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APPENDIX E

Mitigation Measures

1.0 Introduction

This appendix provides a consolidated summary of the commitments made to manage, mitigate, and monitor impacts during the construction and operation of the Project as proposed within this EIS.

2.0 Management Measures

A summary of the mitigation, management, and monitoring measures proposed for the Project is presented below in **Table 1**.

Table 1: Consolidated Summary of Proposed Environmental Management and Monitoring Measures

Impact	Mitigation Measures and Monitoring Requirements
Noise and Vibration	
NV1	Project Planning: • Less noise and vibration intensive construction techniques for rock breaking and concrete sawing will be used. • Works will be completed during standard daytime construction hours detailed in Section 3.2.3 of the EIS. • Truck routes to site will be in accordance with the approved Construction Traffic Management Plan (CTMP).
NV2	• Scheduling: o High-noise or vibration generating works will be carried out in continuous blocks no longer than three hours in length, with a minimum respite period of one hour between each block. 'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing these works. o High-noise or vibration generating works conducted outside standard construction hours (where approved) will be limited to no more than two consecutive nights except where there is a Duration Respite (see below). For night-works these periods will be separated by no less than one week, and limited to six nights per month. Where possible, high-noise and vibration generating works will be completed before 11 pm. o Notification detailing work activities, dates and hours, impacts and mitigation measures, indication of work schedule over the night time period, any operational noise benefits from the works (where applicable) and contact telephone numbers will be undertaken in accordance with the CCS.
NV3	• Site Layout: o Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography. o Equipment that is noisy will be started away from sensitive receivers

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NV4	• Training ○ Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.

NV5	• Plant and Equipment Source Mitigation:
	  ○ All construction plant and equipment used on Site must be, in addition to other requirements:
	  • regularly inspected and maintained in an efficient condition;
	  • operated in a proper and efficient manner.
	  ○ Where practicable, tonal reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment in use (subject to occupational health and safety requirements).
	  ○ Noisy equipment will be sited behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise.
	  ○ Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.
	  ○ Dropping materials from a height will be avoided.
	  ○ Loading and unloading will be carried out away from noise sensitive areas, where practicable.
	  ○ Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.
	  ○ Truck movements will be kept to a minimum, ie trucks are fully loaded on each trip.

NV6	• Community Consultation:
	  ○ Notifications will be provided to the affected community where high impacts are anticipated or where out of hours works are required. Notification will be a minimum of 24 hours.
	  ○ Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts.

NV7	• Monitoring: ○ Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.

NV8	• Vibration:
	  ○ Vibratory compactors will not be used closer than 30 m from residential and educational buildings unless vibration monitoring confirms compliance with the vibration criteria.
	  ○ Where there is a risk that vibration activities may cause damage to nearby structures and buildings or if these are located within the minimum working distance from the construction activity, a building condition inspection will be undertaken at least three weeks before the construction activity commences.
	  ○ The Building Condition Inspection Reports will contain photographs of the inspected properties and include details of the inspectors' qualification and expertise, together with a list of any identified defects, where relevant. The reports will be submitted to the owner before the commencement of any vibration intensive activities.
	  ○ A copy of the Building Condition Inspection Reports and CNVMP will be submitted to the Proponent at least 10 working days prior to commencement of piling, excavation by hammering or ripping, compaction, demolition operations, or any activity which may cause damage through vibration.

Biodiversity	
BIO1	Tree protection - existing paddock trees and trees adjacent to the site entrance will be subject to standard tree protection measures for construction sites, consistent with AS 4970; and

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BIO2	Erosion and sedimentation control – standard measures will be installed during construction, consistent with the Blue Book (Landcom 2004)
BIO3	Pruning of trees required to facilitate the transportation of the transformer shall be undertaken in accordance with the advice of a suitably qualified Arborist. All tree pruning is to be undertaken in accordance with the Australian Standard AS 4373-2007 Pruning of Amenity Trees.
Aboriginal Heritage	
ACH1	In the event that unexpected finds occur during any activity within the study area, all works in the vicinity will cease immediately. The find will be left in place and protected from harm. Depending on the nature of the find, the following processes will be followed: • If, while undertaking the activity, an Aboriginal object is identified, under Section 89A of the NPW Act Heritage NSW will be notified as soon as possible; and / or • If human skeletal remains are encountered, all work will cease immediately, NSW Police will be contacted, and they will then notify the Coroner's Office. Following this, if the remains are believed to be of Aboriginal origin, Aboriginal stakeholders and Heritage NSW will be notified.
ACH2	Evans Plains AS1 (AHIMS 44-3-0282) and Evans Plains IF1 (AHIMS 44-3-0283) will be reburied in proximity to their original locations (outside of the construction impact) in consultation with Aboriginal stakeholders. The new site location will be added to site plans and registered as a new site on AHIMS. During construction this site will be demarcated for the duration of the works and listed as a no-go-zone;
ACH3	Consultation with Aboriginal stakeholders will continue area throughout the duration of the Project via a project update sent to Registered Aboriginal Parties at least every 6 months. Aboriginal stakeholders will continue to be informed about management of Aboriginal cultural heritage within the project boundary throughout the duration of the Project.
ACH4	A copy of the ACHA (Austral Archaeology, 2023) will be forwarded to all Aboriginal stakeholder groups who have registered an interest in the Project.
Traffic and Access	
TA1	Prior to the commencement of construction, an OSOM material route study and a Construction Traffic Management Plan (CTMP) or equivalent document will be prepared to provide traffic and access information such as heavy vehicle routes, contact details of the contractor, site speed limits, etc;
TA2	The Project site access location will be designed with a Basic Left Turn (BAL) treatment as per Austroads Guidelines prior to the commencement of construction and movement of heavy and light vehicles associated with the Project.
Visual Amenity	
VA1	A visual management plan (VMP) is proposed to be prepared prior to works which will document a range of mitigation measures. If possible, the intention is to colour all visible infrastructure elements to blend with its surrounding context by colour-matching with natural elements. If required, further consideration of landscaping and screening will be applied
VA2	Reduce the presence of the infrastructure by reducing its visibility within an elevated location such as locating behind existing terrain by painting or cladding all visible infrastructure elements to blend with its surrounding context by colour-matching with natural elements;
VA3	It is recommended to choose colours for all visible infrastructure elements that will allow the infrastructure to blend with its surrounding context by colour matching with natural elements;
VA4	If required, utilise species from the endemic Central Tableland Clay Apple Box Grassy Forest (PCT3366), plant around the existing stand of trees above the site and establishing new stands of trees below the site (where practical to do so and at distances and spacing to meet APZ fire safety requirements in accordance with Appendix 4 of Planning for Bush Fire Protection 2019 (PBP 2019)) to create vegetative buffering that is in character with its surroundings.

Impact	Mitigation Measures and Monitoring Requirements
Water Quality	
WQ1	Preparation of a CEMP during the detailed design phase of the Project that will outline the environmental measures, monitoring and reporting required to ensure satisfactory environmental performance and result in the potential environmental impact being considered very low and manageable. Minimum requirements for inclusion within the CEMP include: • Water quality monitoring quality in the event of a spill, unplanned discharge, or other incident during the construction phase will be carried out as described below for the OEMP; • An ESCP for construction activities that is consistent with the measures outlined in this EIS;
WQ2	Preparation of an OEMP during the detailed design phase of the Project that will outline the environmental measures, monitoring and reporting required to ensure satisfactory environmental performance. Minimum requirements for inclusion within the OEMP include: • Development of a suitable strategy for monitoring and reporting on water quality in the event of a spill, unplanned discharge, or other incident; • A procedure for erosion and sediment controls for ground disturbance activities; • Requirements for storage and use of hydrocarbons and chemicals, and a Spill Management Plan;
WQ3	Water monitoring to be undertaken in the event of a spill, unplanned site discharge or other incident that has potential to impact receiving water quality, should include the following response actions: • A water sample collected at the site of the spill, unplanned site discharge, or other incident and upstream and downstream of the site, and submitted for laboratory analysis. The analytes to assess determined by a suitably qualified third party specialist; • Photos of the incident captured and the incident documented; and • If necessary, a suitably qualified third party specialist engaged to investigate potential impacts and accordingly advise of recommended preventative or reparative measures as required.
WQ4	Erosion and sediment controls: • Limiting the area and time of disturbed areas. • Gentle grades, and a combination of progressive revegetation and surface cover across the site once disturbed. • Sediment sumps (including appropriate drainage). • Clean water diversions and sediment fencing. • Erosion Sediment Control Plan (ESCP).
WQ5	Spillage of hydrocarbons, chemicals, and fuel: • Regular inspection of the battery systems, the substation and transformers which will identify any issues with leakages. • Storage of chemicals in accordance with Australian Standards. • Storage of hydrocarbon fuels within bunded storage areas. • Bunding of substations, transformers or other infrastructure that utilise oil. • Minimise usage of herbicides and avoid spraying when rain is forecast. • A Spill Management Plan, including emergency response and EPA notification procedures.
WQ6	Monitoring, licensing, and reporting during construction and operation: • Documentation of incidents or accidents impacting water quality. • Water quality compliance with SEARs. • Construction Environmental Management Plan (CEMP). • Operational Environmental Management Plan (OEMP). • Regular inspection of the battery systems, the substation and transformers which will identify any issues with leakages. • A Spill Management Plan, including emergency response and EPA notification procedures.

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WQ7	Traffic, dust generation: • Speed limit of 40 km/hr on site. • Application of erosion-resistant material to road surfaces as required. • Dust suppression via water trucks as required
WQ8	Closure and decommissioning: • A safe, stable, and non-polluting site. • Decommissioned and removed battery systems. • Restoring land use capability to its pre-existing use. • Ensure public safety in the community at all times. • ESCP. • Temporary ground cover and revegetation after removal of BESS.
WQ9	Wastewater disposal: • Wastewater during construction will be captured and appropriately removed from site/disposed.
WQ10	Water quality: • Water quality compliance with SEARs. • CEMP including an ESCP for construction activities. • OEMP to identify requirements for water quality monitoring and reporting in the event of a spill, unplanned site discharge, or other incident. • Progressive rehabilitation of surfaces as installation and removal of batteries proceeds across the site.
Air Quality	
AQ1	Exposed surfaces will be minimised and effectively managed with dust and sediment suppression systems (including trucks) throughout construction to reduce the volume of potential dust emission sources.
AQ2	Staging of works will be undertaken to reduce area of exposed soil during bulk earthworks including trenching.
AQ3	Activities that generate dust will be avoided or modified during high wind periods.
AQ4	Construction plant and equipment will be maintained in good working condition to limit impacts on air quality, including being fitted with pollution reduction devices where practicable and switched off when not in use.
Social	
S1	Community Consultation Strategy: • A Community Consultation Strategy (CCS) should be prepared prior to construction commencing to enable information exchange with the community and identify with them the Project specific mitigation and management strategies that will be in place to minimise the potential for negative impacts on the community in and around the construction site. The CCS will also detail processes and communication strategies to ensure that key stakeholders are advised and consulted about major changes and disruptions, and the process for providing feedback and further consultation during the Project. • Continued consultation with relevant stakeholders should be undertaken as per the CCS during operation of the Project.
S2	Construction Environment Management Plan (CEMP) The Project CEMP should include a complaints handling procedure for identifying and responding to community issues related to construction impacts. Mitigation measures developed by technical studies prepared for this EIS should also be incorporated into the CEMP, in addition to the following:

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	• A Visual Management Plan (VMP) should be prepared documenting actions to ensure infrastructure elements are colour-matched with natural elements and vegetative screening is maintained; and • An Engineering Operation and Maintenance Management Plan should be prepared for the facility to include all measures aimed at managing hazards and risks, including specific targeted measures detailed in a Project Emergency Response Plan. • The CEMP should also provide protocols that will specifically ensure: o Evans Plains Road is used by heavy vehicles for access to and from the site; o Noise from construction vehicles and workers is kept to a minimum while arriving and leaving work, especially outside of agreed construction times; and o Carpooling is encouraged where possible.
Economic	
ECON1	Employment of regional residents where they have the required skills and experience and can demonstrate a cultural fit with the organisation will be considered.
ECON2	Representatives will participate, as appropriate, in business group meetings, events or programs in the regional community.
ECON3	Locally sourcing non-labour inputs to production where local producers can be cost and quality competitive will be considered.
ECON4	Provision of community grants through various initiatives and programs within the local community, including the education, arts, sporting, and culture sectors will occur annually throughout the duration of the Project.
Waste Management	
WM1	A Waste And Resources Environmental Management Plan (WREMP) and Operational Environmental Management Plan (OEMP) would be prepared before main construction works and operation of the development commenced.
WM2	The WREMP and OEMP will collate measures to manage waste and avoid, mitigate, and manage impacts to human health and the environment. The plans will define processes to track waste quantities, roles and procedures for the handling of waste at the project site, and processes for the continual improvement of project waste management.
WM3	The WREMP and OEMP will collate measures to manage resource consumption and waste generation and would be developed in consultation with the relevant authorities including the NSW EPA. The measures contained in the waste management plan will reflect the waste management hierarchy.
WM4	Resue and recycling: • Reuse of waste streams including sand, soil, concrete and fittings; • Recycling of waste streams including plasterboard, plastics and timber; • Contract terms with suppliers that specify recyclable content and returnable packaging; and • Co-operation in stewardship programs for compatible waste streams including pallets expansion of the current collection with additional waste streams such as plastic film derived from packaging.
WM5	Waster recovery • Measures to recover and treat waste will include recovery of compatible waste including oils, solvents, plasterboard, plastics, timber, food and co-mingled containers.
WM6	Waste storage and disposal: • A central waste area would be established during construction, at which waste and recyclables would be stored. Some materials would be stored in stockpiles while others would be stored in

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	bins. Stockpiles and bins would be appropriately labelled, managed and monitored. Waste and recyclables would be collected by a licensed contractor for offsite recycling; and • Residual waste that cannot be avoided, reduced, reused, recycle, recovered or treated will be collected by a licensed contractor for disposal at a licensed facility.
WM7	Waste misclassification resulting in missed opportunities to maximise resource recovery and recycling: • All waste would be assessed, classified, managed and disposed of if reuse is not possible, in accordance with NSW EPA's Waste Classification Guidelines 2014 and the POEO Act.
WM8	Waste spilled while bins are being moved: • Use appropriate bins with close-fitting lids, regular maintenance, and cleaning of bins, moving bins outside of peak hours wherever possible, proper and safe movement of bins.
WM9	Odour issues related to general and food waste stored on site: • Use of appropriate bins with close-fitting lids, bins washed and maintained, avoid overfilling of bins, regular collection of bins, waste storage area located away from public areas and kept clean and tidy; and • Waste and recycling storage areas would be designed to be in line with relevant NSW guidelines.
WM10	Attraction of vermin and pest in the central waste storage area to general waste bins: • Use of appropriate bins with close-fitting lids, bins washed and maintained, avoid overfilling of bins, regular collection of bins, waste storage area kept clean and tidy; and • Implementation of Vermin Management Plan if required.
WM11	Fire hazard: • Bins kept in secure area or cage. Fire extinguisher and other protection measures provided.
WM12	Vandalism: • Bins kept in secure area or cage. Compactors secured with only authorise people allowed access.
WM13	Generation of asbestos waste or other hazardous waste: • Hazardous wastes or asbestos identified during construction and operation will be managed lawfully.
WM14	Land, surface, and groundwater contamination, transportation, and disposal of solid wastes: • A WREMP contained in the OEMP would include methods for managing wastes.
WM15	Noise impacts associated with waste collection, movement, and transport: • Provision of adequate storage onsite to minimise traffic movements. • Scheduling waste and residues collection at approved hours.
WM16	Visual amenity impacts resulting from waste storage and movements at the project site (e.g., bins storage, collection, and transport): • Ensuring dedicated waste management areas that would be enclosed within the site boundary
WM17	Offsite air, land, and water pollution due to windblown wastes following inappropriate storage, handling, and transportation of waste, including human health exposure risk: • Waste would be separately collected and transported by licenced waste contractors and disposed of at appropriately licensed disposal or recycling facilities.
Hazard and Risk	
HCH1	An Asset Protection Zone (APZ) will be established to creates a total separation from the nearest piece of equipment on the site to the nearest vegetation of the following: 22 m to the east (upslope

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	vegetation), 25 m to the north and south (gentle down slope vegetation), and 29 m to the west (slightly greater downslope vegetation).
HCH2	The APZ is located wholly within the broader Project site, is situated on flat cleared ground, and will provide adequate total site access for firefighting personnel and equipment. A management regime will be established following construction to ensure the ongoing integrity of the APZ throughout the duration of the project.
HCH3	The Project will comply with the relevant construction requirements of AS3959:2018 as a BAL-12.5 development.
HCH4	Project access will be established and maintained to meet Rural Fire Service (RFS) requirements.
HCH5	Road carrying capacity, turning circles, etc, will be designed for fully loaded firefighting vehicles of up to 23 tonnes.
HCH6	Where practical and feasible, a 'back-up' secondary access road to a facility will be considered.
HCH7	A minimum 20,000 litre (L) dedicated water supply for firefighting purposes will be established prior to the commencement of construction.
HCH8	A Bushfire Management Plan (BMP) will be prepared for each stage of the project and identify measures to prevent any vegetation from taking hold within the proposed APZ zone around the site, limiting the height of pasture species surrounding the site to less than 1 m. The BMP for the facility will also include measures for the management of bushfire risk initiators across the construction, operation, and decommissioning phases of the Project inclusive of storage of fuels/chemicals, lightning strikes, ground cover within the Project site, and ignition of electrical equipment.
HCH9	The detailed design of the facility will be developed in accordance with Energy Networks Association (ENA) ENA Policy Statement on Electric and Magnetic Fields.
HCH10	Site security fencing will be maintained through the lifetime of the Project.
HCH11	Use of fully bunded oil storage for transformers in accordance with AS1940-2017.
HCH12	An Engineering Operation and Maintenance Management Plan will be prepared for the facility to address electrical hazards.
HCH13	A project Emergency Response Plan will be prepared and include description of: • warning signs throughout the facility, based on the level of danger posed by the relevant voltages and current involved, especially focussed on first responders in an emergency situation, e.g. firefighters attending the site, hazmat attendees, etc; • Instructions available to all authorised personnel (including firefighters, etc) regarding the level of personal protective clothing required to be worn, respiratory protection required, minimum evacuation zone distances, etc; • Instructions covering safe shut-down and isolation procedures for all equipment to be readily available for emergency service personnel as well as on-site staff; • Security fencing around individual equipment items as required (based on risk principles) and the entire site itself, properly maintained throughout the life of the Project, all with adequate hazard warning signs; and • A safety protocol for the site which prevents untrained individuals from inspecting, testing, or repairing any aspect of the facility's electrical equipment and systems.
European History	
EH1	If European archaeological relics are found during the works, all works in the immediate vicinity will cease immediately and Heritage NSW will be notified. A qualified archaeologist will be contacted to assess the situation and consult with Heritage NSW regarding the most appropriate course of action; and