# 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 at Table 1.

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

| Impact | Mitigation Measures and Monitoring Requirements |
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| **Biodiversity** | |
| ECO1 | A Flora and Fauna Management Plan (FFMP) will be prepared prior to the commencement of any clearing or substantive site works. The FFMP will incorporate the recommendations of the BDAR, including:<br>• Whereby Superb Parrot breeding is identified within the development footprint, clearing should be avoided during breeding season (i.e Sept-Jan). An ecologist must complete thorough pre-clearance checks, including the inspection of hollow-bearing trees prior to felling. Further details to be included in FMMP.<br>• Instigating clearing protocols, including pre-clearing surveys, daily surveys and staged clearing, and using a trained ecologist or licensed wildlife handler during clearing events.<br>• Relocating habitat features (e.g. fallen timber, hollow logs) from the development or clearing site, to adjacent retained vegetation.<br>• Hollow-bearing trees to be removed one at a time, with a fauna spotter-catcher or suitably qualified ecologist on site during clearing works to complete daily wildlife capture as required<br>• Using light shields, or daily/seasonal timing of construction and operational activities to reduce impacts of light spill.<br>• Erecting temporary fencing of the construction area, and along the proposed access track to temporarily restrict movement into active work site from adjacent intact vegetation. |

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| | • Washing all machinery down prior to site entry and exit.<br>• Training staff and conducting site briefings to communicate environmental features to be protected and measures to be implemented.<br>• Providing for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on, or adjacent to, the development or clearing site.<br>• Using sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment. |
| **Aboriginal Heritage** | |
| ACH1 | Prior to the commencement of construction works, the further investigations recommended by the ACHAR will be undertaken. |
| ACH2 | Prior to the commencement of construction works, an Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared and submitted to the DPHI for approval. The ACHMP should include:<br>• Roles and responsibilities for undertaking actions for 'In situ' management of potential scarred trees, SCT1, SCT2 and SCT3 with conservation and management recommendations prepared by an arborist.<br>• Include protocols for continued consultation with RAPs throughout the remainder of the project, as outlined in the ACHAR.<br>• Detail descriptions and methods to avoid any inadvertent impacts to known Aboriginal objects and/or sites and areas of archaeological potential outside of the construction activities (for example, potential scarred tree, SCT2 and Molong Broken Hammerstone). The methods will address the matters outlined in the ACHAR.<br>• Procedures for undertaking further Aboriginal cultural heritage assessment, investigation and mitigation of any areas of the project that have changed following completion of the ACHA and/or during the final design and construction phases of the project;<br>• Processes for reviewing, monitoring and updating the ACHMP as the project progresses, including incorporating any mitigation measures identified in the ACHA being prepared and in accordance with the requirements of any future project approval conditions. |
| ACH3 | The Construction Environment Management Plan (CEMP), shall incorporate key elements of the ACHMP and incorporate Cultural Awareness Training and Heritage Induction that includes:<br>• An Unexpected Finds Procedure for Aboriginal Objects.<br>• Unexpected Human Remains Procedure<br>• A briefing on the possible identification of Aboriginal sites and objects during construction, including mapped heritage exclusion zones and briefed on their responsibility according to the provisions of the NPW Act 1974, in the event that unknown objects are uncovered during proposed works. |

| Impact | Mitigation Measures and Monitoring Requirements |
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| | • The contact phone numbers of Heritage NSW regional archaeologist, EnviroLine 131 555, and Orange LALC.<br>• The relevant contact phone number of the Environmental Officer / Site Supervisor responsible for this project in case unknown objects are uncovered during excavation.<br>• The penalties for moving Aboriginal objects needs to be made clear and given due consideration.<br>• An outline of the types of unexpected heritage objects and their legal protection<br>• Registered Aboriginal Parties should be provided the opportunity to input into or deliver cultural awareness training and heritage inductions by the general works contractor as noted earlier. |
| ACH4 | Copies of the ACHMP, updated site cards and any SSD consent conditions shall be provided to other land users of the project area (e.g. Transgrid). |
| **Historic Heritage** | |
| HER1 | In the unlikely event of an unanticipated heritage object (relic) being identified during the construction of the BESS, all works must cease, and an appropriately qualified heritage consultant should be engaged to assess the find and provide management advice for the relic. |
| **Land Use Conflict** | |
| LUC1 | The following management plans will be prepared, and will provide documented requirements for performance measures and monitoring during each stage of the project. Performance will also be monitored through the outcomes of consultation during all phases of the project. Monitoring community feedback and concerns are key to assessing the performance of management strategies:<br>• Construction Environmental Management Plan (CEMP).<br>• Operational Environmental Management Plan (OEMP).<br>• Decommissioning Management Plan (DMP).<br>• Any other management plan specified in the EIS or conditions of consent. |
| **Landscape and Visual** | |
| VIS1 | The noise wall located closest to Back Saleyards Road will have a recessive and low-reflective green finish applied to the outer surface. |
| VIS2 | AS/NZS 4282-2023 Control of the Obtrusive Effect of Outdoor Lighting sets out general principles that should be applied when designing outdoor light to minimise any adverse effect of the light installation. The following principles will be applied when designing the site lighting: |

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| | • Direct lights downward as much as possible.<br>• Use luminaires that are aimed to minimise light spill, e.g. full cut off luminaires where no light is emitted above the horizontal plane.<br>• Avoid wasted energy and increased light pollution from over-lighting.<br>• Wherever possible use floodlights with asymmetric beams that permit the front glazing to be kept at or near parallel to the surface being lit.<br>• Lighting should be aimed inward the middle of the site where possible and away from the site boundaries. |
| **Noise and Vibration** | |
| NV1 | A Construction Noise and Vibration Management Plan (CNVMP) will be included in the CEMP and will include the measures outlined in Appendix F of the NVIA. |
| NV2 | The noise impacts from all noise-generating plant items would be reviewed during detailed design stage to confirm unit selections and any mitigation requirements. |
| NV3 | The following standard construction hours are proposed for the Project:<br>• Monday to Friday – 7am to 6pm.<br>• Saturday – 8am to 1pm.<br>• Sunday and Public Holidays – No works to be undertaken. |
| NV4 | No works are proposed to be undertaken outside of the standard construction hours. In the event this is required, out of hours (OOH) approval would be sought, and all works would be undertaken in accordance with the appropriate OOH protocols and approval processes. |
| NV5 | Construction of 4-5 m noise walls shall be implemented to mitigate noise from battery and inverter units. The final noise walls heights / locations will be confirmed during the detailed design stage. |
| **Traffic** | |
| TR1 | A Construction Traffic Management Plan (CTMP) will be developed in accordance with the recommendations of the TIA, prior to the substantial commencement of construction activities. The CTMP will outline measures including:<br>• Preparation and execution of Traffic Guidance Schemes (TGS). TGS plans will be implemented, managing the access and the general public's movement around construction activities. They should identify all reasonably foreseeable hazards, assess them, and |

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| | manage them as best possible by eliminating or minimising the risks. The TGSs shall be monitored and updated accordingly throughout the Project.<br>• Management of transport from workforce accommodation, including the construction program, accommodation availability and the vehicle fleet that will be used. The majority of the workforce must be transported by shuttle buses that are similar to a Toyota Coaster.<br>• Drivers Code of Conduct, consistent with the measures outlined in the TIA.<br>• All vehicles are to park and load/ unload within the site using the designated parking and loading areas where possible. Vehicles are not parked or loading/ unloading within the public road reserve.<br>• Consistent with the OSOM material transportation requirements, pilot vehicles and escorts must be utilised for non-standard loads.<br>• Temporary signage must be positioned at critical intersections, including the intersection of Euchareena Road and Back Saleyards Road, to inform construction vehicle drivers and to warn the general public about the construction activities in the vicinity.<br>• Vehicles travelling along Euchareena Road and Back Saleyards Road must abide by any reduced speed limits associated with construction works.<br>• Residents of the area must be informed prior to the commencement of construction works.<br>• Heavy vehicles must abide any posted speed limits and vehicles are to be turned off when not in use.<br>• Identify appropriate mitigation measures and list strategies for dust management.<br>• A risk assessment is intended to identify hazards and risks associated with construction activities.<br>• A Contingency Plan, in consultation with Stor. |
| TR2 | To ensure the safe and coordinated movement of vehicles to, on and around the site, a Traffic Management Communications Strategy shall be established by the Contractor in accordance with the requirements of Stor. This should consider the scheduling and coordination of deliveries, incident reporting, regular meetings and periodic evaluations of the strategy to ensure relevance and alignment with current standards/ practices. |
| TR3 | The section of Back Saleyards Road from the access driveway to the Euchareena Road intersection be monitored over the course of the construction phase, to ensure that the maintenance of the road allows the ongoing accommodation of bi-directional movements of the anticipated construction vehicle fleet. As part of the CTMP, consultation will occur with Cabonne Council on a maintenance plan that can be facilitated and paid for by the Proponent |
| TR4 | An application will be made to NHVR to obtain approvals to operate Performance Based Standards (PBS) Level 1 design vehicles along the last mile sections (Strathmore Lane, Belgravia Road, Euchareena Road and Back Saleyards Road), if no existing approvals in place. |



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| TR5 | Dilapidation surveys will be undertaken to assess the condition of all the road sections, along with intersections along the nominated transportation route, to identify changes prior to and following the proposed construction works |
| TR6 | The proposed use of the local road network for the heavy vehicle route (Strathmore Lane off Mitchell Highway, and then Belgravia Road, Euchareena Road and Back Saleyards Road) shall be consistent with Austroads Guidelines. |
| **Hydrology** | |
| GRD1 | CEMP and OEMP shall include measures to prevent chemical spills from reaching the groundwater system in the unlikely event of leakage. Mitigation measures include:<br>• Bunded storage of storage of bulk fuel (and any other chemicals) used for plant or stored on site<br>• Regular maintenance and inspection of vehicles used during construction. Provide a dedicated surface for vehicle parking.<br>• Development of environmental management plans including a emergency response plan to deal with spillages in unlined areas. This would include keeping spill kits on site and ensuring staff are trained in their use and spill response as detailed in the environmental management plan.<br>• Collecting waste liquids from wash-down facilities in lined on-ground small-scale basins or impermeable containers to prevent contaminated runoff from leaching into groundwater.<br>• Design bund walls/intercept drains to prevent contaminated runoff from wash-down facilities reaching unlined areas.<br>• External hardstand areas should be graded or designed to manage surface water runoff in a controlled manner. Runoff from these areas should be directed via swales to the proposed downstream retention basin. |
| GRD2 | A firewater management plan will be prepared in consultation with Fire and Rescue NSW (FRNSW) and RFS and included in the site's Emergency Management Plan(s), detailing procedures for containment, collection, and appropriate disposal of contaminated runoff. Mitigation measures will be confirmed during detailed design stage but may include permanent or emergency bunding of external hardstand areas, installation of interception drains, and the use of collection basins or tanks to prevent uncontrolled migration of contaminants. |
| GRD3 | During the decommission phase, the following will be undertaken:<br>• Adhere to protocols for the safe disposal of batteries and waste liquids remaining from the operation of the BESS facility.<br>• Collect soil samples in areas of potential contamination to validate that the site is clean. If the concrete slab is to be removed, then soil samples would also be collected once the slab is removed. In the event that significant soil contamination is identified, a |

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| | remediation strategy would need to be developed which may include groundwater monitoring to determine the presence and extent of any groundwater contamination.<br>• Where significant concrete installations were used, validation sampling of soils should be carried out to confirm no impacts to soil quality or potential for leachate migration to groundwater. |
| SW1 | Drainage elements including the stormwater basin will be sized and designed to minimise risk of localised surface water ponding. |
| FL1 | BESS Pad to be built above the 0.5% AEP creek flood level. |
| FL2 | Electrical elements and chemical storage to be built stored above the maximum 0.5% AEP flow depth. |
| FL3 | The footings will be designed to withstand the flood velocities described which are mostly low (<1m/s) in the BESS Footprint. |
| FL4 | A Safety and Design Plan to be prepared to exclude personnel and vehicles from drainage channel, such as provision of an adequate road crossing over the drain. |
| FL5 | Where the site access crosses over the watercourse, the manner will be in accordance with the '*Controlled activities – Guidelines for watercourse crossings on waterfront land' (DPE, 2022),* to ensure that the project design will include measures to minimise any modifications to flow and the watercourse. |
| ESD1 | Construction works and decommissioning works are to be managed under a Construction Soil and Water Management Plan (CSWMP) The CSWMP will be prepared in accordance with Managing Urban Stormwater: Soils and Construction (Landcom 2004), known as 'the Blue Book', and Volume 2A Installation of Services (DECC 2008a). |
| **Air Quality** | |
| AQ1 | A Dust Management Plan (DMP) outlining the key sources of dust during the construction phase and a list of practical mitigation measures to minimise the potential offsite dust nuisance to receptors situated near the site entrance and unsealed areas of Back Saleyard Rd will be prepared to minimise or eliminate any adverse air quality or dust deposition impacts. The management plan should implement watercart treatment and speed limits for unsealed access roads used by construction vehicles in the vicinity of residential dwellings. The Dust Management Plan may form part of the broader CEMP. |
| **Bushfire** | |
| BF1 | Prior to the commencement of the BESS, APZs shall be implemented, consistent with the BRAR (refer to Figure 14). The APZ will be maintained as either completely cleared land or a mown area with a grass height of less than 100mm. |
| BF2 | Buildings and structures will adopt a BAL of -12.5, and use non-combustible materials, such as fire-resistant concrete and metal. |

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| BF3 | Prior to construction commencing, a Bushfire Management Plan (BMP) will be prepared for the Project detailing the ongoing implementation measures, including:<br>• Access and Egress for the public and for firefighters and their equipment.<br>• Adequate Water Supply for fire suppression.<br>• Landscape Management.<br>• Emergency Response and Management – Preparedness and Planning. |
| BF4 | The BMP will be prepared in consultation with the NSW RFS and NSW Fire and Rescue, with final approved copies stored locally within an appropriate "emergency cabinet" securely located on-site. The BMP will align with other related project plans including the Fire Safety Study (FSS) and Emergency Management Plan (EMP). |
| BF5 | The general principles and RFS-compliant design recommendations made in the BRAR will be apply to ensure that firefighting vehicles are provided with safe, all-weather access to the proposed BESS facility. |
| BF6 | Provide a water supply (150kL tank) dedicated for firefighting purposes (including cooling purposes for the equipment immediately surrounding the BESS on fire and for control of any associated smoke plume). |
| BF7 | The noise walls shall be made of non-combustible (i.e. fire-resistant) materials, in accordance with the recommendations of the BRAR. |
| **Hazard and Risk** | |
| HRA1 | An Occupational Health & Safety Management Plan will be prepared for the facility to include all measures aimed at managing hazards and risks, including specific targeted measures detailed in the Emergency Response Plan, as recommended in the HRA. |
| HRA2 | EMF - The design of the facility will be developed in accordance with (i) Energy Networks Association (ENA), *"ENA Policy Statement on Electric and Magnetic Fields"*, adopted by the ESAA Board in 1991 and reconfirmed by the ENA EMF Committee, March 2006; and (ii) Nutall, K., Flanagan, P. and Melik, G., "Prudent Avoidance Guidelines for Power Frequency Magnetic Fields", 23rd Annual Conference of the Australasian Radiation Protection Society, 1998. |
| HRA3 | The integrity of all site security fencing will be maintained through the lifetime of the Project to ensure adequate exposure separation for all members of the public. |
| HRA4 | The following management plans will be prepared and included in the CEMP and OEMP:<br>• Emergency Response Plan (ERP).<br>• Water Management Plan (WMP). |

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| | • Fire Safety Study (FSS).<br>• Spill Management Plan (SMP).<br>• Bushfire Management Plan (BMP). |
| **Social** | |
| S01 | The proponent will develop and execute a Community and Stakeholder Engagement Plan (CSEP) to ensure community members receive accurate, timely information throughout the construction phase. This strategy will encompass:<br>• Systems for notifying nearby communities, residents, visitors and road users about scheduled activities, their timing, possible effects, and mitigation strategies (including transport operations and activities generating significant noise).<br>• Methods for consultation with impacted stakeholders and residents regarding possible effects and management approaches.<br>• Systems for gathering and addressing project-related inquiries and concerns during construction, operational, and decommissioning phases, such as an online project portal with contact information.<br>• Ongoing and consistent reporting of performance measures, engagement summaries, project updates and outcome of impact mitigations on public platforms including project website and printed collateral. |
| S02 | The proponent will undertake the following actions to ensure the community and stakeholders are adequately informed about the Project, the proponent and BESS for the entire life of the Project:<br>• Develop an easy-to-understand factsheet addressing battery safety, fire risks, and electromagnetic radiation.<br>• Continue engagement with the RFS and Fire and Rescue and involve them in future community briefings.<br>• Reassure stakeholders through transparent emergency response planning.<br>• Include information on Stor-Energy's ownership structure and any company policies or strategies in place.<br>• Share an overview of Project's delivery plans. Stor will also share the contact information of local suppliers already expressed interested in supplying for the project to main contractors and organise ‘meet the buyer’ event.<br>• Clearly identify key project partners and roles across the project lifecycle.<br>• Provide accessible information about battery lifespan and replacement timelines.<br>• Explain end-of-life recycling processes and compliance with waste regulations. |

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| | • Prepare material focused on lifecycle and sustainability which can be handed out in community events Stor will participate (e.g. Christmas shopping street event, Molong markets).<br>• Develop visual materials that demonstrate how the battery supports the regional energy network.<br>• Implement input from residents and Council to VPA Terms of Reference and any additional ad hoc sponsorships and benefit sharing.<br>• Establish transparent funding criteria and governance mechanisms.<br>• Communicate how community suggestions have shaped funding priorities.<br>• Maintain regular project updates via website, email, social media and community notices.<br>• Share milestone announcements and progress against the approval's timeline.<br>• Offer guided site visits or virtual tours when safe and appropriate.<br>• Provide updates on environmental assessments and mitigation strategies.<br>• Incorporate local ecological knowledge into project design and rehabilitation.<br>• Share how feedback has informed environmental planning decisions. |
| **Waste** | |
| WM1 | Waste will be managed according to the provisions of the WMP including:<br>• Identification of roles and responsibilities for waste management procedures. Any subcontractors engaged will have roles and responsibilities identified and the Project's waste management system clearly explained.<br>• Methods for managing waste or wastewater including appropriate liquid storage equipment, spill containment kits.<br>• Litter and waste management to mitigate emission of dust, litter, potentially offensive odours, and vermin resulting from improper storage and collection of solid residues and putrescible waste.<br>• Wastewater would be transported by licenced contractors and disposed of at appropriately licensed wastewater treatment plants.<br>• Decommissioning will be managed by a suitably qualified contractor or operator. End of life batteries will be delivered to a facility lawfully able to accept them. |
| WM2 | All staff, including sub-contractors and labourers, employed during the site preparation and construction phases of the Project will undergo waste management induction training for the Project. Induction training will cover, as a minimum: |

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| | • Legal obligations and targets.<br>• Emergency response procedures on-site.<br>• Waste priorities and opportunities for reduction, reuse and recycling.<br>• Waste storage locations and separation of waste.<br>• Procedures for suspected contaminated and hazardous waste.<br>• Waste related signage.<br>• Site safety.<br>• The implications of poor waste management practices.<br>• Responsibilities and reporting, including identification of personnel responsible for waste management and individual responsibilities. |
| WM3 | Daily visual inspections of the waste storage areas will be undertaken by site personnel and inspection checklists and logs recorded for reporting to the site manager or equivalent role each week or as required. These inspections will be used to identify and rectify any resource and waste management issues. |
| **Land and Soils** | |
| S1 | A Soil and Water Management Plan (SWMP) will be prepared in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004).<br>• The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. The construction SWMP is to be prepared with reference to relevant development controls within the Cabonne DCP. Recommended measures for the construction SWMP include but are not limited to:<br>• Measures to minimise and manage the potential for erosion and sediment transport within and from the site.<br>• Measures to manage accidental spills and waste storage.<br>• Measures to manage stormwater and the potential for contaminated runoff from the development site.<br>• Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination.<br>• Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical.. |

| Impact | Mitigation Measures and Monitoring Requirements |
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| S2 | The construction of the Project will be managed in compliance with measures specified within the construction SWMP to ensure impacts to water quality are appropriately managed. Measures will be implemented to ensure that areas of exposed soil and the time in which they are exposed, are minimised as far as practical during construction |
| S3 | As part of the OEMP for the Project, the following measures shall be included:<br>• Soil disturbance during operation of the Project will be limited to maintenance activities, involving very small, localised disturbance areas on an infrequent basis.<br>• Standard erosion and sediment control measures will be implemented to minimise the potential for sediment export within areas to be disturbed during operations. These measures would be developed on a case-by-case basis referring to this soil assessment and are likely to include measures such as sediment fencing, localised sediment traps, and progressive stabilisation with vegetation.<br>• Measures to manage any bare areas and erosion that develop over time. |