (Waste) Regulation 2014* (POEO Waste Regulation) and the *NSW EPA Waste Classification Guidelines*.

Decommissioning waste would be largely associated with the removal of the primary Project infrastructure from the Project Area. Prior to demolition, existing infrastructure, plant and equipment would be assessed and categorised based on whether the materials can be reused, repurposed, or recycled. Materials able to be reused, repurposed, or recycled will be distributed offsite to other projects, suppliers, or recycling facilities willing to accept the materials. Batteries will be recycled at an approved recycling facility or returned to the manufacturer for refurbishment. Other materials that cannot be recycled, will be disposed of at a licenced waste facility.

6.11.2.5 Mitigation and management measures

Mitigation and management measures that would be implemented for the Project to address potential waste impacts during construction, operation and decommissioning are provided in **Table 6.11-6**.

Table 6.11-6: Mitigation and management measures - waste

ID	Mitigation/management measure	Timing
W-1	A Waste Management Plan will be developed and implemented as part of the CEMP and would: • Identify requirements consistent with the waste hierarchy and circular economy initiatives	Construction Operation

ID	Mitigation/management measure	Timing
	- Include relevant measures from the <i>National Waste Policy: Less Waste, More Resources</i> (Department of Agriculture, Water and the Environment, 2018) - Provide a framework to target resource efficiency through the design and construction phases - Provide consistent clear direction on waste and resource handling, storage, stockpiling, use and reuse management measures - Set out processes for disposal, including onsite transfer, management, and the necessary associated approvals/permits - Describe the process for regularly removing waste from the Project Area to avoid issues associated with odour, visual amenity, and the attraction of animal/pest species - Outline procedures for waste generated to be segregated at source and suitably stored in designated waste management areas within the Project Area - Include material tracking measures to track waste and recyclables generated from the Project and removed from the Project Area.	
W-2	Onsite waste management will include the appropriate separation and storage of waste streams to enable recycling and reuse wherever possible to reduce associated environmental impacts and impact to the capacity of local waste management facilities.	Construction
W-3	All waste will be assessed, classified, managed, and disposed of in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014) and other relevant legislation.	Construction Operation Decommissioning
W-4	Hazardous waste (e.g. waste oil, paint, septic wastewater, asbestos, etc) will be collected by a licenced waste contractor for disposal at an appropriately licenced facility.	Construction Operation
W-5	All generated and regulated waste records will be retained for waste tracking purposes.	Construction

6.11.3 Air quality

6.11.3.1 Secretary's Environmental Assessment Requirements

No specific requirements were provided for air quality in the SEARs, however an assessment for this environmental matter is provided in this section.

6.11.3.2 Methodology

A qualitative desktop assessment has been carried out to estimate the potential air quality impacts associated with the construction and operation of the Project. This involved:

- Reviewing the legislation for air pollution and air quality in NSW
- Identifying potential air pollution generating activities during construction and operation
- Describing the proposed mitigation and management techniques for key air pollutants during construction and operation.

6.11.3.3 Existing environment

Air Quality Index

The background air pollution at the site has been characterised through ambient monitoring undertaken by NSW DPHI (NSW Government, 2025).

The air quality monitoring network in NSW is designed to track and report on air quality across the state. This network consists of numerous monitoring stations strategically placed across NSW to provide comprehensive coverage.

Lidcombe monitoring station is the closest representative monitoring station, located approximately 3.7 km to the south-west of the site. The land use surrounding this station is similar in nature to that of the Project Area, comprising a mix of residential and commercial premises. However, the area surrounding the site comprises a greater number of roads. The following relevant pollutants are monitored by Lidcombe monitoring station:

- Fine particles less than 2.5 micrometres in diameter (PM_{2.5})
- Fine particles less than 10 micrometres in diameter (PM₁₀)
- Carbon monoxide (CO) in parts per hundred million (pphm)
- Nitrogen dioxide (NO₂) in pphm.

Data obtained from the Air Quality NSW website (NSW Government, 2025) for Lidcombe monitoring station is summarised in in **Table 6.11-7**.

Table 6.11-7: Lidcombe monitoring station air quality data

Date	Averaging period	Pollutant concentration			
		PM _{2.5} (ug/m ³)	PM ₁₀ (ug/m ³)	CO (pphm)	NO ₂ (pphm)
01/08/2024	1-hour average	5	8	3	5
01/10/2024	1-hour average	15	12	20	15
01/12/2024	1-hour average	0.1	0.2	0.2	0.3
01/02/2025	1-hour average	0.1	0.0	0.0	0.1

In NSW, air quality measurements are summarised and classified into five Air Quality Categories (AQC) ranging from 'Good' to 'Extremely Poor' (NSW Government, 2025).

The pollutant concentration levels of the fine particles, CO and NO₂, from the Lidcombe monitoring station are all categorised as 'Good' in terms of air quality, which means that the existing air pollution levels are low and pose little or no risk to health.

National Pollutant Inventory

Based on the results from the Lidcombe monitoring station presented in **Table 6.11-7**, the air quality within the region surrounding the site is generally considered to be good.

Considering land uses, the majority of air pollution surrounding the site is likely to be generated by industrial processes and vehicle emissions along local roads.

The National Pollutant Inventory (NPI) has a list of registered facilities, which are those that meet the following Commonwealth criteria:

- Emission thresholds
- Those that participate in manufacturing, mining, waste treatment and energy production
- Exceeding 20,000 hours of work per year (i.e. 10 full time employees).

Based on these criteria, there are eight NPI registered facilities within a 3 km radius of the site, as outlined in **Table 6.11-8**.

Table 6.11-8: National Pollutant Inventory registered facilities

Facility ID	Facility name	Address	Approximate distance and direction from the site	Main activities
574090	Elgas NSW Chamber (Services) Pty Ltd Meter Plan	East Road, Homebush West, NSW 2140	468 m south	Import, handling and distribution of LPG
483836	BP Solar Homebush	2 Australia Avenue, Homebush Bay, NSW 2127	1 km north	Manufacture of photovoltaic cells and modules (solar panels)
487384	Lactalis Lidcombe	Lot 1 Birnie Avenue, Lidcombe, NSW 2141	1.63 km south-west	Dairy manufacturing
487774	Homebush Bay Liquid Treatment Plant	Cnr Hill Road and Pondage Link, Homebush Bay, NSW 2127	1.84 km north-west	Receives, stores and treats HIGAB industrial liquid waste and disposes of the liquid effluent to sewer whilst stabilised sludges are sent to an approved EPA licenced landfill.
493080	Auburn Waste and Recycling Centre	Hill Road, Homebush, NSW 2921	1.91 km north-west	Waste storage, transfer, separating or processing. Hazardous, Industrial or Group A waste generation or storage.
489296	Tooheys Brewery Lidcombe	25 Nyrang Street, Lidcombe, NSW 2141	2.52 km west	Brewing and packaging of beer
484058	Saint-Gobain Abrasives Lidcombe	29 Nyrang Street, Lidcombe, NSW 2141	2.61 km west	Manufacture of coated abrasives (sandpaper) and bonded abrasives (grinding wheels)
483514	Offset Alpine Printing Lidcombe	42 Boorea Street, Lidcombe, NSW 2141	2.79 km west	Printing magazines and catalogues

Sensitive receivers

The Project is located within an urban area with sensitive receivers located nearby. The list of sensitive receivers within proximity to the Project is provided in **Section 6.6.4**.

6.11.3.4 Impact assessment**Construction**

Potential air quality impacts associated with the Project during construction include airborne dust generated during construction activities and emissions to air from vehicles, construction plant and equipment.

During the construction phase, airborne dust would potentially be generated by earthworks such as site levelling, excavation and trenching for the underground cable connection, as well as from vehicle movements on unsealed areas during dry weather. Due to the relatively flat terrain of the Project Area, bulk earthworks would be restricted to levelling and grading for hardstand for the containerised battery units. There would be no major cut and fill work or significant stockpiling of earth.

Exhaust emissions would be generated by vehicles transporting workers to and from the Project, trucks delivering construction materials and construction machinery such as piling rigs, excavators, graders

and diesel generators. The emissions would be highest during peak construction but would be temporary in nature. These emissions would be expected to be dispersed by prevailing winds and are unlikely to significantly affect local air quality.

Based on this likely impact and the standard air quality mitigation measures proposed in **Section 6.11.3.5**.

Operation

During operation, localised dust would be generated from vehicles travelling on the internal roads during routine inspection works and maintenance activities. The air quality (airborne dust) impacts on local and regional air quality throughout the operational phase is expected to be negligible.

Exhaust emissions would be generated by workers' vehicles when travelling to and from the Project during operation, as well as during periodic maintenance activities and occasional unscheduled repair works. Two vehicle movements per week are anticipated by workers during operation. Due to this low number, air quality (exhaust emissions) impacts throughout the operational phase are considered to be negligible.

The Project will help support NSW to transition towards greater network capacity for renewable energy to be stored in the grid. This transition is expected to improve air quality in the long-term due to reductions in the operation of fossil fuel powered electricity generators.

6.11.3.5 Mitigation and management measures

Mitigation and management measures that would be implemented for the Project to address potential air quality impacts are set out in **Table 6.11-9**.

Table 6.11-9: Mitigation and management measures – air quality

ID	Mitigation/management measure	Timing
AQ-1	The CEMP will include air quality management measures to minimise visible dust moving offsite including: • Modification of working practices (location and scale of activities which generate dust emissions) during periods of adverse weather (hot, dry, and windy conditions) • Minimising exposed surfaces, such as stockpiles and cleared areas. Stockpiles will be partially covered, where practicable • Minimising the handling of spoil when excavating and loading vehicles • During dry weather, suppressing dust on stockpiles and unsealed or exposed area using methods such as water trucks/hoses, sprinklers, temporary stabilisation methods, soil binders or other appropriate practices • Burning of material onsite will be prohibited • Visual monitoring of air quality to verify the effectiveness of controls and enable early intervention • Covering vehicles loads when transporting materials and equipment • Using wheel washes/shaker grids to minimise tracking of dirt offsite onto surrounding roads, as appropriate • Maintaining plant and equipment in good condition and in accordance with manufacturers' specifications • Minimising idling by turning off plant and machinery when not in use.	Construction

6.11.4 Embodied carbon emissions

6.11.4.1 Secretary's Environmental Assessment Requirements

No specific requirements were provided for embodied carbon emissions in the SEARs; however, Section 3.2 of the Sustainable Buildings SEPP requires calculation of the quantified embodied carbon emissions for non-residential development.

6.11.4.2 Methodology

An embodied carbon emissions assessment was undertaken by AECOM (2025) to determine any potential carbon impact that may result during the Project. The embodied carbon emissions calculations and technical note is provided in **Appendix N** and summarised in this section.

Calculation of the embodied carbon emissions related to the Project was undertaken using the following method:

- Using material quantity estimates (MQE) to provide input into the National Australian Built Environment Rating System (NABERS) Embodied Emissions Materials Form
 - Filters were used to exclude items from the assessment
 - Filter 1: excludes non-physical material items that contribute to emissions
 - Filter 2: excludes items where there is a lack of available data e.g. CCTV systems, electrical outlets
 - Filter 3: excludes materials that are expected to have a less than 5% impact
 - Items separated into individual materials
 - Each material was categorised to correspond to the NABERS Embodied Emissions Materials Form
 - Units were converted from original estimates to the functional units provided in the NABERS Embodied Emissions Materials Form
- Material quantities were inputted into the NABERS Embodied Emissions Materials Form
- Emissions factors for each material quantity in the NABERS Embodied Emissions Materials Form were sourced from the NABERS National Emission Factors Database (v1.02). When exact matches for material types were not available, the closest representative material's emission factor was used. Emissions factors for the containerised battery units were sourced from the peer review lifecycle assessment completed by Hao *et al* (2017)
- The total carbon footprint in tonnes of carbon dioxide equivalent (CO₂e) was calculated using the NABERS Embodied Emissions Materials Form.

6.11.4.3 Assessment

The estimated embodied carbon emissions relating to the materials used in the construction of the Project is 46,089 tonnes of CO₂e. The largest contributor to the embodied carbon is the containerised battery units, which represent 43,720 tonnes of CO₂e (approximately 95% of total emissions). The other two significant contributors to the carbon footprint are concrete and reinforcing steel. Further details are included in the technical report in **Appendix N**.

6.11.4.4 Mitigation and management measures

The mitigation and management measures to reduce embodied carbon emissions are detailed in **Table 6.11-10**.

Table 6.11-10: Mitigation and management measures – embodied carbon emissions

ID	Mitigation/management measure	Timing
EC-1	Reduction of embodied emissions by selecting lower-carbon materials such as concrete mixes with reduced Portland cement content and optimising steel design by selecting higher strength per mass steel components, where feasible.	Design Construction

6.12 Cumulative impacts

6.12.1 Secretary's Environmental Assessment Requirements

Table 6.12-1 sets out the SEARs relevant to cumulative impacts and where the requirements have been addressed in this EIS.

Table 6.12-1: Relevant SEARs - cumulative impacts

Relevant SEARs	Where addressed
Cumulative impact	
The EIS must address the following specific matters:	
- An assessment of the likely impacts of the development on the environment, and any other significant issues identified in the above risk assessment, focusing on the specific issues identified below, including: - an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing, approved or proposed developments in the region and impacts on the site and any road upgrades, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice including the <i>Cumulative Impact Assessment Guideline</i> (DPE, 2022);	An assessment of cumulative impacts has been undertaken in Section 6.12.6 .
Biodiversity	
The EIS must address the following specific matters:	
A cumulative impact assessment of biodiversity values in the region from nearby developments	A cumulative impact assessment was not conducted for biodiversity, as the BDAR, provided in Appendix E , found that the Project would not result in any residual biodiversity impacts. As such a cumulative biodiversity impact is not possible.
Land	
The EIS must address the following specific matters:	
- An assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: - a cumulative impact assessment of nearby developments	A cumulative impact assessment was not conducted for land, as the land use assessment in Section 6.4 indicated that there were no residual impacts related to land use impacts arising for the Project.
Noise	
The EIS must address the following specific matters:	
an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the <i>Interim Construction Noise Guideline</i> (ICNG), operational noise impacts in accordance with the <i>NSW Noise Policy for Industry (2017)</i>, traffic noise in accordance with the <i>NSW Road Noise Policy</i> (DECCW, 2011) and cumulative noise impacts (considering other developments in the area)	A cumulative impact assessment for noise is provided in Section 6.12.6 .

Relevant SEARs	Where addressed
Transport	
The EIS must address the following specific matters:	
A cumulative impact assessment of traffic from nearby developments (including mining operations)	A cumulative impact assessment for traffic and transport is provided in Section 6.12.6 .

6.12.2 Methodology

This chapter has been prepared to assess the potential cumulative impacts of the Project during construction and operation.

When multiple projects are undertaken at the same time, their residual impacts can overlap which may worsen any social or environmental impacts of the projects alone resulting in a cumulative impact. The extent of these cumulative impacts can be dictated by the location of the projects and the phase of the projects (i.e. design, construction, operation, decommissioning etc.).

The identification and assessment of cumulative impacts for the Project involved the following:

- Identification of projects in the nearby area that may generate cumulative impacts alongside the Project
- Identification of the residual impacts of the Project (identified within each of the previous sections in **Chapter 6.0**)
- A screening process for nearby projects so that only those that have a timeframe, scale or status that overlap with the Project are considered (see **Section 6.12.5**)
- Assessment of potential cumulative impacts (if any).

This process has been developed to provide a proportionate cumulative impact assessment (CIA) in accordance with *Cumulative Impact Assessment Guidelines for State Significant Projects* (CIA Guideline) (DPE, 2022).

6.12.3 Residual impacts

The key residual impacts arising from the Project after mitigation is considered are:

- Traffic and transport - Minor construction traffic impacts along roads to be used as construction access routes (refer to **Section 6.7**)
- Noise and vibration - construction noise that is expected to exceed the NMLs during standard hours for both residential and non-residential receivers (refer to **Section 6.6**)
- Water quality - potential minor water quality impacts on Powells Creek (refer to **Section 6.8**).

The SEARs require that cumulative impacts be specifically considered for biodiversity, land use, noise and traffic. However, since it was concluded that there are no residual impacts associated with biodiversity or land use, these have not been assessed cumulatively.

6.12.4 Identification of potentially cumulative projects

A search of publicly available information was undertaken to identify existing and potential future projects in the vicinity of the Project. A search of the DPHI Major Projects website was undertaken on 21 March 2025 to identify SSD and State Significant Infrastructure (SSI) projects within the area surrounding the Project that may be relevant for the EIS cumulative impact assessment. A search of the Strathfield Council Application Tracker for relevant Development Applications (DAs) was also conducted on 21 March 2025. The projects returned by these searches are included in **Table 6.12-2**.

6.12.5 Screening process

The screening process considered the following:

- Location:** projects where there is the potential for spatial overlap (e.g. use the same roads for construction access). A search of the DPHI Major Projects website was undertaken for projects in

the area surrounding the Project, and a 1 km radius was applied to a search of the Strathfield Council Application Tracker for DAs

- **Timeframe:** with construction of the Project proposed to begin in late 2025 and last for approximately 22 months, only projects that are potentially being developed simultaneously or immediately after the Project have been considered
- **Scale:** large-scale projects that have been identified on the DPHI Major Projects website or the Strathfield Council Application Tracker have been considered for this assessment. Smaller scale local developments have not been considered as they are not expected to incur any substantial cumulative impacts alongside the Project
- **Status:** Projects that have been considered for this assessment are those that are under construction, in the determination phase or currently preparing an EIS.

Projects that met the above criteria are outlined in **Table 6.12-2**.

Table 6.12-2: Relevant future projects identified

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
179-181 Parramatta Rd, Homebush West 2140 NSW DA 10.2024.128.1	The demolition of all existing structures on site, the construction of warehouse and distribution centre with ancillary office space, associated parking, and business identification signage	250 m south-west	DA – Under Review	Construction timeframe is not publicly available	Traffic and transport	
					Access to this project is proposed via Bedford Road and Park Road off the A44 Parramatta Road/Great Western Highway. Proposed traffic generation for this project comprises 27 vehicle movements in the morning peak and 21 movements in the evening peak which was not predicted to result in any adverse traffic implications. As the roads to be used for this project do not overlap with the construction access routes for the Project, and given the low number of vehicle movements, no cumulative traffic impacts are anticipated.	Screened out
					Noise and vibration	
					There is potential for overlap of noise impacts at noise sensitive receptors located around 190 m to the south of the site, beyond the M4 Western Motorway. Exceedances of NML during construction are predicted for the Project at three commercial receptors (R23, R24 and R25) during Scenario 0 (Vegetation Removal/Site Clearance).	Screened in
					Water quality	
					This Project and the proposed Project are both located in proximity to Saleyards Creek, a concrete lined drainage channel that feeds into Powells Creek. As both projects are located in the Powells Creek and Saleyards Creek catchment there is potential for cumulative water quality impacts on these waterways.	Screened in

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
Homebush Bay Drive and Australia Avenue, Homebush intersection upgrade	Upgrading the existing roundabout to a signalised intersection	400 m north-east	In planning	Construction is expected to commence in 2025 for a duration of 18 months.	Traffic and transport	
					Based on the indicative timing of construction for this project, there is potential for construction works to overlap with the construction of the Project. Due to the proximity of the works to the Project and the location of the intersection upgrade on Homebush Bay Drive, which is proposed to be used as a construction access route for the Project, there is potential for cumulative construction traffic and transport impacts.	Screened in
					Noise and vibration	
					Due to the potential overlap of construction periods and the distance between the two projects there is potential for cumulative noise impacts to occur at nearby noise sensitive receptors.	Screened in
Sydney Metro West SSI-22765520	Stations have been confirmed with locations including Sydney Olympic Park	1 km north	Under construction	Target opening date of 2032	Water quality	
					This project is located in Powells Creek catchment, and the potential therefore exists for cumulative water quality impacts on Saleyards Creek and Powells Creek.	Screened in
					Traffic and transport	
					The closest works for this project are associated with the construction of the Sydney Olympic Park metro station. Primary haulage route for this project are anticipated to be via Sarah Durack Avenue and Olympic Boulevard. As neither of these overlap with the construction access routes proposed for the	Screened out

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
					Project, cumulative traffic and transport impacts are not anticipated.	
					Noise and vibration	
					Despite the potential for overlapping construction periods, due to the distance between the two projects, there is no potential for cumulative noise and vibration impacts to occur at sensitive receptors.	Screened out
					Water quality	
					Saleyards Creek and Powells Creek have been identified as sensitive surface water receiving environments for the proposed works at the Sydney Olympic Park metro station. As the Project is also located in proximity to these waterways, the potential exists for cumulative water quality impacts.	Screened in
Homebush Build-to-Rent SSD-54964971	Mixed use build-to-rent development of three buildings with a height range of 21 to 25 storeys. The project includes 481 units, and 1,278 m ² of retail/commercial floor area.	1.3 km south-east	Preparation of EIS	Construction timeframe is not publicly available	Traffic and transport	
					Construction vehicle routes are not publicly available. However, based on the location of the project, it is estimated that construction traffic for this project would use Loftus Crescent, Knight Street and/or Subway Lane off the A44 Parramatta Road/Great Western Highway. As these roads do not overlap with the roads proposed to be used for the Project, no cumulative traffic impacts are anticipated.	Screened out
					Noise and vibration	
					Due to the distance between this future project and the Project, there is no potential overlap in noise and vibration impacts on sensitive receptors.	Screened out

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
					Water quality	
					This project is located in the Powells Creek catchment area, around 260 m from Powells Creek. As potential water quality impacts for Powells Creek have been identified for the Project, the potential exists for cumulative water quality impacts.	Screened in
Sydney Olympic Park Sites 2A and 2B - Serviced apartment tower and commercial SSD-21356591	Construction and use of three buildings, including a mixed-use 45 storey serviced apartment tower, a 12 storey commercial building and a 5 storey pavilion. Includes associated demolition, site preparation, public domain, road and services work.	1.3 km north	Approved in February 2024	Construction timeframe is not publicly available	Traffic and transport	
					A review of construction information indicates that Homebush Bay Drive forms part of the primary construction vehicle route for this future project, and for this Project. Therefore, should construction periods overlap, the potential exists for cumulative traffic and transport impacts during construction.	Screened in
					Noise and vibration	
					Due to the distance between this future project and the Project, there is no potential overlap in noise and vibration impacts on sensitive receptors.	Screened out
					Water quality	
					A stormwater management plan indicates that stormwater would be discharged to Australia Avenue, which is discharged to a precinct-wide water quality and quantity treatment system. Therefore, this project is not hydraulically connected to the Project and cumulative water quality impacts are not anticipated.	Screened out
Parramatta Light Rail Stage 2	Traverses through Wentworth Point	1.3 km to 3.6 km	Early works underway	Construction is set to begin in 2025 with an	Traffic and transport	
					Despite the alignment of the peak construction periods, the heavy vehicle routes proposed to	Screened out

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
SSI-10035	and Sydney Olympic Park with several stations connecting to the Sydney Metro West and ferry services at Sydney Olympic Park.			indicative opening date of 2032.	be used for this project include Australia Avenue, Dawn Fraser Avenue, Carter Street and Hill Road. As these roads do not overlap with the proposed construction access route for the Project, no cumulative traffic impacts are anticipated.	
					Noise and vibration	
					Despite the predicted overlapping construction periods, due to the distance between this future project and the Project, there is no potential overlap in noise and vibration impacts on sensitive receptors.	Screened out
					Water quality	
					The project is located within the Upper Parramatta River section of the Parramatta River catchment. As the Project is not located within this catchment, the two sites are not hydraulically connected and therefore no cumulative water quality are anticipated.	Screened out
Residential development, 1 & 2 Murray Rose Avenue, Sydney Olympic Park SSD-9403	Construction of two residential apartment buildings, containing a total of 293 apartments.	1.5 km	Approved in 2019. Construction commenced in September 2022.	Construction completion date is unknown	Traffic and transport	
					Proposed access routes for this project appear to include the M4 Western Motorway, Homebush Bay Drive, Australia Avenue, Murray Rose Avenue and Bennelong Parkway. Should construction periods overlap with the Project, there is potential for cumulative traffic impacts associated with construction traffic using Homebush Bay Drive.	Screened in
					Noise and vibration	
					Due to the distance between this development and the Project, there is no potential overlap in	Screened out

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
					noise and vibration impacts on sensitive receptors.	
					Water quality	
					The project is not located in the Powells Creek catchment and is therefore not hydraulically connected to the Project. Potential cumulative water quality impacts are not anticipated.	Screened out
Meriden School Aquatic Centre at 12-16 Margaret Street, Strathfield SSD-59020210	Demolition of existing structures and construction of a new aquatic centre	2.5 km south-east	Preparation of EIS	Construction timeframe is not publicly available	Traffic and transport	
					Construction vehicle routes are not publicly available. However, based on the location of the project, it is estimated that construction traffic for this project would use Margaret Street and Redmyre Road and/or The Boulevard. As these roads do not overlap with the roads proposed to be used for the Project, no cumulative traffic impacts are anticipated.	Screened out
					Noise and vibration	
					Due to the distance between this future project and the Project, there is no potential overlap in noise and vibration impacts on sensitive receptors.	Screened out
					Water quality	
					This project is located in Powells Creek catchment, approximately 580 m south of Powells Creek. Therefore, the potential exists for cumulative water quality impacts on Powells Creek.	Screened in
9 Burroway Road, Wentworth Point -	41,500 m ² of mixed-use gross floor area, 406	3.4 km north	Response to Submissions	Construction is anticipated to finish in 2026	Traffic and transport	
					Construction vehicles will access the site from Hill Road via Burroway Road for this project. As	Screened out

Project	Description	Distance to the site	Current status	Indicative timing	Potential for overlap of impacts	Screening assessment
Mixed Use Development SSD-72816207	apartments, above-ground parking, a building envelope, a new public plaza and a shared zone between Burroway Road and Ridge Road and a foreshore promenade to Homebush Bay.		Planned to be approved in 2025		these roads do not overlap with the roads proposed to be used for the Project, no cumulative traffic impacts are anticipated.	
					Noise and vibration	
					Despite the potential for overlap of construction periods, due to the distance between this future project and the Project, there is no potential overlap in noise and vibration impacts on sensitive receptors.	Screened out
					Water quality	
					Stormwater drainage for this site will discharge directly into Homebush Bay and Parramatta River and is therefore not hydraulically connected to the Project. Potential cumulative water quality impacts are not anticipated.	Screened out

6.12.6 Cumulative impact assessment

6.12.6.1 Construction

An assessment of the potential cumulative impacts associated with the Project's construction and the 'screened in' projects identified in **Table 6.12-2** is provided as follows.

Traffic and transport

Potential cumulative traffic and transport impacts resulting from the construction of the Project and other major projects are detailed in **Table 6.12-3**.

Table 6.12-3: Summary of potential cumulative traffic and transport impacts during construction

Project	Potential cumulative traffic and transport impacts
Homebush Bay Drive and Australia Avenue, Homebush intersection upgrade	Should the peak construction stage overlap, there is potential for cumulative traffic impacts associated with additional construction traffic utilising the road network around the Project, including Homebush Bay Drive. No information on the proposed construction work, including construction haulage routes and construction traffic generation, is publicly available for this project, and therefore cumulative traffic and transport impacts are unable to be determined. However, due to the minor construction traffic impacts identified for the Project and the temporary nature of the construction work, any potential cumulative traffic impacts are not anticipated to be substantial.
Sydney Olympic Park Sites 2A and 2B - Serviced apartment tower and commercial SSD-21356591	Construction vehicle volumes generated due to the construction of Sites 2A and 2B Sydney Olympic Park are anticipated to be low. In addition, minimal additional impacts on active transport, public transport, and parking and property access are predicted. Therefore, cumulative traffic impacts associated with traffic using Homebush Bay Drive during construction are not anticipated to be significant.
Residential development, 1 & 2 Murray Rose Avenue, Sydney Olympic Park SSD-9403	This project is expected to generate 63 vehicle trips in the morning peak and 93 trips in the PM peak, which is predicted to have no detrimental effect on the road network in the vicinity of this project, including on Homebush Bay Drive. Based on these traffic volumes in consideration with the low traffic volumes expected to be generated by the Project, no significant cumulative traffic impacts are anticipated.

Based on **Table 6.12-3**, cumulative impacts on traffic, transport and the surrounding road network are not anticipated to be significant.

Noise and vibration

Cumulative noise impacts can occur during construction when multiple construction activities or projects take place simultaneously or sequentially within the same area, leading to an overall increase in noise levels. If construction work overlaps, the combined noise from construction activities could significantly affect noise sensitive receptors and also potentially prolonged exposure to elevated noise levels.

Potential cumulative noise and vibration impacts resulting from the construction of the Project alongside other nearby major projects are detailed in **Table 6.12-4**.

Table 6.12-4: Summary of potential cumulative noise and vibration impacts during construction

Project	Potential cumulative noise and vibration impacts
179-181 Parramatta Rd, Homebush West 2140 NSW DA 10.2024.128.1	Night-time works for this project, including truck engines starting or trucks being unloaded, are predicted to comply with the sleep disturbance criterion adopted for the project at all receptors. Noise emissions generated during construction of the Project would result in exceedances of NML during standard construction hours at commercial receptors R23, R24 and R25 to the south of the site. The existing sound environment near these sensitive receptors is primarily dominated by road

Project	Potential cumulative noise and vibration impacts
	traffic on the M4 Western Motorway, which runs between the two projects. The mitigation measures outlined for the Project in Section 6.6 would minimise noise impacts on these receptors. Construction timeframes for this project are unknown and therefore cumulative construction noise impacts are unable to be determined. However due to the short expected duration of Scenario 0 (Vegetation Removal/Site Clearance), of up to a week, and with the implementation of noise mitigation measures, any potential cumulative noise impacts are unlikely to be significant. Due to the distance between the projects, cumulative vibration impacts on sensitive receptors are not anticipated.
Homebush Bay Drive and Australia Avenue, Homebush intersection upgrade	Due to the potential overlap of construction periods and the distance between the two projects there is potential for cumulative noise impacts to occur at nearby noise sensitive receptors. No information on the predicted noise impacts during construction is publicly available for this project, and therefore cumulative noise impacts are unable to be determined. Noise emissions generated during construction of the Project are unlikely to overlap with the noise impacts of other projects and result in material noise impacts on any shared noise sensitive receptors. Therefore, cumulative noise impacts during construction are not anticipated. Due to the distance between the projects, cumulative vibration impacts on sensitive receptors are not anticipated.

Based on **Table 6.12-4**, overall, cumulative noise and vibration impacts on sensitive receivers are not anticipated to be significant.

Water quality

Consideration has been given to potential future projects located within the catchment of Powells Creek and Saleyards Creek and the possible cumulative impacts on its water quality and the surrounding water environment during construction. Whilst the individual impacts of other projects may be minor, when they occur at the same time as the Project, they may result in material impacts on the receiving water environment.

Potential cumulative water quality impacts resulting from the construction of the Project alongside other nearby major projects are detailed in **Table 6.12-5**.

Table 6.12-5: Summary of potential cumulative water quality impacts during construction

Project	Potential cumulative water quality impacts
179-181 Parramatta Rd, Homebush West 2140 NSW DA 10.2024.128.1	Stormwater quality impacts have been identified for this project, with a stormwater quality treatment train proposed to manage stormwater prior to discharge. The implementation of these mitigation measures, combined with mitigation measures outlined for the Project in Section 6.8 would reduce the likelihood of the Project resulting in cumulative impacts on Powells Creek.

Project	Potential cumulative water quality impacts
Homebush Bay Drive and Australia Avenue, Homebush intersection upgrade	No information on the predicted water quality impacts associated with the construction of this project is publicly available, and therefore cumulative impacts are unable to be determined. However, should water quality impacts be identified for this project, it is expected that appropriate mitigation measures to effectively manage water quality would be proposed. The mitigation measures outlined for the Project in Section 6.8 would reduce the likelihood of the Project resulting in impacts on Saleyards Creek and Powells Creek, and therefore significant cumulative impacts are not anticipated.
Sydney Metro West SSI-22765520	Flood and stormwater discharged from this project is proposed to enter the minor and major urban drainage system rather than directly entering nearby watercourses. Therefore, cumulative water quality impacts on Saleyards Creek and Powells Creek are not anticipated.
Homebush Build-to-Rent SSD-54964971	Due to the proximity of this project to Powells Creek, there is potential for cumulative water quality impacts. The EIS is currently being prepared for this project and no information on the predicted water quality impacts associated with the construction of this project is currently publicly available, and therefore cumulative impacts are unable to be determined. However, should water quality impacts be identified for this project, it is expected that appropriate mitigation measures to effectively manage water quality would be proposed. The Homebush Build-to-Rent project is located around 1.7 km upstream of the confluence of Saleyards Creek and Powells Creek, where water quality impacts on Powells Creek associated with the Project have been identified. The mitigation measures outlined in Section 6.8 would reduce the likelihood of the Project resulting in impacts on Saleyards Creek and Powells Creek. Due to this distance, and with the implementation of appropriate mitigation measures, cumulative water quality impacts are anticipated to be minor and not significant.
Meriden School Aquatic Centre at 12-16 Margaret Street, Strathfield SSD-59020210	As the project is located within the Powells Creek catchment, the potential exists for interaction with soils, groundwater and surface water. The EIS is currently being prepared and no information on the predicted water quality impacts associated with the construction of this project is currently publicly available, and therefore cumulative impacts are unable to be determined. However, should water quality impacts be identified for this project, it is expected that appropriate mitigation measures to effectively manage water quality would be proposed. The mitigation measures outlined for the Project in Section 6.8 would reduce the likelihood of the Project resulting in impacts on Saleyards Creek and Powells Creek, and therefore significant cumulative impacts are not anticipated.

Based on **Table 6.12-5**, the cumulative impacts in relation to water quality during construction are anticipated to be negligible.

6.12.7 Operation

An assessment of the potential cumulative impacts associated with the operation of the Project is provided as follows.

Traffic and transport

Operation of the Project would generate an increase in traffic of up to four vehicle movements per week which would result in a negligible change to the existing traffic environment. On this basis, no notable residual traffic impacts are expected from the Project, and as such no cumulative traffic impacts are expected.

Noise and vibration

With the implementation of noise walls and a noise control strategy to manage fan speeds, operational noise levels will be below the acceptable noise criteria levels and residual operational noise impacts are not anticipated.

Due to the separation distance from other noise-generating projects, and the lack of residual noise impacts during the Project's operation, cumulative noise impacts would not occur.

Water quality

With the implementation of measures to manage water quality associated with stormwater for potential future projects and the Project, there is unlikely to be any cumulative impacts during the operation of the Project.

6.12.8 Conclusion

Assessment of the Project's residual impacts associated with water quality, noise and vibration, and traffic and transport in combination with impacts identified for other major projects in the vicinity of the Project concluded that there are no significant cumulative impacts expected as a result of the Project.

7.0 Justification and conclusion

7.1 Justification of the Project

7.1.1 Recognised need

The NEM is in the process of transitioning from fossil fuel-based electricity baseload to a grid based primarily on renewable energy. This is spurred on by the planned decommissioning of Australia's coal-fired generation in the coming years, as well as by the need to decarbonise our economy more generally. Expanding and augmenting the electricity network to one that is reliable, low carbon and low cost for consumers, is therefore a key priority.

Transitioning to a network dominated by renewable energy faces challenges around power intermittency, though this can be addressed through energy storage. Batteries can contribute to this directly by storing excess energy from renewable sources when demand is low and then releasing it when demand is high.

The transition to renewables also contributes to Australia's commitments under the Paris Agreement, and state and federal legislation. The extent to which the Project satisfies these policies is outlined in **Chapter 4.0**.

7.1.2 Project benefits

The Project provides the following key benefits, as described in **Chapter 2.0**:

- Supporting the energy transition
- Improving grid stability for NSW
- Job creation and investment.

The Project's key benefit is in the provision of short-term storage of electricity for release into the grid at times of lower renewable energy generation. This is particularly important in the evenings when solar assets have stopped generating yet power demand is still high. The Project, being a two-hour battery, would be able to support the consumption of several thousand residential properties during this period, until demand drops later in the night. The Project would also address the excess of electricity during the middle of the day when solar and wind assets are at peak generation.

In addition to its energy storage function, the Project would also provide frequency stabilisation services. This function helps to maintain the frequency of the NEM at the nominated 50 Hz and is necessary to support the growing contribution of renewable energy to the generation mix.

By addressing the variable nature of renewable energy generation, the Project provides a significant contribution to the reshaping of the NEM into a largely decarbonised and sustainable grid, which in turn bolsters its resilience and does so at a reasonable overall cost to the consumer.

The Project would provide \$215 million of capital investment to the NSW economy, largely concentrated in the Greater Sydney region. The direct local economic benefit centres around job creation, with the direct creation of around 100 FTE roles during construction and one FTE role during operation, whilst also indirectly contributing to an increased demand for local goods and services. The construction and operation of the Project would help diversify the local job market and promote local economic resilience.

7.1.3 Suitability of the site

The site was selected based on several key attributes, discussed in detail in **Section 2.3**. These include:

- Proximity to the existing electricity transmission network, ensuring efficient grid connection and minimising transmission losses
- Availability of existing capacity within the existing transmission network, without needing significant infrastructure upgrades
- Existing road network is suitable to accommodate the transport of heavy construction loads

- High availability of a skilled construction workforce in the region.

Alternative locations for the Project were considered during the development phase. The review of these sites considered the relevant environmental, social and technical parameters of each, with some performing better than others across this assessment. Ultimately the alternative locations were discounted based on:

- Environmental impacts and/or
- Potential increased costs associated with acquiring property and/or
- Increased extent of connection infrastructure required between the BESS and a grid connection point.

In summary, the selected site is considered optimal for the Project due to:

- Low environmental and social impacts associated with development at this location adjacent to the existing Mason Park STSS, and on historically disturbed land
- Availability of suitable land at the Mason Park STSS within Ausgrid's existing landholdings
- Its proximity to the existing electricity network and existing Ausgrid electrical infrastructure
- Suitable zoning of the site and surrounding compatible existing land uses, including a mix of industrial and commercial uses, and major arterial roads
- Capacity of the existing electricity network to support the integration of the BESS
- Proximity of the large industrial load centre of the Greater Sydney region, reducing the potential for transmission losses for electricity released from the BESS
- The availability of skilled construction and operation workers in the Greater Sydney region.

7.1.4 Consideration of community views

An overview of community and stakeholder consultation undertaken for the Project, any concerns raised and where they have been addressed in this EIS is provided in **Chapter 5.0** and **Appendix C**. Key concerns raised included visual amenity, noise, traffic, access, hazards and general environmental impacts.

These concerns have been assessed in this EIS and, as necessary, addressed through the Project's mitigation and management measures. The proposed mitigation and management measures are summarised in **Appendix D**.

Stakeholder and community engagement will continue during the EIS exhibition stage. The results of both the formal EIS exhibition and other concurrent community consultation activities will be summarised in the submissions report for the Project, which will be submitted prior to DPHI's assessment of the Project.

7.1.5 Consistency of the Project with relevant statutory requirements and government policies

The Project is aligned with Commonwealth, State, regional and local plans and policies (as described in **Chapter 4.0**) and would support the Commonwealth and State government's aspirations to achieve their respective renewable energy and GHG emission reduction targets. The Project would also contribute to the continued growth of renewable energy generation and storage capacity for the broader NEM.

7.1.6 Future monitoring and communication

A CEMP will be adopted as part of an overall management and monitoring document, which will be supported by the following documents:

- Landscape Plan including a tree replacement strategy
- Acid Sulfate Soils Management Plan
- Construction Soil and Water Management Plan, including an Erosion and Sediment Control Plan

- Construction Noise and Vibration Management Plan
- Construction Traffic Management Plan
- Flood Emergency Response Plan
- Emergency Response Plan
- Pollution Incident Response Management Plan
- Waste Management Plan.

These documents will be prepared to comply with relevant legislation and will include practical guidance on the application of the mitigation measures and other commitments presented in the EIS. They will also specify how the construction of the Project will be monitored to comply with the conditions of consent.

An Operational Environmental Management Plan (OEMP) will be implemented to guide monitoring of the Project during the operational phase. The OEMP will guide environmental compliance during operation, particularly with respect to noise monitoring, hazard and risk management and considerations around ongoing maintenance.

During construction of the Project, activities will be communicated to the public through regular website and social media updates. There is no planned communication during operation of the Project, however, if there are any matters of significance that arise during operation, community members will be notified.

During decommissioning (approximately 50 years after operation commences), stakeholders will be consulted if there are any changes to amenity or further environmental impacts.

7.1.7 Key uncertainties

Due to the extent of the technical studies undertaken for each of the key matters and the proposed mitigation measures that will be in place to address any potential impacts, there are no notable uncertainties related to the Project.

7.2 Consistency with the objectives of the EP&A Act

Table 7.2-1 outlines how the Project aligns with the objectives of the EP&A Act.

Table 7.2-1: Consistency with the objectives of the EP&A Act

Object	Response
a. to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The Project increases stability of the grid and will support transition towards renewable energy. During construction, economic benefits are expected through the creation of up to 100 construction jobs. Total (direct and indirect) output of \$180.5 million during construction and \$385.7 million during operation to the NSW economy. During operation, the Project would benefit communities, businesses, and industry by increasing the reliability of the NEM. The Project may provide lower-priced electricity as it enables electricity to be stored and distributed as market demand dictates. Technical specialists have been engaged to assess and report on the potential for the Project to impact upon the State's natural resources. Impacts have been found to be generally of low significance and manageable with suitable mitigation measures (see Chapter 6.0 and Appendix D).

Object	Response
b. to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	This EIS describes the potential environmental, economic and social impacts of the Project and has used these results to inform the preparation of the SSD application, specifically in relation to the Project's design and the proposed mitigation measures. The Project's consistency with the principles of an Ecologically Sustainable Development (ESD) is outlined in Section 7.4.
c. to promote the orderly and economic use and development of land,	The Project comprises a permissible development, which is consistent with the statutory context and planning controls at the site. The Project represents a suitable, economic and orderly use of the site, being unoccupied land adjacent to the existing Mason Park STSS and within an existing industrial area. The Project would result in positive economic impacts, as detailed in Section 6.10.
d. to promote the delivery and maintenance of affordable housing,	This objective is not applicable to the Project.
e. to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	A BDAR was prepared to assess the potential biodiversity impacts associated with construction and operation of the Project. The BDAR has been prepared in accordance with the BAM and outlines the degree to which biodiversity impacts have been avoided in the first instance, and then mitigated. Where residual impacts remained, the BDAR prescribes the number of biodiversity offset credits that must be obtained on behalf of the Project. These credits will be obtained and retired prior to the commencement of construction (refer to Section 6.2).
f. to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The Project is not expected to result in any significant impacts upon Aboriginal or non-Aboriginal cultural heritage. The ACHAR found no sites or objects of Aboriginal cultural significance within or in the vicinity of the site. A desktop assessment identified two sites of non-Aboriginal heritage (historic heritage) located around 160 m and 180 m to the south-west of the Project; however, no impacts to these local heritage items are anticipated during construction or operation. Mitigation measures would be implemented in the event of previously unknown items of heritage significance being discovered during construction, operation or decommissioning of the Project (see Section 6.3.6 and Section 6.11.1.5).
g. to promote good design and amenity of the built environment,	Potential visual amenity, noise and vibration, and air quality impacts on sensitive receivers and the broader community have been assessed in Sections 6.5, 6.6 and 6.11, respectively. These impacts were all found to be manageable with the mitigation measures proposed. The design of the Project is consistent with the existing industrial and commercial nature of the site and its immediate surrounds. The Project would not generally be visible from nearby residential or recreational areas.

Object	Response
h. to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	All components of the Project have been designed to incorporate and comply with all relevant electrical and building safety standards. All construction associated with the Project would be compliant with the <i>Building Code of Australia</i> (Australian Building Codes Board, 2022) and other relevant statutory requirements as detailed in Chapter 4.0. Over the life of the Project, infrastructure would be appropriately maintained, to ensure safe and efficient operation.
i. to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The statutory requirements of the different levels of government have been explored in Chapter 4.0. Chapter 5.0 details the range of government agencies that have been consulted on the Project. Over the Project's operational life, the Project's infrastructure would be appropriately maintained to ensure safe and efficient operation.
j. to provide increased opportunity for community participation in environmental planning and assessment.	Chapter 5.0 details the key community stakeholders that were consulted during the development of the Project. Appendix C outlines the community engagement that has been undertaken to date. This EIS will be placed on public exhibition, whereby community members can provide additional comments through formal submissions.

7.3 Summary of Project impacts

This EIS has considered all relevant potential environmental, social and economic impacts associated with the Project. This section summarises the potential impacts on these factors and provides an overall justification for the Project.

7.3.1 Environmental impacts

This EIS has assessed the potential biophysical impacts that may result from the Project. These potential impacts are summarised in **Table 7.3-1**.

Table 7.3-1: Summary of environmental impacts

Matter and location	Summary
Biodiversity Section 6.2	The BDAR prepared for the Project (Appendix E) identified that the Project has the potential to result in direct, indirect and prescribed impacts on biodiversity values. The majority of impacts on biodiversity would occur during construction from the clearing of native vegetation. The Project would involve the removal of: • 0.26 ha of planted native vegetation • 0.34 ha of native vegetation (PCT 3962 – Coastal Floodplain <i>Phragmites</i> Reedland and PCT 4023 - Coastal Valleys Riparian Forest) • 0.69 ha of non-native vegetation. The Project would result in no loss of hollow-bearing trees. The construction and operation of the Project would result in potential indirect impacts on biodiversity values due to sedimentation and erosion, weeds, pathogens, noise, vibration, light, increased human activity and disturbance.

Matter and location	Summary
	Mitigation measures will be implemented to minimise the potential impacts to biodiversity values within the Project Area. A total of six ecosystem credits would be retired to offset the Project's residual biodiversity impacts.
Aboriginal heritage Section 6.3	The ACHAR prepared for the Project (Appendix F) identified no sites or items of Aboriginal cultural heritage within or in the vicinity of the site. Appropriate mitigation measures are proposed in the event of the future discovery of Aboriginal sites or items.
Land use, soils and contamination Section 6.4	<u>Land use</u> The Project would be compatible with the existing land use. The Project complies with the objectives of the 'SP2 Infrastructure (Electricity Supply)' land use zone, as outlined in the Strathfield LEP. With the implementation of appropriate mitigation and management measures there would be no significant amenity impacts to other surrounding land uses. <u>Soils</u> Construction of the Project would involve vegetation removal, ground disturbance, excavations, transport, storage and reuse of soils, use of heavy machinery, and other activities. These activities have the potential to destabilise the soils within the site and expose potential ASS. An ASSMP will be prepared to outline management and treatment methodologies to be implemented during soil disturbance. The dispersion of destabilised soils could lead to soil erosion and result in waterlogging of soils and soil structure decline. The risk of erosion and sedimentation impacts on soils would be managed through the implementation of an ESCP as part of the SWMP. <u>Contamination</u> A Preliminary and Detailed Site Investigation (Appendix G) was undertaken to assess the potential risk of contamination within the site. Contaminated materials and ASS identified in the Project Area were reviewed, and potential contamination risks to human health, soils, surface water and groundwater were assessed. Soil sampling was undertaken within the site and samples were analysed to determine the presence of contaminants of potential concern (COPC). None of the detected concentrations of COPC in the soils sampled from the site exceed the human health criteria or pose any ongoing risk to ecological populations. There is potential for the release of contaminants within the Project Area during construction and operation, which could result in contamination of soils, surface water and groundwater. Appropriate mitigation and management measures will be implemented to minimise potential risks.

Matter and location	Summary
Visual amenity Section 6.5	The VIA prepared for the Project (Appendix H) identified that the Project would be constructed within a highly modified urban environment. The Project would introduce elements that would result in a low to very low visual modification to the existing setting. Views of the Project would be experienced temporarily by those in close proximity to the Project, as they drive/cycle past, as well as by people with partial views from nearby locations. Assessment from representative viewpoints indicated low to negligible visual impacts during construction and at Year 1 of operation. The removal of trees within the site would be the most noticeable visual change, experienced within the foreground of views from the DFO Homebush car park and the M4 Western Motorway on-ramp. The assessment concluded that there are no sensitive public or private viewpoints that are likely to be subject to moderate or higher visual impacts. Mitigation measures proposed would provide an opportunity to minimise visual impacts.
Noise and vibration Section 6.6	The NVIA prepared for the Project (Appendix I) identified that construction noise levels are expected to exceed the NMLs during standard hours for both residential and non-residential receivers. Mitigation measures will be implemented to manage noise impacts during construction, though some exceedances may occur during certain periods of construction. Construction traffic would not exceed road traffic noise criteria. Modelling determined that the operational noise levels of the Project (without mitigation) would exceed the noise trigger levels at numerous sensitive receptors. As such, mitigation measures including permanent noise barriers will be implemented to achieve compliance and therefore no residual operational noise impacts are expected. Vibration generated during construction would be within the acceptable criteria at nearest sensitive receptors. Vibration is not anticipated to be generated by the onsite infrastructure and equipment during operation. Therefore, no operational vibration impacts are anticipated for the Project.
Traffic and transport Section 6.7	During the peak construction period (a 6 month duration), up to 154 vehicle trips per day (134 light vehicle trips and 20 heavy vehicle trips) are expected. This would reduce to 80 vehicle trips per day during the average construction period. The TIA prepared for the Project (Appendix J) identified that the Project would result in minor construction traffic impacts along roads to be used as construction access routes. The additional vehicles associated with construction are not expected to significantly impact the local road network. An additional four traffic movements per week are expected during operation of the Project, which is considered negligible. No significant cumulative traffic impacts are expected.
Surface water, groundwater and flooding Section 6.8	The Project is located in flood prone land. The WIA prepared for the Project (Appendix K) found that residual impacts related to flooding are not expected to be significant during construction or operation, provided the proposed mitigation measures are implemented. Surface water quality impacts from soil disturbance or spills of hazardous materials are possible if these mobilised materials enter local waterways. These potential impacts are expected to be appropriately managed through the implementation of the proposed mitigation measures.

Matter and location	Summary
	Excavation during construction of the Project, such as cable trenching, have the potential to result in impacts to groundwater, including changes in groundwater levels, contamination from construction materials, and increased turbidity. Appropriate mitigation measures are proposed to manage this impact. Water supply during construction is expected to be externally sourced and delivered to the site via a water tanker. Water demand during operation is expected to be limited and would be sourced through a new potable water connection installed for the Project. As such, impacts to the existing water supply during construction and operation, including surface water or groundwater resources, would be negligible.
Hazards and risk Section 6.9	A preliminary risk screening concluded that the Project would not be considered 'potentially hazardous industry'. A PHA was prepared for the Project (Appendix L) to assess other types of hazards that may arise during construction and operation of the Project. The potential onsite hazards identified included: • Thermal runaway and fire in a containerised battery unit • Electrical fault or failure to control electrical energy at electrical equipment • Fire in nearby area causing damage and escalation to Project infrastructure. An assessment of these hazards in the PHA identified the onsite and offsite risk profile rating as either ALARP or better ('Acceptable'). The Project can be managed in accordance with the established risk criteria in accordance with ALARP principles. Given the low levels of EMF expected to be produced by the Project and the typical separation distance between EMF emitting equipment associated with the Project and sensitive receivers, the effect of EMF on local receivers would be negligible.
Social and economic Section 6.10	A SEIA was prepared for the Project (Appendix M). The assessment identified the benefits of the Project, such as supporting the integration of renewable energy into the electricity grid, job opportunities and general community economic benefits. Stakeholders have voiced concerns over visual amenity, noise, traffic, access and hazards associated with the Project. These potential impacts have been assessed to result in a low to negligible social impact through the application of relevant mitigation measures. The Project is expected to have an overall positive impact on economic productivity during construction. The operation of the Project is also expected to achieve flow on benefits to the NSW economy. The Project is expected to support the transition to renewable energy within the NEM, as well as increasing the overall firming capacity of the NSW electricity grid, which could see a reduction in wholesale electricity prices.

Matter and location	Summary
Non-Aboriginal heritage Section 6.11	Two items of historic heritage significance were identified around 160 m and 180 m south-west of the site. As works are not anticipated to extend beyond the site, these items are not expected to be affected. Due to previous ground disturbance, the site has very low archaeological potential and is highly unlikely that historic heritage items remain in the Project Area. Mitigation measures are proposed in the event of the future discovery of historic heritage sites during construction, operation or decommissioning of the Project.
Waste Section 6.11	Waste expected to be generated during construction includes green waste (vegetation), wastewater, construction waste, demolition waste, personnel waste, excess spoil and contaminated soils. During operation, waste is expected to be limited to maintenance and operations waste, and domestic waste which would be managed using conventional waste collection, handling and disposal procedures in compliance with regulatory requirements. Mitigation measures have been outlined to ensure waste is appropriately managed during construction and operation.
Air quality Section 6.11	A desktop qualitative assessment was prepared to consider air quality impacts associated with the Project. The assessment established that construction is likely to generate airborne dust emissions from ground disturbing works, such as excavation and the movement of vehicles. Exhaust emissions during construction are expected to be generated by vehicles transporting workers to and from the site, trucks delivering construction materials and construction equipment. During operation, localised dust would be generated from vehicles travelling on the internal site roads for maintenance activities. Exhaust emissions would be generated by workers' vehicles when travelling to and from the Project, as well as during periodic maintenance and unscheduled repair works. These impacts would however not be significant due to the low expected volumes. Standard air quality mitigation measures will be implemented. Impacts on local and regional air quality are expected to be negligible during construction and operation.
Embodied carbon emissions Section 6.11	An embodied carbon emissions assessment was prepared (Appendix N) which estimated the embodied carbon emissions relating to the materials used in the construction of the Project to be 46,089 tonnes of CO₂e. Containerised battery units would contribute 95% of these total emissions. The other two significant contributors would be steel and concrete. Embodied carbon emissions would be reduced through the selection of lower-carbon materials for the Project, where feasible.

7.3.2 Economic impacts

The Project is expected to provide direct and indirect economic benefits to the NSW and local economy. These benefits are detailed in **Section 6.10** and **Appendix M**. The overall economic benefits of the Project include:

- Direct total output of \$103.5 million during construction and \$151 million during operation to the NSW economy
- Direct employment through onsite construction activities, including up to 100 construction workers, and up to five part-time roles, equating to one FTE role
- Indirect expenditure at local businesses, particularly hospitality and retail businesses
- Direct expenditure associated with construction and operation of the Project

- Indirect employment opportunities at local businesses through increased demand for goods and services needed for the Project
- Reduction in wholesale electricity prices.

7.3.3 Social impacts

The social impacts of the Project have been assessed in **Section 6.10** and **Appendix M**. The Project would provide direct social benefits to NSW, through increased grid stability of the NEM and ensuring greater network reliability. Any potential adverse impacts associated with the Project are expected to be adequately managed through the proposed mitigation measures (refer to **Section 6.10.5**).

7.3.4 Cumulative impacts

The cumulative impacts of the Project have been assessed in **Section 6.12**. Major projects in the vicinity of the Project were identified and screened based on the scale of each project, data confidence, overlapping receptors, and overlapping timelines. Nine nearby projects were identified as having the potential for cumulative impacts with the Project.

Potential cumulative impacts are associated with the Project include those relating to water quality, noise and vibration, and traffic and transport on the surrounding road network.

Assessment of the Project's residual impacts in combination with impacts identified for other major projects in the vicinity of the Project concluded that there are no significant cumulative impacts expected.

7.4 Ecologically sustainable development

7.4.1 The principles of ecologically sustainable development

This section provides a review of the Project, its impacts, and associated safeguards with respect to the principles of ecologically sustainable development (ESD). These are provided in accordance with the requirements of the EP&A Regulation and the *Protection of the Environment Administration Act 1991* (NSW). The principles, as listed in clause 193 of the EP&A Regulation, are as follows:

- **the precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by—
 - careful evaluation to avoid, wherever practicable, serious or irreversible damage to the
 - environment, and an assessment of the risk-weighted consequences of various options.
- **inter-generational equity**, namely, that 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**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration
- **improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services such as—
 - polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
 - the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
 - environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The following sections provide an overview of the principles and how they have been applied to the Project.

7.4.2 Precautionary principle

The precautionary principle is a risk management strategy that is applied in situations where scientific knowledge is lacking or uncertain. It promotes the use of caution and preventive action when there is a threat of serious environmental damage, and a lack of scientific evidence should not be a reason to not act.

An EIS is a public process that is used to assess the potential impacts of a project and is therefore precautionary by nature.

This EIS has been prepared by experienced and qualified professionals in their respective fields and has identified and thoroughly assessed the potential impacts that could result from the Project. This EIS presents assessments that are consistent with relevant statutory and guideline requirements. Where there was uncertainty on potential impacts, a worst-case and conservative scenario approach was applied to adhere to the precautionary principle. For example, the noise assessment assumed that all construction equipment would be operating all at once at the closest point to sensitive receivers, even though this is highly unlikely to be the case.

The Project has been adapted to avoid impacts where possible, and appropriate mitigation and management measures have been proposed to minimise potential environmental impacts. Considering this, the Project is not considered to be a threat to the natural environment and the precautionary principle has been appropriately applied.

7.4.3 Inter-generational equity

Intergenerational equity involves future generations having access to at least the same natural environment and resources as generations before them.

Future modelling outlines that there is an expected breach in capacity of the NEM network within the next five years, without any action. The Project allows for increased storage of electricity, which is a key method to increase stability of the NEM and to support the ongoing transition of the grid to primarily renewable generation. This increased electricity storage also allows for the increased stability and resilience of the NEM as the grid will be able to respond quickly to any potential intermittent blackouts.

The Project would support greater investment, delivery and integration of renewable energy into the electricity grid and reduce the reliance on fossil fuel sourced energy. This will ultimately help decarbonise the electricity grid and reduce GHG emissions. This would result in benefits for future generations, providing them with a sustainable electricity network.

This EIS has assessed all relevant impacts of the Project and documents mitigation measures to minimise these.

7.4.4 Conservation of biological diversity and ecological integrity

Biological diversity relates to the breadth and variety of life. Ecological integrity relates to the structure, composition and functions of an ecosystem that is operating normally. This principle requires that the conservation of biological diversity and ecological integrity is integrated into design and execution of any project.

A BDAR was prepared to assess the potential impacts to biodiversity to the Project. Direct impacts to 0.6 ha of native vegetation would be required to facilitate the Project. This impact represents the net result after relevant avoidance measures have been taken. This impact will be compensated through the retirement of biodiversity offset credits and managed through appropriate mitigation measures (see **Section 6.2**).

Given this and noting the siting and design of the Project, its impact upon biological diversity and ecological integrity generally is expected to be acceptable.

7.4.5 Improved valuation and pricing of environmental resources

This principle is premised on an assumption that all resources should be appropriately valued and that the value of environmental resources should be considered alongside any economic or cost benefit analysis for the life of the Project.

The benefits of the Project are considered to outweigh its costs. The Project would generate up to 100 jobs for construction and a further five part time roles during operation and maintenance, which are expected to continue to provide local economic benefits.

The Project would facilitate the integration of renewable energy into the grid and support the transition away from fossil fuel-based energy generation. This would contribute to net GHG reductions and is expected to place downward pressure on electricity prices.

The Project would purchase biodiversity credits, which are priced to reflect the cost of the loss of biodiversity values, and contribute to biodiversity benefit elsewhere.

The Project incorporates a range of mitigation measures to limit environmental impacts, and the costs associated with these measures have been considered in the overall capital investment and operating costs of the Project.

7.5 Conclusion

The Project involves the development of a BESS with a capacity of 200 MW and storage of 400 MWh adjacent to the existing Mason Park STSS. The Project aims to support the transition of the NEM to renewable energy generation and provide services to stabilise the wider network.

Potential impacts associated with the Project have been assessed and it has been determined that any residual impacts would have a low to negligible effect on relevant environmental, social and economic factors. Appropriate mitigation measures have been proposed to manage potential adverse impacts during construction, operation and decommissioning.

The Project will provide environmental, social and economic benefits to the Greater Sydney region and to NSW more broadly. Overall, the Project delivers:

- Alignment with Commonwealth, state and local policies, strategies and statutory requirements
- Additional energy storage capacity to support the broader increase in renewable energy generation across the NEM, directly addressing projected shortfalls
- Improved network stability, by providing system services to help stabilise the wider network
- Job creation and investment for Greater Sydney region and NSW more broadly.

The environmental, social and economic benefits of the Project outweigh the impacts that would result from its construction, operation and decommissioning. It is therefore recommended that the Project be granted development consent.

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Appendix A

SEARs Compliance Table

Appendix A SEARs Compliance Table

Secretary's Environmental Assessment Requirements	Location addressed in EIS
General requirements	
The Environmental Impact Statement (EIS) for the development must comply with the requirements in Part 8, of the <i>Environmental Planning and Assessment Regulation 2021</i> (the Regulation) and must have regard to the <i>State Significant Development Guidelines</i> , the <i>Renewable Energy Planning Framework</i> and any relevant planning circulars.	The EIS is compliant with the EP&A Regulation, with regard to the <i>State Significant Development Guidelines</i> , the <i>Renewable Energy Planning Framework</i> and any relevant planning circulars. The responses below provide justification of this.
A stand-alone executive summary	A stand-alone summary, as per the <i>State Significant Development Guidelines</i> is provided at the start of the EIS.
A full description of the development, including:	
Details of construction, operation, and decommissioning, including any staging of the development	Chapter 3.0 provides a detailed description of the Project, including details of construction, operation and decommissioning.
A high-quality site plan showing all infrastructure and facilities (including any infrastructure that would be required for the development but the subject of a separate approvals process)	Figure 3-1 depicts the Project Area and indicative Project layout.
The Project Area (as per Table 1 of the <i>SSD guidelines – preparing an environmental impact statement</i>) and Development Footprint (disturbance area including but not limited to areas for infrastructure, road works, access tracks, defensible space, fencing and temporary laydown)	Chapter 3.0 provides an overview of the Project, detailing the Project Area and development footprint as per Table 1 of the SSD guidelines.
A high-quality, detailed constraints map identifying the key environmental and other land use constraints that have informed the final design of the development	A detailed environmental constraints map is provided in Figure 2-2 in Chapter 2.0 . Land use constraints are shown in Figure 1-3 in Chapter 1.0 .
Confirmation if the project is designated development in accordance with the Environmental Planning and Assessment Act 1979 (EP&A Act) and the Regulation;	Chapter 4.0 details how the Project is a designated development in accordance with the EP&A Act and the Regulation.
Consistency in information presented in the EIS and all technical reports, including distances, development footprint, project design and infrastructure proposed, construction timeframes and receiver numbers.	Information presented, including distances, development footprint, project design and infrastructure proposed, construction timeframes and receiver numbers, is consistent in the EIS and all technical reports provided in the appendices.

Secretary's Environmental Assessment Requirements	Location addressed in EIS
A strategic justification of the development focusing on site selection and the suitability of the proposed site with respect to potential land use conflicts with existing and future surrounding land uses (including existing land use, other proposed or approved energy facilities, major projects, rural/residential development, Crown lands within and adjacent to the project site and subdivision potential);	Section 2.1 in Chapter 2.0 provides a strategic justification of the Project. Surrounding land uses are discussed in Section 2.5.1 .
A risk assessment of the potential impacts of the development, identifying the key issues for further assessment	Chapter 6.0 addresses potential impacts of the Project.
An assessment of the likely impacts of the development on the environment, and any other significant issues identified in the above risk Assessment, focusing on the specific issues identified below, including:	
A description of the existing environment likely to be affected by the development using sufficient baseline data	An existing environment section, using sufficient baseline data, is included in each section in Chapter 6.0 .
An assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing, approved or proposed developments in the region and impacts on the site and any road upgrades, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice including the <i>Cumulative Impact Assessment Guideline</i> (DPE, 2022);	Chapter 6.0 assess likely impacts of the Projects at all stages of the development. Section 6.12 includes an assessment of potential cumulative impacts.
A description and assessment if staging of the project is proposed including any site mobilisation or pre-construction works	Section 3.3 outlines the proposed construction stages of the Project, including a description of enabling works.
A description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development (including draft management plans for specific issues as identified below)	Measures that would be implemented to avoid, mitigate and/or offset the impacts of the development are explored within their appropriate sections in Chapter 6.0 .
A description of the measures that would be implemented to monitor and report on the environmental performance of the development	Appendix D provides a consolidated summary of all the proposed environmental management and monitoring measures to mitigate potential environmental impacts identified in the assessments in Chapter 6.0 .
A consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS	

Secretary's Environmental Assessment Requirements	Location addressed in EIS
A detailed evaluation of the merits of the project as a whole having regard to:	
The requirements in Section 4.15 of the <i>Environmental Planning and Assessment Act 1979</i> , including the objects of the Act and how the principles of ecologically sustainable development have been incorporated in the design, construction, and ongoing operations of the development	Section 4.15 of the EP&A Act is discussed in Section 4.2.2 in Chapter 4.0 . Section 7.4 in Chapter 7.0 describes how the principles of ecologically sustainable development have been incorporated into the Project.
The suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses	Chapter 2.0 and Chapter 4.0 discuss the suitability of the site with respect to land use. An assessment of potential land use conflicts is provided in Section 6.4 .
Feasible alternatives to the development and its key components, siting and project design alternatives to avoid areas of biodiversity value, opportunities for shared infrastructure with proposed developments in the region, and the consequences of not carrying out the development;	Section 2.2 in Chapter 2.0 provides a description of the feasible alternatives considered.
A detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department's guidance on the matter	Section 2.1 in Chapter 2.0 details the capability of the Project to contribute to the security and reliability of the NEM.
Estimated Development Cost and Employment	
Provide the estimated development cost (EDC) of the development prepared in accordance with the relevant planning circular using the Standard Form of EDC Report	An EDC report has been prepared by a suitably qualified quantity surveyor in accordance with the SEARs. The EDC is provided in Section 3.6 and the EDC report is included in Appendix O .
Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided	Section 2.1.3 in Chapter 2.0 provides an estimate of jobs created. Further details on direct and indirect employment are provided in Section 6.10 .
The development must be accompanied by:	
The consent of the owner/s of the land (as required in Section 23(1) of the EP&A Regulation)	Landowner consent is not necessary as Ausgrid is the landowner.
A declaration from a Registered Environmental Assessment Practitioner that the EIS includes the information specified in the Department's <i>Registered Environmental Assessment Practitioner Guidelines</i>	A declaration from a REAP is provided at the start of the EIS.

Secretary's Environmental Assessment Requirements	Location addressed in EIS
Key issues	
Biodiversity – including:	
- an assessment of the biodiversity values and the likely biodiversity impacts of the Project in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (NSW) (BC Act) in accordance with the <i>Biodiversity Assessment Method (BAM) 2020</i> and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must: - be prepared using the approved BDAR template; - document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; - assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades; - include an assessment for serious and irreversible impacts (SAIL) in accordance with Section 9.1 of the BAM; - include a strategy to offset any residual impacts of the development in accordance with the BC Act; and - be finalised by an accredited assessor as BAM-compliant within 14 days of submission; - unless BCS and DPHI determine the proposed development is not likely to have any significant impacts on biodiversity values;	A BDAR has been prepared and is included in Appendix E . The BDAR is summarised in Section 6.2 .
an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the <i>Fisheries Management Act 1994</i>, and a description of the measures to avoid, minimise and rehabilitate impacts;	Potential impacts to listed aquatic threatened species are discussed in Section 6.2.4 and Appendix E .
a cumulative impact assessment of biodiversity values in the region from nearby developments; and	Cumulative impacts are discussed in Section 6.12 .
if an offset is required, details of the measures proposed to address the offset obligations.	Biodiversity offsets are discussed in Section 6.2.4.4 and Appendix E .

Secretary's Environmental Assessment Requirements	Location addressed in EIS
Heritage – including:	
An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the <i>Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (OEH, 2011) and the <i>Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements.	An ACHAR has been prepared and is provided in Appendix F and is summarised in this Section 6.3 .
Evidence of adequate consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (ACHCR) (DECCW, 2010).	Detailed within the ACHAR and summarised in this section (Section 6.3) and Chapter 5.0 .
assess the impact to historic heritage having regard to the <i>Guidelines for Preparing a Statement of Heritage Impact</i>.	The impact that the Project will have on historic heritage is discussed in Section 6.11.1 .
Land – including:	
a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints;	Site suitability is discussed in Section 2.3 . A detailed justification of the suitability of the site is provided in Section 7.1 .
- an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: - agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant);	Potential impacts on existing land uses and adjacent land are discussed in Section 6.4.4. Potential impacts on existing and adjacent land uses are detailed in Section 6.4.4.1. Flood prone land is discussed in Section 6.4.3.4 and potential flood impacts are detailed in Section 6.8.

Secretary's Environmental Assessment Requirements	Location addressed in EIS
- a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils including appropriate management measures, and erosion to occur	Soil characteristics are discussed in Section 6.4.3.3 . Potential impacts to soils during construction and operation are detailed in Section 6.4.4.2 and Section 6.4.5.2 , respectively. Appropriate management measures are provided in Section 6.4.6 .
- a cumulative impact assessment of nearby developments	Potential cumulative impacts are detailed in Section 6.12 .
• an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including:	Assessment of the compatibility of the Project with existing land uses during construction, operation and decommissioning is detailed in Section 6.4.4.1 and Section 6.4.5.1 .
• consideration of the zoning provisions applying to the land, including subdivision (if required); and	Consideration of the zoning provisions is provided in Section 6.4.4.1 .
• completion of a Land Use Conflict Risk Assessment in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide (if required).	Consideration of the requirement for a Land Use Conflict Risk Assessment (LUCRA) is provided in Section 6.4.4.1 .
Visual – including:	
• A detailed assessment of the likely visual impacts of all components of the project (including transmission lines, substations and any other ancillary infrastructure) on surrounding residences and key locations, scenic or significant vistas, road corridors in the public domain, and provide details of measures to mitigate and/or manage potential impacts	A Visual Impact Assessment (VIA) has been prepared, which addresses the impacts to surrounding residences and other key locations and scenic vistas and is provided in Appendix H . A summary of the VIA is provided in this section (Section 6.5).
• Details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners)	Mitigation measures to manage potential visual impacts are detailed in Section 6.5.5 .
Noise – including:	
• An assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the <i>Interim Construction Noise Guideline</i> (ICNG), operational noise impacts in accordance with the <i>NSW Noise Policy for Industry</i> (2017), traffic noise in accordance with the <i>NSW Road Noise Policy</i> (DECCW, 2011) and cumulative noise impacts (considering other developments in the area), including (where appropriate):	The NVIA has been prepared in accordance with the relevant guidelines as detailed in Section 6.6.4 and Appendix I .
- identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours;	An assessment of construction and operational noise impacts associated with site emissions and traffic is provided in Section 6.6.4 and Section 6.6.5 . Noise contours are provided in Appendix I .

Secretary's Environmental Assessment Requirements	Location addressed in EIS
- details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers;	The noise monitoring survey undertaken is summarised in Section 6.6.2.3 and detailed in Appendix I . Background and amenity noise levels are presented in Section 6.6.3.1 .
- details of manufacturer specifications for plant and equipment and noise source inventory (demonstrating worst-case modelling of plant and equipment);	Details of manufacturer specifications for plant and equipment utilised in the assessment and a noise source inventory are presented in Appendix I .
- an assessment of 'worst case' noise emission scenarios;	An assessment of 'worst case' construction and operational noise is provided in Section 6.6.4 and Section 6.6.5 , respectively.
- consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and	Consideration of meteorological conditions has been included in the noise modelling software, as detailed in Section 6.6.2.4 and Section 6.6.2.6 . Consideration of annoying characteristics of noise is outlined in Section 6.6.2.6 .
- details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.	Analysis of the effectiveness of measures, identification of residual impacts and details of proposed compliance monitoring programs are addressed within the mitigation measures presented in Section 6.6.6 .
Transport – including:	
• an assessment of the peak and average traffic generation, including light vehicles, shuttle buses, heavy vehicles and high risk heavy vehicles requiring escort and construction worker transportation;	An assessment of peak and average traffic generation and an assessment of all vehicle types required during the Project Section 6.7.4 .

Secretary's Environmental Assessment Requirements	Location addressed in EIS
an assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance;	The proposed site access routes for heavy vehicles, oversize and/or overmass (OSOM) vehicles and light vehicles are discussed in Section 6.7.4.2. The transport impacts to the access routes and site access points are discussed in Section 6.7.4.2. A review of the existing road safety data and casualty crash history is provided in Section 6.7.3.5. An assessment of the nearest State road intersection performance during construction is provided in Section 6.7.4.5 and during operation in Section 6.7.5.3.
a cumulative impact assessment of traffic from nearby developments (including mining operations); and	The cumulative traffic impacts of nearby developments are discussed in Section 6.7.7 and detailed in Section 6.12.
- provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including: - a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes) - clear figures of proposed road upgrades (including the site access point); and - road maintenance contributions, and other traffic control measures	No road upgrades are required for this Project, as discussed in Section 6.7.4.3. Mitigation measures, including traffic control measures and road maintenance contributions, will be provided in a CTMP to address traffic and transport impacts. Further details are provided in Section 6.7.8.
Water – including:	
an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management;	Potential impacts to surface water and groundwater are assessed in Section 6.8.4. Appropriate management and mitigation measures are provided in Section 6.8.5.
a site water balance for the development	An initial estimate of water demands and current availability for the Project is provided in Section 6.8.4.1. A conceptual site water balance is provided in Figure 6.8-4.
details of water requirements and supply arrangements for construction and operation (including consultation with suppliers)	Water requirements and supply arrangements are discussed on Section 6.8.4 and Section 6.8.5.

Secretary's Environmental Assessment Requirements	Location addressed in EIS
a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with <i>Managing Urban Stormwater: Soils & Construction (Landcom, 2004)</i> and <i>Managing Urban Stormwater: Soils and construction – Volume 2A manual (Landcom, 2008)</i>;	Erosion and sediment control measures are detailed in Section 6.8.5 .
assessing the impacts of the development, including any changes to flood risk and overland flows on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required	Flood impacts are detailed in Section 6.8.4 and Section 6.8.5 . Design solutions to mitigate the impacts are provided in Section 6.8.5 .
where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the <i>DPI Guidelines for Controlled Activities on Waterfront Land (2018)</i> and (if necessary) <i>Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (DPI 2003)</i>, and <i>Policy & Guidelines for Fish Habitat Conservation & Management (DPE, 2013)</i>; and	Proximity of the Project to waterfront land is considered in Section 6.8.3.4 .
- Flood Risk: identification of 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; - 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 <i>Flood Impact and Risk Assessment – Flood Risk Management Guide LU01</i> - detailed design solutions and operational procedures to mitigate flood risk where required.	Discussion of how the Project affects flooding during construction and operation is provided in Section 6.8.4 . Section 6.8.5 outlines mitigation measures to manage any potential impacts to flooding.
Hazards – including:	
<i>Health</i> - an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the <i>International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields</i>;	Potential hazards and risks (including health risks) are assessed in Section 6.9.4 .
<i>Bushfire</i> – identify potential hazards and risks associated with bushfires including the risks that a BESS would cause a bush fire and demonstrate compliance with <i>Planning for Bush Fire Protection 2019</i>;	Potential hazards and risk associated with bushfires is discussed in Section 6.9.3 .

Secretary's Environmental Assessment Requirements	Location addressed in EIS
Battery Energy Storage System – a Preliminary Hazard Analysis (PHA) prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis</i> (DoP, 2011) and Multi-Level Risk Assessment. The PHA must consider all recent standards and codes and verify separation distances to on-site and off-site receptors to prevent fire propagation and compliance with <i>Hazardous Industry Advisory Paper No. 4, Risk Criteria for Land Use Safety Planning</i>.	The PHA including preliminary risk screening is provided in Appendix L and summarised in Section 6.9.
Social – including:	
An assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the <i>Social Impact Assessment Guideline</i> (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation	An assessment of the social impacts of the Project is provided in Section 6.10.4 and Appendix M.
Economic – including:	
An assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing, having regard to the <i>Benefit Sharing Guideline 2024 and Private Agreement Guideline 2024</i>	An assessment of the economic impacts of the Project is provided in Section 6.10.4 and Appendix M.
Waste – including:	
identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council); and	This section (Section 6.11.2) identifies likely waste streams during construction, operation and decommissioning of the Project and outlines management measures to manage these.
provide a waste management plan (as appropriate)	A Waste Management Plan will be included in the CEMP which will be prepared prior to construction commencing.
Plans and Documents	

Secretary's Environmental Assessment Requirements	Location addressed in EIS
The EIS must include all relevant plans, diagrams and relevant documentation required under Part 3 of the EP&A Regulation. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include high quality files of maps and figures of the subject site and proposal.	This EIS follows the directions of the <i>State Significant Development Guidelines</i> in providing all relevant plans, diagrams and relevant documentation required under Part 3 of the EP&A Regulation. Maps and figures of the site are provided in Chapter 1.0 and Chapter 3.0.
Legislation, Policies & Guidelines	
The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. A list of some of the legislation, policies and guidelines that may be relevant to the assessment of the project can be found at: • https://www.planning.nsw.gov.au/policy-and-legislation/planning-reforms/rapid-assessment-framework/improving-assessment-guidance • https://www.planningportal.nsw.gov.au/major-projects/assessment/policies-and-guidelines; and • http://www.environment.gov.au/epbc/publications#assessments	Chapter 4.0 describes all relevant guidelines, policies, plans and legislation.

Secretary's Environmental Assessment Requirements	Location addressed in EIS
Consultation During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. In particular, you must undertake detailed consultation with affected landowners surrounding the development, the owners of all exploration licences across the proposed development site, the operator of any pipelines on or adjacent to the site, and all relevant government agencies, including the relevant local Council. The EIS must: • detail how engagement undertaken was consistent with the <i>Undertaking Engagement Guidelines for State Significant Projects</i> (DPHI, 2024); and • describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.	Chapter 5.0 and Appendix C detail engagement and consultation undertaken for the Project. Section 5.2 describes the consultation process, Section 5.3 outlines the stakeholders engaged and Section 5.4.1 identifies the key issues raised during consultation. Further details are provided in . Section 5.2 provides information on how engagement undertaken was consistent with the <i>Undertaking Engagement Guidelines for State Significant Projects</i>. Section 5.2.5 outlines the Project's consistency with DPHI guidelines.
Expiry date If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs, your SEARs will expire. If an extension to these SEARs will be required, please consult with the Planning Secretary 3 months prior to the expiry date.	N/A

Appendix B

Statutory Compliance Table

Appendix B Statutory compliance table

Legislation	Purpose/description	Where addressed/ considered in EIS
NSW legislation		
<i>Environmental Planning and Assessment Act 1979</i>	An approval is required. Approval – development consent	Section 4.2
<i>Aboriginal Land Rights Act 1983</i>	Not required – no active Aboriginal Land Claim over the Project Area.	Section 6.3 Appendix F
<i>National Parks and Wildlife Act 1974</i>	An Aboriginal Heritage Impact Permit (AHIP) is not required for a project that is an SSD.	Section 6.3 Appendix F
<i>Water Management Act 2000</i>	The Project is not considered to be a ‘controlled activity’ under section 90 and 91 of the WM Act, and therefore no approvals are required.	Section 6.8 Appendix K
<i>Protection of the Environment Operations Act 1997</i>	An EPL is not required as the Project does not fall under the list of activities outlined in Schedule 1 of the POEO Act.	Chapter 4.0
<i>Contaminated Land Management Act 1997</i>	Not required – the Preliminary and Detailed Site Investigation did not identify the site as being contaminated or requiring contamination regulation.	Section 6.4 Appendix F
<i>Biodiversity Conservation Act 2016</i>	An approval is required: Approval – development consent	Section 6.2 Appendix E
<i>Biosecurity Act 2015</i>	No approvals or consent under the <i>Biosecurity Act 2015</i> .	Section 6.2 Appendix E
<i>Roads Act 1993</i>	Approval for works in a road reserve is required under section 138 of the <i>Roads Act 1993</i> . The Project would not require works within road reserve areas. As such, approval under section 138 would not be required.	Section 6.7 Appendix J
<i>Heritage Act 1977</i>	No approval under the <i>Heritage Act 1977</i> is required for SSD. No impacts are proposed to historic heritage items during construction or operation of the Project.	Section 6.11

Legislation	Purpose/description	Where addressed/ considered in EIS
Commonwealth legislation		
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	There are no Commonwealth or national heritage listed places within the Project Area, and as such, the heritage provisions of this Act do not apply.	Section 6.3 Appendix F
<i>Airports Act 1996 and Airports (Protection of Airspace) Regulations 1996</i>	Approval should be sought from ABCP to erect a tall structure that exceeds 30 m AGL within 15 km of a 'core regulated airport'. Despite the Project being located within 15 km of Sydney (Kingsford Smith) Airport, the tall structures proposed to be used would not exceed 30 m AGL and therefore an application to the ABCP would not be required	Section 4.3.5.2
<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	An approval from the Australian Government Minister under the EPBC Act is not required as the Project is not likely to have significant impact on MNES or the environment in general (i.e. the Project is not a controlled action).	Section 6.2 Appendix E
<i>Native Title Act 1993 (Native Title Act) (Cth)</i>	A search of the National Native Title Tribunal Register confirmed that the land is not subject to a Native Title claim.	Section 4.3.5.4

Appendix C

Community engagement table

Appendix C Community engagement table

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Immediate neighbours				
Direct Factory Outlet Homebush	27/09/2024	Phone call to introduce Project and to offer a briefing.	Interested in the Project and having a briefing.	Project briefing set up and email sent to provide a community newsletter, outline the Project and offer a meeting (virtual or in-person) to discuss further.
	09/10/2024	Project briefing held online. Presentation given about the Project and questions answered.	Supportive of the Project. Interested in noise and vibration impacts, power outages, traffic impacts and site access.	Engagement with stakeholder will continue to ensure ongoing communication and collaboration.
Fulton Hogan Egis / WestConnex (Transurban)	11/10/2024	Phone call to introduce Project and to offer a project briefing.	Interested in the Project and having a briefing.	Project briefing set up and email sent to outline the Project and offer a meeting (virtual or in-person) to discuss further.
	05/11/2024	Project briefing held in Sydney CBD office. Presentation given about the Project and questions answered.	Discussed Project. Key issue for consideration was access and traffic impacts due to close proximity of the site and intention to use their driveway as shared access (Access Road).	Committed to continue to discuss access and traffic planning in more detail as Project progresses.
	26/03/2025	Project briefing held online. Provided project update, detailed EIS findings and proposed mitigation measures for potential construction and access impacts.	Supportive of the Project. Collaboration will continue to develop and implement an appropriate access plan for use of the Access Road and to ensure impacts on the operation of the MCC are limited.	Committed to providing additional detail around access modification when available and progress a formal agreement for use of the Access Road.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Adjacent properties/landowners				
PCYC NSW	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Homebush Business Village	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Oscar Auto Solutions	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Homebush Cakes	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Midfield Trading Co	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Sneaking Kitchen	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Abyss Solutions	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Made By Cow	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Microrentals	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Cloud Online Backup Solutions	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Basketball NSW	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Swimming NSW	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Optus Business Centre Sydney Inner West	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
BPT Intercoms	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	
Community members at Strathfield Library and Innovation Hub	21/11/2024	Conversation held with 13 community members.	• Generally supportive of the Project and renewables • Interest in the location of the site • Appreciative of the proactive community engagement • Interest in how the BESS will impact electricity affordability • Concerns raised around noise, fire risk management and environmental impacts.	Concerns and feedback were noted and addressed during the assessment process. Stakeholder will be kept informed about the Project as it progresses.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Community members at Homebush Train Station	26/11/2024	Conversation held with 6 community members.	- Concerns raised around noise, fire risk management and environmental impacts. - Interest in the technical specifications of the BESS technology.	Concerns and feedback were noted and addressed during the assessment process. Keep stakeholder informed through website updates and newsletters.
Community members at Mason Park	30/11/2024	Conversation held with 2 community members.	- Concerns raised around noise, fire risk management and environmental impacts. - Interest in preserving vegetation in the area, nature-positive strategies.	Concerns and feedback were noted and addressed during the assessment process. Keep stakeholder informed through website updates and newsletters.
Sensitive receivers within 400 m of the Project				
Kinda-Mindi Early Learning, Flemington	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
Sensitive receivers more than 400 m from the Project				
Papilio Early Learning, North Strathfield	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
Montessori North Strathfield	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
Lighthouse Childcare North Strathfield	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
Only About Children, Concord	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Our Lady of the Assumption, Homebush	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
St Dominics Catholic Church, Homebush West	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
Korean Presbyterian Church, Strathfield	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
Ukrainian Autocephalic Orthodox Church Intercession of the Holy Virgin, Strathfield	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
St Anne's Anglican Church, Strathfield	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Victoria Avenue Public School, Concord	27/09/2024	Letterbox drop delivery of September Community Newsletter outlining the Project, location, explanation of the BESS technology and the planning process.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.		
Homebush Public School	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
Homebush West Public School	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.
Homebush Boys High School	14/11/2024	Letterbox drop delivery of November Community Newsletter outlining the potential impacts and promoting upcoming community consultation including a survey and information sessions.	No feedback received at this stage.	Stakeholder will be kept informed about the Project as it progresses.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Local Government and Elected Officials				
Strathfield Council	28/08/2024	Phone call to introduce the Project, followed by a letter via email to outline the Project and offer a meeting (virtual or in-person) to discuss further.	Interested in the Project and having a briefing.	Meeting resulted in the change of the Project's name from Mason Park BESS to Homebush BESS.
	16/09/2024	Met with Strathfield Municipal Council staff at their Strathfield office and provided a presentation about the Project and answered questions.	Key feedback included interest in Geotech studies due to history of site and noted a nearby park with same name as the existing substation (Mason Park).	Committed to providing further updates as the Project progresses. Engagement with stakeholder will continue.
	27/09/2024	Sent a copy of community newsletter via email.	No feedback received at this stage.	
	03/04/2025	Met with Strathfield Council and provided a Project update, summary of the community engagement feedback received to date, a summary of technical reports prepared, and discussion of Voluntary Planning Agreement (VPA).	Council provided update on status of the Homebush Transport Oriented Development (TOD) Planning Proposal, and feedback relating to noise and visual amenity of the site in operational phases; urban canopy and biodiversity; alternative transport routes to site and the opportunity for Ausgrid to provide in-kind support for sustainability initiatives in the LGA that align with both Council and Ausgrid's strategic priorities.	Noting the electrical infrastructure on the existing site, a commitment was made to consider ways to soften the visual appearance of the noise walls. A commitment was also made to continue to discuss local sustainability and social value opportunities for strategic support from Ausgrid as part of VPA discussions. In particular, this includes initiatives that prioritise opportunities that align with both Council and Ausgrid's strategic priorities, can benefit from Ausgrid's expertise and continue to enable the renewable energy transition.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Canada Bay Council	26/09/2024	Letter sent via email, with copy of community newsletter, to outline Project in nearby LGA and advise that Ausgrid will be engaging with residents in surrounding area, including Canada Bay LGA, and offer meeting to discuss further.	No feedback received at this stage.	No further engagement at this time.
Office of Stephanie Di Pasqua MP, State Member for Drummoyne	03/09/2024	Phone call and letter sent via email to outline the Project and offer a meeting (virtual or in-person) to discuss further.	Interested in the Project and having a briefing.	Feedback was noted and addressed during the assessment process. Engagement with stakeholder will continue.
	16/092024	Meeting held with Ms Di Pasqua at her Five Dock office. Presentation given about the Project and questions answered.	Provided feedback on the Project name and highlighted interest in noise and hazard risks, engagement efforts, and sustainability and economic benefits.	
	03/10/2024	Copy of community newsletter sent via email.		
Office of Sally Sitou MP, Federal Member for Reid	03/09/2024	Phone call and letter sent via email to outline the Project and offer a meeting (virtual or in-person) to discuss further.	No feedback received at this stage.	Engagement with stakeholder will continue.
	09/09 – 25/09/2024	Follow up phone calls with messages left to arrange briefing.		
	03/102024	Copy of community newsletter sent via email.		
Regulatory and planning agencies				
DPHI	03/09/2024	Meeting held with DPHI representatives to outline the Project, work to date and proposed timeline.	Discussed benefits of wider stakeholder engagement prior to submitting the scoping report.	Feedback was noted and addressed during the assessment process.
	30/09/2024	Meeting with DPHI representatives to discuss hazard considerations for the Project.	Key feedback was to consider adequate separation distances in site design and impact analysis during investigations.	Engagement with stakeholder will continue.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
	05/03/2025	Online meeting held to discuss the progress of the Project and the initial findings of the environmental assessment.	Requested to review PHA report prior to EIS lodgement and show evidence of consultation with Transurban in EIS regarding using the Access Road and proposed upgrades.	Feedback was noted and addressed during the assessment process. PHA has been provided.
AEMO	26/07/2024	Meeting held to discuss BESS strategy and connections process.	Support expressed for the BESS strategy and connections process.	Feedback was noted and addressed during the assessment process. Engagement with stakeholder will continue.
First Nations stakeholders				
Metropolitan LALC	04/09/2024	Contacted requesting details of Aboriginal individuals or organisations with cultural knowledge or who may wish to participate in consultation.	Responded noting currently closed due to sorry business. No further response received.	Engagement with stakeholder will continue.
	25/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.		
Office of the Register Aboriginal Land Rights Act	04/09/2024	Contacted to request full list of relevant Aboriginal Traditional Custodians and referred to Metropolitan LALC.	Provided information and referrals to appropriate stakeholders.	Information was noted and addressed during the assessment process. Engagement with stakeholder will continue.
Heritage NSW	10/09/2024	Contacted to request full list of relevant Aboriginal Traditional Custodians.	Provided a comprehensive list of stakeholders for consultation.	Information was noted and addressed during the assessment process. Engagement with stakeholder will continue.
Dharug Custodian Aboriginal Corporation	11/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Didge Ngunawal Clan	25/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.
Ngambaa Cultural Connections	25/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.
Thomas Dahlstrom	25/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.
Long Gully Cultural Services	25/09/2024	Letter sent via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.
Pearl Dipoma	25/09/2024	Sent letter via email requesting registration of interest in Aboriginal Heritage consultation.	Responded to letter, registered interest in the Project and looking forward to further engagement.	Registration noted. Engagement with stakeholder will continue.
State government agencies				
Ambulance NSW	24/09/2024	Letter sent via email to outline the Project and offer for a meeting (virtual or in-person) to discuss further and advise that the Project would not impact the electricity supply to Ambulance Head Quarters in Sydney Olympic Park.	Responded with interest in the Project and looking forward to further engagement.	Feedback was noted and addressed during the assessment process. Engagement with stakeholder will continue.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
	09/11/2024	Project briefing held at the State Operation Centre, NSW Ambulance HQ. Presentation given about the Project and questions answered.	Discussed Project scope and confirmed that the Project would not impact the power supply to State Operations Centre. Discussed storage and energy technology. No further action required.	Feedback was noted and addressed during the assessment process. Engagement with stakeholder will continue.
Fire and Rescue NSW	30/08/2024	Letter sent via email to outline the Project and offer for a meeting (virtual or in-person) to discuss further.	No feedback received at this stage.	Engagement with stakeholder will continue.
Agency stakeholders				
Transport for NSW	23/04/2025	Online meeting held to discuss use of the Access Road to access the Project during construction and operation.	Traffic management measures are preferred to control vehicle movements along the Access Road rather than roadworks at the M4 Motorway On-Ramp/Access Road intersection.	Feedback was noted and addressed during the assessment process. Engagement with stakeholder will continue.
Utilities				
Transgrid	08/02/2024	Ausgrid and Transgrid meet monthly. Ausgrid flagged intention to pursue BESS connections.	Positive initial response to the BESS connection proposal.	Feedback was noted and addressed during the assessment process. Engagement will continue to progress work request.
	20/08/2024	Non-prescribed DNSP work request submitted for Transgrid's assessment and response	Awaiting assessment and feedback on the work request.	
APA Group	17/02/2025	Dial Before You Dig enquiry to determine if there are any assets near the Project.	N/A	Did not engage with APA Group based on Dial Before You Dig response.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Local residents				
Wentworth Road North	01/10/2024	Door knock. Conversation held with two residents.	Residents raised no concerns and were receptive to the opportunity for further engagement.	Stakeholder will be kept informed about the Project as it progresses.
	19/11/2024	Door knock. Conversation held with five residents.	Residents raised no concerns and were receptive to the opportunity for further engagement.	Stakeholder will be kept informed about the Project as it progresses.
Bellona Avenue	01/10/2024	Door knock. Conversation held with four residents.	Residents raised no concerns and were receptive to the opportunity for further engagement.	Stakeholder will be kept informed about the Project as it progresses.
	19/11/2024	Door knock. Conversation held with five residents.	Residents raised no concerns and were receptive to the opportunity for further engagement.	Stakeholder will be kept informed about the Project as it progresses.
Coleman Avenue	19/11/2024	Door knock. Conversation held with 12 residents.	• Generally supportive of the Project • Concerns included proximity of the site and traffic impacts • Unaware of the Project - directed to the website for more information • Some residents preferred nuclear energy to renewables and battery technology.	Stakeholder will be kept informed about the Project as it progresses.

Stakeholder	Date	Engagement activity	Stakeholder feedback	Project response
Cartwright Avenue	19/11/2024	Door knock. Conversation held with five residents.	- Generally supportive of the Project - Concerns around fire risk management - Interest in upcoming information sessions - Concerns around noise and visual impacts.	Stakeholder will be kept informed about the Project as it progresses.
Underwood Road	19/11/2024	Door knock. Conversation held with two residents.	Unaware of the Project - directed to the website for more information.	Stakeholder will be kept informed about the Project as it progresses.
Wentworth Road South	19/11/2024	Door knock. Conversation held with four residents.	- Unaware of the Project - directed to the website for more information - Wanted to understand the difference between BESS and personal batteries.	Stakeholder will be kept informed about the Project as it progresses.
Verley Drive	19/11/2024	Door knock. Conversation held with one resident.	No feedback received.	Stakeholder will be kept informed about the Project as it progresses.

Appendix D

Proposed mitigation and
management measures

Appendix D Proposed mitigation and management measures

ID	Mitigation/management measure	Timing
Biodiversity		
B-1	Light coloured roof surfaces will be incorporated into the detailed design to limit the increase of local temperatures and subsequent effects on adjacent vegetation and fauna, where practicable.	Detailed design Construction Operation
B-2	The following measures will be included and implemented as part of the CEMP: • Protocols to monitor the vegetation condition and habitat values of any retained vegetation within the site • Plans showing areas to be cleared and areas to be protected, including exclusion zones and revegetation areas, where applicable • Protocols for pre-clearance inspections by a suitably qualified ecologist • Protocols for a suitably qualified ecologist or licensed handler to manage and handle unexpected or injured fauna Biosecurity measures including hygiene protocols, material inspections, and weeds monitoring programs and controls to minimise the potential spread of pests and pathogens.	Pre-construction Construction
B-3	To minimise loss of urban canopy cover, trees will be retained within the site where possible. A Tree Replacement Strategy will be included in the Project's Landscape Plan. Replacement tree planting will be at a ratio of 2:1 to offset losses and support long-term canopy restoration.	Pre-construction Construction Operation
B-4	All workers will receive an environmental induction to ensure awareness of ecological values and the protection measures to be implemented during the Project.	Pre-construction Construction
B-5	Physical barriers and markers will be installed to fence off or mark trees or other vegetation to be retained. Appropriate buffers around protected these trees will be established to avoid structural root zones.	Pre-construction Construction
B-6	Stockpiles will be restricted to designated areas in existing cleared areas to limit soil disturbance, the spread of weeds and clearing of vegetation.	Construction
Aboriginal heritage		
AH-1	An unexpected Aboriginal Heritage Finds Procedure and an onsite induction will be included in the Project's CEMP and be developed in consultation with the RAPs. The procedure will cover all Aboriginal objects (as defined by NPW Act), including human skeletal remains.	Pre-construction
AH-2	The Project's standard environmental site induction will include an Aboriginal heritage component outlining current protocols and responsibilities with respect to the management of Aboriginal cultural heritage within the Project Area (including the unexpected finds protocol) and provide an overview of the diagnostic features of potential Aboriginal sites and objects.	Construction

ID	Mitigation/management measure	Timing
AH-3	Should unanticipated Aboriginal archaeological material be encountered during construction of the Project, all work will cease in the vicinity of the find and an archaeologist contacted to assess the find and advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation will be undertaken, if required, prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.	Construction
AH-4	In the unlikely event that human remains are encountered during construction, all works will cease, and Heritage NSW and the police notified. Further assessment will be undertaken to determine if the remains were Aboriginal or non-Aboriginal.	Construction
Land use, soils and contamination		
LSC-1	A supplementary contamination assessment will be undertaken by a suitably experienced environmental consultant to address the data gaps within the Project Area, including an assessment of land contamination and acid sulfate soils risks.	Pre-construction
LSC-2	If unacceptable contamination risks are identified and/or the extent of ASS are inadequately understood, or data gaps remain following completion of the supplementary contamination assessment, a remedial action plan (RAP) will be prepared by a suitably experienced environmental consultant to address the identified unacceptable health exposure risks. Any RAP required will include a methodology for: - addressing data gaps requiring a further assessment (if required) - delineation of identified land contamination risks (if required) validation of management/remedial works (if required).	Pre-construction
LSC-3	A construction Soil and Water Management Plan (SWMP), including an Erosion and Sediment Control Plan (ESCP) will be prepared in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004) (the "Blue Book"). These will be prepared by a Certified Practitioner of Erosion and Sediment Control (CPESC) or an accredited soil scientist and implemented during construction. The SWMP will include erosion and sediment control measures to progressively stabilise and rehabilitate disturbed areas throughout construction. The ESCP will include a protocol for erosion control inspections to detect and mitigate impacts during construction.	Construction
LSC-4	An Acid Sulfate Soils Management Plan (ASSMP) will be prepared in accordance with the Acid Sulfate Soils Manual (NSW Environment and Heritage, 1998) to outline management and treatment methodologies to be implemented during soil disturbance works within the Project Area, to adequately manage identified ASS risks during construction.	Pre-construction Construction
LSC-5	If evidence of contamination is uncovered during construction, the following measures will be undertaken: - cessation of ground disturbance at the location and within the immediate vicinity - assessment of the site contamination and determination of appropriate remedial action.	Construction

ID	Mitigation/management measure	Timing
LSC-6	The Project's Construction Environmental Management Plan (CEMP) will include detailed Emergency Response Procedures in accordance with relevant regulation and policy, to ensure the safety and protection of personnel, the public and the environment. Emergency Response Procedures will also be included in an Operation Environmental Management Plan (OEMP) to be implemented during operation.	Construction Operation
LSC-7	Hazardous materials such as chemicals, fuels and oils will be handled and stored in accordance with relevant Australia Standards and the <i>Storing and Handling of Liquids: Environmental Protection – Participants Handbook</i> (DECC, 2007).	Construction Operation
LSC-8	Diesel will be stored on an impermeable surface in a bunded area (sized to contain 110% of the volume of the diesel stored) where a potential leak or spill would be contained and not enter the Project's stormwater management system.	Construction Operation
LSC-9	Transformers would be designed in accordance with the relevant Australian Standards that requires transformers to be located on impermeable surfaces with secondary containment. The secondary containment will consist of impermeable bunding with the capacity to contain 110% of the volume of oil within the transformer.	Detailed design Construction
LSC-10	Spill kits appropriate to products used on site will be readily available and stored in all vehicles onsite. As far as practicable, any spills of hazardous materials occurring onsite will be rendered safe (unable to contaminate further) by construction staff as soon as possible after the event, and the site environmental representative informed immediately. Emergency Response Procedures will be implemented, where required.	Construction Operation
Visual amenity		
VA-1	The removal of existing vegetation including trees that provide screening along the site boundaries will be minimised where possible.	Detailed design
VA-2	Non-reflective surface treatments will be applied to buildings and structures where practical to minimise reflection.	Detailed design
VA-3	The 'industrial' aesthetic of the Project will be reduced through the colour and/or finish of the noise walls. The noise walls will be coloured in mid-green, if possible, to recede the appearance of structures by blending them with vegetation. Where noise walls are public facing, artistic murals with positive messaging will be considered, where practical.	Detailed design
VA-4	A landscape plan will be developed prior to construction and include details of vegetation removal, planting areas and a planting list, which will be implemented during construction.	Pre-construction Construction
VA-5	The area of disturbance during construction will be limited where practical.	Construction
VA-6	Stockpiles, storage areas and construction equipment will be located in areas not visible to public viewpoints, where practical.	Construction
VA-7	All areas disturbed by construction and not required for operation of the Project will be rehabilitated.	Detailed design Construction
VA-8	Lighting will be designed and installed in accordance with AS4228-1197 – <i>Control of Obtrusive Effects of Outdoor Lighting</i> to minimise glare and light spillage.	Detailed design Operation

ID	Mitigation/management measure	Timing
Noise and vibration		
NV-1	Further noise modelling will be conducted based on the detailed design of the Project to confirm noise predictions, potential impacts and associated mitigation measures.	Detailed design
NV-2	A Construction Noise and Vibration Management Plan (CNVMP) would be prepared as part of the CEMP. The CNVMP will identify: • Potential significant noise and vibration generating activities associated with the activity • Noise and vibration sensitive receptors • Measures to be implemented during construction to minimise noise and vibration impacts, such as restrictions on working hours, site inductions and toolbox talks, and best practice noise and vibration controls for minimising noise • An Out of Hours Work procedure • Noise and vibration monitoring procedures Arrangements for consultation with affected neighbours and sensitive receptors, including notification and complaint handling procedures.	Pre-construction Construction
NV-3	All sensitive receptors likely to be affected by Project construction noise would be notified at least five days prior to commencement of works. The notification will include details of: • The nature of the construction work • Construction period and construction hours • Contact information for Project staff, both onsite and offsite Complaint and incident reporting and how to obtain further information.	Construction
NV-4	Construction will generally be carried out during the standard daytime working hours (as defined in the ICNG). Works generating high noise and/or vibration levels will be scheduled during less sensitive time periods.	Construction
NV-5	High noise generating work (>75 dB(A) LAeq at receptor) carried out during standard construction hours will be in continuous blocks of no more than three hours with a minimum respite period of at least one hour between each block, where the location of the work is likely to impact the same receptor.	Construction
NV-6	For deliveries to and from the Project Area: • Loading and unloading of materials/deliveries will occur in designated loading or unloading points. Where this is not feasible, loading and unloading will take place in areas away from sensitive receptors, as far as practicable • Construction work areas near sensitive receptors will be designed to minimise the need to reverse vehicles (and hence trigger reversing alarms).	Construction
NV-7	Non-tonal reversing beepers (or an equivalent mechanisms) will be fitted and used on all construction vehicles and mobile plant regularly used onsite.	Construction
NV-8	Permanent noise barriers will be installed around the Project to achieve compliance with the Project's operational noise trigger levels. These barriers will comply with the minimum dimensions outlined in the Noise and Vibration Impact Assessment (Appendix I).	Operation

ID	Mitigation/management measure	Timing
NV-9	During commissioning of the Project, operational noise compliance monitoring will be conducted in proximity to the BESS equipment and the receptors closest to the Project, to validate that its initial operation achieves an acceptable acoustic outcome in accordance with the Project trigger levels.	Operation
NV-10	The approach for managing operational noise in accordance with the Project trigger levels, including operational noise compliance monitoring, will be set out in an Operational Noise Management Plan.	Operation
Traffic and transport		
T-1	A Construction Traffic Management Plan (CTMP) will be prepared in accordance with the <i>Australian Standard 1742.3</i> and the <i>Work Health and Safety regulation 2017</i>. The CTMP would provide further information on the following: - Road transport volumes, distribution and vehicle types broken down into: - Hours and days of construction - Schedules for phasing/staging of the Project. - The origin, destination and routes for: - Employee and contractor light vehicles - Heavy vehicle traffic - OSOM vehicles. - A map of the primary haulage routes highlighting critical locations - Measures to ensure any proposed shuttle bus program to transport construction workers to/from the site can be practically achieved - Road maintenance contributions - A complaints resolution and disciplinary procedure - Local climatic conditions that may impact road safety throughout all project phases (e.g. fog, wet and significant dry, dusty weather), and appropriate driving responses - Traffic management controls to manage vehicle movements when B-doubles are scheduled to enter the site - Onsite mitigation measures targeted at safety and reducing the impact of onsite transport including: - Onsite speed restrictions - Appropriate dust suppression measures - Maintenance program for on-site access tracks to ensure safe access - Loading/unloading and material storage restrictions - Driver code of conduct. The CTMP will be prepared in consultation with Transport for NSW and Strathfield Council.	Pre-construction Construction
T-2	Pre-condition and post-condition surveys of the Access Road will be undertaken by the appointed contractor in consultation with Council. The Access Road will be monitored and maintained to ensure its continued safe use. Any faults attributable to construction of the Project will be rectified.	Pre-construction Post-construction
T-3	B-double and Class 1 permits will be obtained from the roads authority where required, prior to the commencement of journeys.	Prior to use of the routes

ID	Mitigation/management measure	Timing
T-4	All Project OSOM vehicle movements will be scheduled to avoid other OSOM vehicles within the surrounding area as far as practicable. Scheduling will be undertaken as part of the permit application.	Pre-construction Construction
T-5	Load limits on all bridges and structures along the proposed routes will be reviewed as part of the permit process for OSOM vehicles.	Pre-construction
T-6	Formal approval will be sought from the rail authority for any railway crossings on the proposed OSOM vehicle routes.	Pre-construction
T-7	Neighbouring properties will be consulted and notified regarding the timing of major deliveries, which may require additional traffic control and potentially disrupt access.	Pre-construction Construction
T-8	Specific warning signs advertising changes to traffic conditions will be implemented if deemed necessary on the construction access routes.	Construction
T-9	A Decommissioning Traffic Management Plan would be prepared prior to the decommissioning phase, in conjunction with the relevant roads authorities to ensure adequate road safety and road network operations are maintained.	Decommissioning
Surface water, groundwater and flooding		
SWGF-1	Detailed design will consider the management of stormwater quantity and quality, informed by water quality modelling, to ensure that the Project's stormwater drainage infrastructure manages floodwater appropriately and the requirements in the Strathfield Council Development Control Plan are met.	Detailed design
SWGF-2	A water quality treatment train will be included in the detailed design and implemented during construction to address the changes in pollutant loads generated by the increased impervious area within the Project Area. The stormwater treatment train will be appropriately sized to manage the four exceedances per year design storm.	Detailed design Construction
SWGF-3	Prior to construction, a Flood Emergency Response Plan (FERP) would be prepared. This would form part of the CEMP and would document how the risks to life and property within the Construction Footprint would be safely managed during construction. The FERP would be implemented during the construction period.	Pre-construction Construction
SWGF-4	A construction Soil and Water Management Plan (SWMP), including an Erosion and Sediment Control Plan (ESCP) will be prepared in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004). These will be prepared by a Certified Practitioner of Erosion and Sediment Control (CPESC) or an accredited soil scientist, and implemented during construction. The ESCP will include a protocol for erosion control inspections to detect and mitigate impacts during construction.	Construction
SWGF-5	Potable water storages will be managed and maintained in accordance with the <i>Australian Drinking Water Guidelines</i> (National Health and Medical Research Council, 2011).	Construction Operation

ID	Mitigation/management measure	Timing
SWGF-6	Operational controls relevant to water will be included in a site-specific Operational Environment Management Plan (OEMP). The following measures will be included: - Procedures to maintain drainage features within the Project Area, including open channels, culverts, water quality controls and all pits and outlets. These will be maintained in accordance with the manufacturer's specifications and kept free-draining. - Procedures to appropriately manage the storage of hazardous materials within the Project's Operational Footprint, as well as protocols and controls to ensure that any major spills are managed and contained.	Operation
Hazards and risk		
HR-1	Project to be designed and operated to all relevant Australian Standards and to one or more of the major international BESS Codes, e.g. NFPA 855.	Detailed design
HR-2	The Project will be certified under internationally recognised test methods such as the Underwriters Limited (UL) 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage System.	Detailed design
HR-3	A Fire Safety Study (FSS) will be prepared in accordance with <i>HIPAP No. 2 Fire Safety Study Guidelines</i> (DoP, 2011) in consultation with FRNSW and DPHI. Adherence to the requirements specified in the FRNSW Fire Safety Guideline Technical Information: Large-scale external lithium-ion battery energy storage systems - Fire safety study considerations (D22/107002) will be demonstrated. The FSS will determine minimum separation distances in accordance with the requirements in Codes and Standards and containment of water used onsite in the event of a fire, where required.	Pre-construction
HR-4	The Preliminary Hazard Analysis prepared for the Project (provided in Appendix L) will be re-evaluated based on detailed design to ensure that aspects considered (i.e. control measures, clearances between containerised battery units, separation distances) and associated mitigation measures are still valid.	Detailed design
HR-5	The level of lightning protection required will be determined in accordance with AS/NZS 1768-2021 Lightning protection and implemented during construction.	Detailed design Construction
HR-6	Measures to prevent leaks and secondary containment of a spill, including at the transformers, will be considered in detailed design.	Detailed design
HR-7	The existing redundant wooden light poles in the Project Area will be removed prior to commencement of construction to avoid potential damage to containerised battery units and initiation of a thermal runaway and fire.	Pre-construction
HR-8	An Emergency Response Plan and a Pollution Incident Response Management Plan will be developed and implemented for the Project. The plans will establish evacuation protocols, appropriate response to gas and pressure release, bunding requirements for transformer oils, and protocols for major spills.	Detailed design Construction Operation
HR-9	Warning signs will be installed and maintained as per Code and Standards requirements, and will include signage for dangerous goods, electrical hazards, arc flash and entry procedures.	Detailed design Construction

ID	Mitigation/management measure	Timing
HR-10	Installation and maintenance will be conducted by trained personnel, and induction of personnel will take place prior to work commencing.	Construction Operation
HR-11	Work will be conducted in accordance with recognised major Codes of Practice, including procedures, using Job Safety Analysis, Safe Work Method Statements, permits to work and isolation, control of modifications, inspection and audit regimes.	Construction
HR-12	Controls will be included in the CEMP/OEMP and implemented to manage any potentially hazardous liquid material and dangerous goods in accordance with Australian Standards requirements, including AS 1940 for flammable liquids control.	Construction Operation
HR-13	Preventative maintenance practices will be put in place, including maintenance schedules and calibration of equipment, instruments and sensors, asset protection zone, and vegetation management within the operational footprint, as required. Condition monitoring will be conducted.	Operation
HR-14	Only restricted personnel allowed onsite and only certified persons to open door and enter containerised battery units.	Operation
Social and economic		
SE-1	Consultation will be carried out with Strathfield Council, local residents, and other key stakeholders to coordinate works to minimise impacts, manage cumulative impacts and enhance potential benefits.	Construction
SE-2	Future consultation will be undertaken that will focus on key stakeholder and community concerns and ensuring that misinformation is addressed when encountered. Communication channels and materials will be regularly updated and regularly monitored for stakeholder inquiries.	Construction
SE-3	Residents and local businesses will be notified in advance of any work that may affect amenity (e.g. traffic or noise disruptions), enabling them to plan accordingly. If work is conducted outside standard construction hours, residents will receive sufficient notice to minimise disruption.	Construction
SE-4	Translated versions of documents will be provided upon request to ensure inclusive engagement practices.	Construction Operation
SE-5	The Project will seek to employ a local workforce, where feasible, including prioritising local hiring, engaging employment agencies and tracking the number of local hires.	Construction
Non Aboriginal heritage		
NAH-1	A procedure will be included in the CEMP to guide the response to the discovery of any previously unknown items of heritage significance (being items of State heritage significance and/or local heritage significance) during construction. This will include guidelines on regulatory consultation, and physical management, include collection and salvage, as relevant.	Construction

ID	Mitigation/management measure	Timing
Waste		
W-1	A Waste Management Plan will be developed and implemented as part of the CEMP and would: - Identify requirements consistent with the waste hierarchy and circular economy initiatives - Include relevant measures from the <i>National Waste Policy: Less Waste, More Resources</i> (Department of Agriculture, Water and the Environment, 2018) - Provide a framework to target resource efficiency through the design and construction phases - Provide consistent clear direction on waste and resource handling, storage, stockpiling, use and reuse management measures - Set out processes for disposal, including onsite transfer, management, and the necessary associated approvals/permits - Describe the process for regularly removing waste from the Project Area to avoid issues associated with odour, visual amenity, and the attraction of animal/pest species - Outline procedures for waste generated to be segregated at source and suitably stored in designated waste management areas within the Project Area Include material tracking measures to track waste and recyclables generated from the Project and removed from the Project Area.	Construction Operation
W-2	Onsite waste management will include the appropriate separation and storage of waste streams to enable recycling and reuse wherever possible to reduce associated environmental impacts and impact to the capacity of local waste management facilities.	Construction
W-3	All waste will be assessed, classified, managed, and disposed of in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014) and other relevant legislation.	Construction Operation Decommissioning
W-4	Hazardous waste (e.g. waste oil, paint, septic wastewater, asbestos, etc) will be collected by a licenced waste contractor for disposal at an appropriately licenced facility.	Construction Operation
W-5	All generated and regulated waste records will be retained for waste tracking purposes.	Construction
Air quality		
AQ-1	The CEMP will include air quality management measures to minimise visible dust moving offsite including: - Modification of working practices (location and scale of activities which generate dust emissions) during periods of adverse weather (hot, dry, and windy conditions) - Minimising exposed surfaces, such as stockpiles and cleared areas. Stockpiles will be partially covered, where practicable - Minimising the handling of spoil when excavating and loading vehicles - During dry weather, suppressing dust on stockpiles and unsealed or exposed area using methods such as water trucks/hoses, sprinklers, temporary stabilisation methods, soil binders or other appropriate practices - Burning of material onsite will be prohibited - Visual monitoring of air quality to verify the effectiveness of controls and enable early intervention	Construction

ID	Mitigation/management measure	Timing
	- Covering vehicles loads when transporting materials and equipment - Using wheel washes/shaker grids to minimise tracking of dirt offsite onto surrounding roads, as appropriate - Maintaining plant and equipment in good condition and in accordance with manufacturers' specifications - Minimising idling by turning off plant and machinery when not in use.	
Embodied carbon emissions		
EC-1	Reduction of embodied emissions by selecting lower-carbon materials such as concrete mixes with reduced Portland cement content and optimising steel design by selecting higher strength per mass steel components.	Design Construction

Appendix E

Biodiversity Development Assessment Report

Appendix F

Aboriginal Cultural Heritage Assessment Report

Appendix G

Preliminary and Detailed Site Investigation Report

Appendix H

Visual Impact Assessment

Appendix I

Noise and Vibration Impact Assessment

Appendix J

Traffic Impact Assessment

Appendix K

Water Impact Assessment

Appendix L

Preliminary Hazard Analysis

Appendix M

Social and Economic Impact Assessment

Appendix N

Embodied Carbon Calculations and Technical Note

Appendix O

Estimated Development Cost