

Updated mitigation measures table

The environmental management measures provided in the EIS and Amendment Report have been updated in response to agency advice on the Amendment Report. Updated environmental management measures are indicated in ***bold italics*** in **Table A-1**. Detail no longer required or applicable in the Project mitigation measures is identified in ~~striethrough~~ text.

Table A-1: Updated mitigation measures

Impact	Reference	Environmental management measure	Timing
General			
Construction impacts	GEN1	An Environmental management strategy (EMS) will be prepared for the Project and require the development and implementation of a Construction Environmental Management Plan (CEMP). The EMS will communicate the performance outcomes, commitments, and environmental management measures for the Project with details of how they will be implemented and achieved during construction to be documented in the CEMP. The CEMP will also provide the roles and responsibilities of key construction personnel and describe how environmental risks associated with the Project will be managed.	Prior to construction
Operational impacts	GEN2	An Operational Environmental Management Plan (OEMP) will be prepared to mitigate and manage environmental impacts during operation of the Project. The OEMP will include a program for monitoring and reviewing the performance of environmental controls, and where agreed corrective actions are implemented if necessary	Prior to operation
Decommissioning impacts	GEN3	A Decommissioning and Rehabilitation Plan will be prepared prior to the cessation of operations.	Prior to decommissioning
Land-disturbing activities	GEN4	All land-disturbing activities associated with the Project must be confined within the disturbance footprint of the Project. Should Project impacts change such that the area to be impacted is outside of the assessed Project area, then additional assessment may be required.	Prior to construction, construction, operation, decommissioning
Biodiversity			
Impacts on vegetation	B01	Construction personnel are to be informed of the environmentally sensitive aspects of the site (native vegetation and nest boxes), including plans for impacted and adjoining areas showing vegetation communities and important Squirrel Glider habitat areas.	Construction
	B02	The limits of the work zone, areas for parking and turning of vehicles and plant equipment would be accurately and clearly marked out prior to commencement of works. Vehicle movements and materials storage will be restricted to the disturbance footprint, so that native vegetation disturbance is minimised as much as possible and the drip-line of trees avoided, in particular Tree 1.	Prior to construction
	B08	Existing vegetation has been avoided where possible, particularly along the northern boundary of the site. This vegetation will be supplemented with additional plantings to provide visual screening and also habitat for biodiversity. This vegetation is located outside of the disturbance footprint. Additional trees (including squirrel glider feed trees) and screening vegetation should be provided along Trout Farm Road. Clearly demarcate and protect existing vegetation areas, especially along the northern boundary, in site plans and on-site with fencing and signage. Implement exclusion zones and monitor activities to prevent	Prior to construction, construction, operation

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Impact	Reference	Environmental management measure	Timing
		encroachment into the vegetation outside the disturbance footprint. Maintain and enhance the vegetated buffer with ongoing planting, weed control, and habitat monitoring to support visual screening and biodiversity. All proposed planting will be subject to a 24-month establishment and monitoring period, followed by ongoing maintenance by the asset owner to ensure it is managed in accordance with the recommendations of the fire safety study.	
	B09	Any trimming of vegetation on the site will be managed to maximise the screening of the project and undertaken in accordance with AS 4373-2007 Pruning of amenity trees.	Construction
	B10	Works in proximity to the existing native vegetation on the site, including along the northern site boundary, will be undertaken in accordance with AS4970 Protection of trees on development sites under the supervision of a suitably qualified arborist to ensure the long-term health and vitality of this vegetation.	Construction
Impacts on fauna	B03	Avoid light spill into sensitive habitat areas, use directional lighting to control the spread of light and reduce exposure, shield and dim lights where necessary, maintain natural darkness in key habitat areas, the use of blue wavelengths should be limited and lighting should be at the lowest intensity possible in accordance with the National Light Pollution Guidelines for Wildlife (May 2023, Version 2.0). Artificial lighting planned for installation at the entry gate and along the site access road needs to be designed to avoid light spill into Squirrel Glider habitat / nest boxes present which includes the location of the nest box present in south-west corner, west of entry gate. Lighting should be directed to the north or south. Additionally, lighting would be designed and operated in accordance with AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting. Lighting mitigation locations and operational strategy will be detailed in the Project Environmental Management Strategy.	Prior to construction, construction, operation
	B04	Exclude barbed wire in the first instance where barbed wire is not a requirement for mandatory security purposes under applicable standards, providing alternative material options. Where not possible, additional measures to address potential entanglement must be identified and implemented. These additional measures should consider lowering the fence to the minimum height required to maintain security but aiming to avoid creating high barriers for gliders, the use of smooth wire or plain wire on the top strand of fencing and installation of wildlife-friendly fencing designs that allow safe movement, including visibility enhancements. Regular monitoring of fence lines will be undertaken to identify and respond to any wildlife entanglement incidents.	Prior to construction, construction

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Impact	Reference	Environmental management measure	Timing
	B05	A pre-clearing inspection would be undertaken 48 hours prior to the proposed clearing of the scattered mature trees, by an ecologist and the Contractor's Environmental Manager (or delegate). The pre-clearing inspection would include, as a minimum identification of any threatened fauna, or nest sites present in these trees. An ecologist should be present during the felling of Tree 2 to collect and displaced or injured fauna and release offsite. The trees should be felled carefully by an arborist, cutting down a section at a time rather than felling from the base. Any injured fauna will need to be transported to a vet for treatment. A pre-demolition fauna inspection is required of the existing house and shed. Any fauna encountered should be re-located, and any injured fauna will need to be transported to a vet for treatment.	Construction
Impacts from weed invasion	B06	A Pest and Weed Management Plan is to be incorporated into the Project Environmental Management Strategy and OEMP. This will include: ▪ Weed management in areas affected by construction up to six months post construction ▪ Pest and weed monitoring and management procedures during operation.	Construction, operation, decommissioning
Loss of shelter for native fauna	B07	A large nest box is present on Tree 2 and occupied by a Common Brushtail Possum. This nest box will be replaced with a new, large box suitable for this species, and placed on site in retained vegetation adjacent or within the vicinity of Tree 2. An additional two bat boxes should also be installed in VZ1 as compensation for the loss of Tree 2 which has a small hollow. Nest box locations, placement criteria, consideration of connectivity and target species (for instance Squirrel Gliders) will be detailed in the EMS.	Construction
Impacts to nearby waterways	B11	Erosion and sediment measures would be implemented in accordance with Managing Urban Stormwater, Sols and Construction, Volume 1 (Landcom, 2004) (known as the Blue Book) for all stormwater events up to 1% annual exceedance probability.	Prior to construction, construction
	B12	To mitigate risks of chemical spills, including lithium-ion battery leaks, surface water protection measures will be implemented. These include bunded containment systems, stormwater controls, spill response protocols, and regular water quality monitoring to prevent contaminants from entering waterways and harming wildlife. Staff will be trained in spill prevention and emergency procedures to ensure rapid response and environmental protection.	Construction, operation, decommissioning
Impacts to native vegetation	B13	A qualified arborist is required to inspect the final design and proposed construction activity proposed in proximity to Tree 1. The assessment should be completed to ensure that the proposed infrastructure is of	Prior to construction

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Impact	Reference	Environmental management measure	Timing
		sufficient distance to avoid impacting on the root zone of this tree, and further management advice provide to ensure impacts are avoided.	
Aboriginal heritage			
Impacts to potential Aboriginal sites	AH01	The sensitive archaeological landform will be demarcated as an exclusion zone on all relevant plans.	Prior to construction
Impacts on unknown Aboriginal sites	AH02	In the unlikely event that unexpected Aboriginal heritage items are encountered during works, the Unanticipated Finds Protocol will be implemented.	Construction
	AH03	If suspected human remains are located during any stage of the Project, work will stop immediately, and the NSW Police and Coroner's Office will be notified. NSW Heritage will be notified if the remains are found to be Aboriginal.	Construction
	AH04	All staff and contractors involved in the proposed work should undergo a cultural heritage induction to ensure they avoid the sensitive archaeological landform, can recognise Aboriginal artefacts and are aware of the legislative protection requirements for all Aboriginal sites and objects under the NPW Act and are familiar with the Unanticipated Finds Protocol (AH02) and the skeletal remains protocol (AH03).	Construction
Impact to Sensitive Archaeological Landforms	AH05	Detailed design will include drainage design that prevents secondary impacts to the Sensitive Archaeological Landforms.	Detailed design
Historic heritage			
Impacts on unknown historical heritage	HH01	Following development consent of the Project, an Unanticipated Finds Protocol will be developed and then followed during the construction and operation of the Project to appropriately manage items of historic heritage significance that may be discovered.	Prior to construction, construction, operation
Land			
Erosion hazard	L1	An Erosion and Sediment Control Plan (ESCP) will be prepared and will detail the specific erosion and sediment control measures to be implemented within the Project, in accordance with the principles and requirements of Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004). As a minimum the ESCP would include: - Plans for temporary drainage, scour protection and control measures to reduce erosion and water quality impacts from increased sediment loads from the construction site. The ESCP would identify location of proposed sediment basins if applicable - Dust suppression and monitoring to ensure no downstream sedimentation or air quality impacts.	Prior to construction, construction, decommissioning
	L2	To manage soil hazards:	Construction, decommissioning

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Impact	Reference	Environmental management measure	Timing
		- Minimise the total area of bare earth exposed at any time - Employ interim rehabilitation strategies to minimise dust generation and soil erosion on parts of the Project that cannot yet be permanently rehabilitated - Where required, rehabilitate all areas of the Project that are not proposed for future disturbance as soon as is practicable following construction and decommissioning - Minimising the number of stockpiles, area used for stockpiles, and time that they are left exposed - Locating stockpiles away from drainage lines, including at least 40 m away from any waterway and away from areas where they may be susceptible to wind erosion - Stabilising stockpiles, establishing appropriate sediment controls and suppressing dust as required.	
Contamination	L3	A hazardous building materials assessment (including utility assets) will be completed prior to works. Removal and clearance work to be undertaken by appropriately licensed and suitably qualified subcontractors, respectively.	Pre-construction
	L4	Targeted sampling and analysis will be undertaken within the Project area to confirm that any potential discharges from Hume Weir Village Wastewater Treatment Plant (WWTP) have not impacted the site's surface soils through overflow/discharges, and to determine any subsequent management requirements.	Pre-construction
	L5	Waste classification and testing of topsoil, subsoils and other waste materials requiring off-site disposal will be carried out in accordance with the NSW EPA Waste Classification Guidelines: Parts 1 to 4, and Addendum to Part 1. Excavated soils proposed to be retained and/or beneficially re-used within the Project area boundaries would be assessed in accordance with the ASC NEPM (NEPC, 1999) to assess suitability for reuse, and ensure soils meet the relevant health and ecological criteria.	Construction
	L6	An Asbestos Management Plan (AMP) will be prepared in accordance with the relevant SafeWork NSW Codes of Practice: How to Safely Remove Asbestos 2022 and How to Manage and Control Asbestos in the Workplace 2022. The AMP will outline the following: - Identification, nature, extent and location of the potential asbestos - Procedures to manage and handle asbestos - Procedures to dispose asbestos in accordance with the NSW EPA Waste Classification Guidelines and other industry codes of practice - Requirements to maintain an Asbestos Register to maintain the condition of any pre-existing asbestos on the Project.	Construction, operation

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Impact	Reference	Environmental management measure	Timing
	L7	An Unexpected Finds Protocol will be developed and implemented to manage the risk of any unidentified contamination impacts (e.g. asbestos, discoloured or odorous soils, gross visual contamination, buried waste, pollution events) in the event of disturbance or being encountered through construction or operations. It will consist of a framework and general procedures to safeguard environmental, human health and Project's operations.	Construction, operation
Easements	L8	Foresight would abide by existing easement requirements and obtain new easement or approval to use existing easements over Crown land prior to working on the land.	Prior to construction
Visual amenity			
Light spill	LV01	All lighting would be designed and operated in accordance with AS4282-2019 Control of the obtrusive effects of outdoor lighting.	Construction, operation
Vegetation planting	LV02	Additional trees (including Squirrel Glider feed trees) and screening vegetation will be provided within the Project area near Trout Farm Road.	Detailed design, operation
	LV03	A landscape management plan will be prepared to guide the installation, establishment and maintenance of the proposed native vegetation and landscape works.	Detailed design, Construction
	LV04	The existing native vegetation along the northern boundary of the site will be retained and if necessary supplemented with additional plants to provide screening where gaps in this planting exist or emerge.	Construction
	LV05	Any trimming of vegetation on the site will be managed to maximise the screening of the Project and undertaken in accordance with AS 4373-2007 Pruning of amenity trees.	Construction
	LV06	All proposed planting will be subject to a 24-month establishment and monitoring period, followed by ongoing maintenance by the asset owner to ensure it is managed in accordance with the recommendations of the fire safety management.	Construction
	LV07	Works in proximity to the existing native vegetation on the site, including along the northern site boundary, will be undertaken in accordance with AS4970 Protection of trees on development sites under the supervision of a suitably qualified arborist to ensure the long-term health and vitality of this vegetation.	Operation
Noise and vibration			
Construction and decommissioning noise	NV1	In line with the requirements of the SEARs, a draft Construction Noise and Vibration Management Plan (CNVMP) has been developed. The draft CNVMP will be updated and finalised prior to commencement of construction and implemented throughout construction.	Pre-construction, construction

Impact	Reference	Environmental management measure	Timing
	NV2	Where reasonable and feasible, standard noise mitigation measures based on those provided in EMF-NV-GD-0056 Construction Noise and Vibration Guideline (Roads) (TfNSW, 2023) will be adopted, including: ▪ Wherever possible and safe, limit work to standard hours of construction ▪ Select low-noise plant and equipment ▪ Ensure equipment mufflers operate in a proper and efficient manner ▪ Where possible, use quieter and less vibration emitting construction methods ▪ Only have necessary equipment on-site and turn off when not in use ▪ Where possible, concentrate noisy activities at one location and move to another as quickly as possible ▪ Vehicle movements, including deliveries outside standard hours, would be minimised and avoided where possible ▪ All plant and equipment is to be well maintained and, where possible, fitted with silencing devices ▪ Use only the necessary size and powered equipment for tasks ▪ Implement training to induct staff on noise sensitivities ▪ Where possible, consider the application of less intrusive alternatives to reverse beepers such as 'squawker' or 'broadband' alarms ▪ Consider the installation of temporary construction noise barriers or earth mounds for concentrated, noise-intensive activities ▪ Where practicable, install enclosures around noisy mobile and stationary equipment as necessary ▪ Where possible, avoid simultaneous operation of two or more noisy plant close to receivers ▪ The offset distance between noisy plant and sensitive receivers would be maximised ▪ Plan traffic flow, parking and loading/unloading areas to minimise reversing movements ▪ Complete routine monitoring to evaluate construction noise levels and evaluate whether the mitigation measures in place are adequate or require revision.	Construction, decommissioning
Construction and decommissioning vibration	NV3	Should vibration impacts be identified, or vibration complaints received, measures for limiting vibration impacts from Assessing Vibration: a technical guideline, (DECC, 2006) will be adopted where reasonable and feasible: ▪ Choosing alternative, lower-impact equipment or methods wherever possible ▪ Scheduling the use of vibration-causing equipment at the least sensitive times of the day (wherever possible) ▪ Locating high vibration sources as far away from sensitive receiver areas as possible	Construction, decommissioning

Impact	Reference	Environmental management measure	Timing
		- Sequencing operations so that vibration-causing activities do not occur simultaneously. - Keeping equipment well maintained - Do not conduct vibration intensive works within the recommended safe setback distances. - Informing nearby receivers about the nature of construction phases and the vibration-generating activities.	
Construction traffic noise	NV4	Where reasonable and feasible, measures to address construction traffic noise will be adopted, including: - Schedule construction traffic movements to avoid night periods and other sensitive times - Revising vehicle routes and scheduling to reduce heavy vehicle traffic along roads predicted to experience construction traffic noise impacts - Avoiding the use of compression brakes - Ensuring vehicles are adequately silenced before leaving or accessing the Project area.	Construction
Operational noise	NV5	Detailed design will consider and implement all reasonable and feasible measures to further reduce operational noise impacts and comply with PNTLs. Further consideration of actual noise specification for final selected BESS technology would be pursued during detailed design.	Detailed design
Operational noise	NV6	As soon as feasible following commissioning, undertake operational noise monitoring to verify the noise levels predicted and confirm that noise from the Project remains below the Project Noise Trigger Levels.	Operation
Traffic and transport			
Impacts to the local road network	TT1	A Construction Traffic Management Plan (CTMP) will be prepared as part of the CEMP and will include: - Confirmation of haulage routes - Access arrangements to the Project area, including entry and exit locations - Preferred times of transport to and from the Project area to minimise impacts on the road network - Measures to minimise the number of workers using private vehicles - Management of OSOM vehicles (within separate OSOM transport management plan (TT5)) - The maximum parameters of the materials to be transported to and from the Project area - Site-specific traffic control measures (including signage) to manage and regulate traffic movements, including management measures for any potential sight distance issues - Relevant traffic safety measures, including driver induction, training, safety measures and protocols - Requirements for, and placement of, traffic barriers	Prior to construction

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Impact	Reference	Environmental management measure	Timing
		- Requirements and methods to consult and inform the local community of impacts on the local road network due to the development-related activities - Consultation with Transport for NSW (TfNSW), Victoria Department of Transport and Planning (DTP), the National Heavy Vehicle Regulator (NHVR) and Albury City Council - Consultation with the emergency services to ensure that procedures are in place to maintain safe, priority access for emergency vehicles - A response plan for any construction-related traffic incident - Monitoring, review and amendment mechanisms - Individual traffic management requirements at each phase of construction - Coordination strategy with Lauren Jackson Sports Centre Upgrade project and Inland Rail project (if required). The CTMP will be provided to WaterNSW for information. The CTMP will be prepared in consultation with TfNSW, DTP and Albury City Council and approved by the Consent Authority.	
	TT2	Group transport, such as buses for workstreams of more than 20 persons as well as ride sharing systems, will be implemented, where practical, to reduce the number of traffic movements on Trout Farm Road.	Construction, decommissioning
	TT3	Dedicated and demarcated parking areas for light and heavy vehicles will be provided within the Hume North BESS Project area. Vehicles associated with the Project will not be permitted to park on public areas and will be contained within the Project area.	Prior to construction
	TT4	Heavy vehicle movements to and from the Project area will be scheduled to minimise traffic disruption to the surrounding road network to the extent reasonable and feasible. This may include: - Scheduling the movement of construction material, equipment and waste to occur outside of peak periods - Scheduling heavy vehicle deliveries to be evenly dispersed as far as practical to minimise conveying or platoons and queuing outside the Project area or on the road network.	Prior to construction, construction, operation, decommissioning
Heavy vehicles	TT5	A separate OSOM Transport Management Plan will be prepared as part of the CTMP and will include: - Identification of the final OSOM route to Hume North BESS Project area - Measures to provide an escort for the loads - Times of transporting to minimise impacts on Trout Farm Road Scheduling restrictions on heavy vehicle use of local council roads (Trout Farm Road and Murray Street) during school bus operating times for those road sections - Location of rest areas and the requirement of rest stops along the route	Prior to construction

Impact	Reference	Environmental management measure	Timing
		- The maximum parameters of the materials to be transported to and from the Project area - Communication strategy and liaising with emergency services and police - Any minor temporary civil infrastructure work which may be required to accommodate OSOM movements - Measures to inform school bus service operators of any planned construction activities/movements along school bus routes. The OSOM Transport Management Plan will be prepared in consultation with TfNSW, DTP and Albury City Council and approved by the Consent Authority.	
	TT6	A vehicle access permit will be sought (from NHVR in consultation with TfNSW and DTP, Albury City Council) for all B-doubles and OSOM vehicle movements on Riverina Highway (between Elizabeth Mitchell Drive and Murray Street), Murray Street and Trout Farm Road. The heavy vehicle and OSOM movements will be in accordance with the permit requirements and be outside of peak traffic periods where possible.	Prior to construction
	TT7	The OSOM route will be finalised in consultation with relevant road authorities (including Victorian authorities) prior to official NHVR application and will consider potential impacts to pavement, bridges and culverts along the route. The OSOM route will be re-assessed once the vehicle and load dimensions have been confirmed prior to transportation. Additionally, once BESS material specifications have been confirmed in detailed design, the Proponent will consult with relevant power and utilities authorities to confirm suitability of the transport. If required, potential line lift and/or other assistance for OSOM vehicle to traverse under overhead cables will be arranged.	Prior to construction
	TT8	A road dilapidation report will be submitted prior to construction and decommissioning works and post construction and decommissioning. Road dilapidation surveys will be undertaken in accordance with Austroads guidelines and standards. Any damage attributable to Project construction and decommissioning would be repaired.	Prior to construction
	TT9	A NHVR exemption permit will be sought for any parts of the final OSOM route which requires access through roads which are restricted or conditionally approved for OSOM vehicles, including Murray Street and Trout Farm Road.	Prior to construction
	TT10	Swept path assessments will be finalised for intersections and proposed road upgrades following detailed design in consultation with relevant road authorities. The design will be developed to the standard and satisfaction of the Victoria Department of Transport and Planning and NSW road authorities, including Transport for NSW, as appropriate under Section 138 of the NSW <i>Roads Act 1993</i> .	Prior to construction

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Impact	Reference	Environmental management measure	Timing
Road safety	TT11	A Driver Code of Conduct will be prepared as part of the CTMP and be used to outline the rules and behaviours which drivers associated with the Project will be required to adhere to. The Driver Code of Conduct will outline arrangements for light and heavy vehicle drivers, including: - General requirements, including site induction requirements - Travelling speeds and safe driving practices, particularly through residential areas and school zones - Fatigue management - Adherence to designated haulage routes - Public complaint resolution and penalties and disciplinary action.	Prior to construction, construction, operation, decommissioning
	TT12	Public roads will not be obstructed by any materials, vehicles, skip bins or the like, under any circumstances.	Construction, decommissioning
	TT13	'Trucks Turning' warning signs will be installed on both approaches to the intersection of Trout Farm Road / Murray Street and Riverina Highway / Hume Highway (M31) to advise existing road users of the increased heavy vehicle volumes. The signs will be removed upon the completion of construction work.	Construction, decommissioning
	TT14	All vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the Project area.	Construction, decommissioning
	TT15	Speed reductions, use of fog lights during periods of low visibility, cessation of work and site shutdowns will be implemented as required during periods of adverse weather.	Construction, operation, decommissioning
	TT16	Road Safety Audits will need to be undertaken and considered during remaining design development stages.	Prior to construction
Road upgrades	TT17	The existing Project site access will be upgraded and is subject to detailed design incorporating a road safety audit and will be developed in consultation with the relevant road authority.	Prior to construction, construction
Water			
Erosion and sedimentation	SW01	Construction Soil and Water Management Plan (CSWMP) will be prepared which will outline measures to manage soil and water impacts associated with the construction works. The CSWMP will include: - Measures to minimise/manage erosion and sediment transport both within the construction footprint and off-site including requirements for the preparation of an Erosion and Sediment Control Plan (ESCP) for construction (as per SW02) - Measures to manage stockpiles including:	Prior to construction, construction, decommissioning

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Impact	Reference	Environmental management measure	Timing
		- Minimising the number of stockpiles, area used for stockpiles and the time that they are left exposed - Locating stockpiles away from drainage lines, waterways and areas where they may be susceptible to wind erosion - Stabilising stockpiles, establishing appropriate sediment controls and suppressing dust as required - Reuse of virgin excavated natural material (VENM) and excavated natural material (ENM) as fill where possible. Transport of excavated material unsuitable for use as fill off site to a licenced facility. ▪ Measures to manage potential tannin leachate ▪ Procedures to capture, contain and appropriately dispose of any concrete waste from concrete works including designated lined, bunded and controlled concrete wash-out areas ▪ Measures to reduce the risk of litter and spills and leaks entering downstream waterways and/or leaching into the soils and groundwater table, including: - All fuels, chemicals and liquids would be stored on level ground away from waterways and would be stored in sealed bunded areas within the construction site - Refuelling and minor maintenance activities would be limited to designated areas with established spill capture and management controls - An emergency spill response procedure would be prepared as part of the CSWMP - Installing and maintaining control measures such as silt fencing and gross pollutant traps.	
	SW02	The ESCP would detail the specific erosion and sediment control measures to be implemented at the Project area in accordance with the principles and requirements of <i>Managing Urban Stormwater – Soils and Construction, Volume 1</i> (Landcom, 2004). The ESCP would include: ▪ Plans for temporary drainage, scour protection and control measures to reduce erosion and water quality impacts from increased sediment loads from the construction site ▪ Location and size of the proposed construction detention basin in accordance with the Blue Book ▪ Dust suppression to ensure no downstream sedimentation or air quality impacts.	Prior to construction, construction, decommissioning
Construction – impacts to overland flows and overland flooding	SW03	▪ Design and construction of stormwater drainage system to provide appropriate mitigation of increased site runoff rates and to provide appropriate management of site runoff ▪ Design to ensure that external overland flows are conveyed appropriately through the site	Detailed design

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		Construction materials would be located outside of the overland flow path or alternatively the flow path would be re-directed around the construction area.	
Operation – stormwater runoff	SW04	- The design of permanent drainage and water management would demonstrate ability to meet project performance outcomes of no pollution of waters - Operational water quality controls would include a retention basin which will be designed to control stormwater runoff to prevent flooding and to direct water away from sensitive downstream receivers - Scour protection, control measures and maintenance of access roads would be implemented to reduce erosion and water quality impacts - Monitoring of receiving drainage channels downstream of the discharge location(s) to identify any evidence of channel erosion and scour.	Operation
Operation – spills and emergency management	SW05	- Appropriate storage of equipment and hazardous substances - Operational procedures for emergency response to spills and leaks from equipment and maintenance activities.	Operation
External properties including the SAL	SW06	The preliminary drainage design would be updated during detailed design such that runoff continues to generally follow existing overland flow paths, generally mimics the natural hydrology of the site and ensure changes in peak flow velocities to the north, south and west of the site are within acceptable limits. The TUFLOW model will be run during detailed design to confirm that changes in peak flow velocities for all modelled flood events are within acceptable limits. The drainage design will be updated iteratively until acceptable limits are achieved.	Detailed design
Localised increased in flow velocities	SW07	Localised increased in flow velocities at all drainage outlets of the proposed works should be mitigated through attenuating peak flow velocities.	Detailed design
Risk to life and property	SW08	Undertake a preliminary risk assessment to confirm no potential risk to life and property due to failure of any proposed detention basins.	Detailed design
Flood emergency management	SW09	Consult with Council and NSW SES regarding Emergency management, evacuation and access, and contingency measures for the site.	Construction
Groundwater	SW10	Should groundwater be intercepted during the construction phase of the Project, and water take exceed applicable exemption criteria, a WAL with sufficient entitlement to account for the groundwater take will be obtained.	Prior to dewatering during construction

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Impact	Reference	Environmental management measure	Timing
Preliminary hazards analysis			
Thermal runaway	PHA1	All relevant requirements in the Australian Standards are applied for the Project, and requirements in major BESS international Standards such as the US National Fire Protection Association Code NFPA855.	Detailed design
	PHA2	Procurement of a battery system that is certified under an internationally recognised test method such as the Underwriters Limited UL 9540A <i>Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems</i> , together with other means of demonstrating that a credible fire within a battery enclosure will not propagate to other enclosures, and measures to prevent or mitigate potential damaging overpressure.	Detailed design
	PHA3	<i>Emergency management planning would be undertaken for construction and operation phases of the Project. Evacuation protocols will be developed and integrated into the Emergency Management Plan and Procedures for those not involved in any emergency response and any not wearing appropriate PPE. The possibility of gas and pressure release from a battery enclosure, including the risk associated with opening a door during a thermal (runaway) event will be considered and communicated to first responders with appropriate responses.</i>	Detailed design
Fire safety	PHA4	<i>Preparation of a Fire Safety Study in accordance with the requirements of HIPAP2 and in consultation with FRNSW and DPHI prior to construction including the requirements regarding storage and disposal of contaminated fire water associated with combatting a general fire on the site, e.g., building, grassfire, etc. The FSS should be submitted to FRNSW for review.</i>	Prior to construction
	PHA6	The following emergency management documents would be developed for the site prior to occupation or commissioning in consultation with, and to the satisfaction of FRNSW: - Emergency Plan in accordance with HIPAP1 - Emergency Services Information Package (ESIP) in accordance with FRNSW fire safety guideline – Emergency services information package and tactical fire plans Emergency responder's induction package.	Prior to construction
Spills and leaks	PHA5	Measures to prevent leaks from the BESS and transformers, and for containing spills if they occur, should be addressed in the detailed design phase.	Detailed design
Bush fire risk			
Emergency management	BF01	A Bushfire and Emergency Management Operation Plan (BEMOP) will be prepared to support emergency management for the Project and ensure bushfire protection actions are maintained in accordance with NSW RFS Planning for Bushfire Protection 2019.	Detailed design, operation

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Impact	Reference	Environmental management measure	Timing
		The BEMOP will guide annual monitoring of the fire mitigation works for the Project operations and surrounding landholding, including: - Asset Protection Zone (APZ) and landscape fuel load management (refer to EMM BF02, BF03) - Access provisions. Main access, internal roads and alternate egress will provide for safe, reliable, and unobstructed passage by a Category 1 firefighting vehicle and maintained for the life of the development - Water supplies as per Fire Safety Study specifications. Water supply to be accessible and have appropriate firefighting appliance connections - Emergency response. The BEMOP will be developed in consultation with the local NSW RFS District Office and be communicated to relevant stakeholders.	
APZ	BF02	APZs will be a minimum 15 m width around Project infrastructure (including the BESS compound, switch room and transformer, operation and maintenance facility). APZ to be managed as Inner Protection Area for the life of the Project and will apply the following vegetation management requirements: - There will be no trees within the APZ - There would be no shrubs within the APZ, not including managed screen plantings - Grass will be kept mown to no more than 100 mm in height and leaves and vegetation debris will be removed - Roads and paved/cleared areas are suitable within the APZ. Temporary construction and laydown areas, site access and associated fencing do not require specific APZ.	Detailed design, operation
Landscaping	BF03	- Landscape maintenance will include the APZ and proposed vegetation screening to reduce fire intensity and rate of spread as it may approach a structure or structures - APZ management to manage fuel loads as required - Vegetation screening not within the 15 m APZ and maintained to remove dead/dry vegetation and fuel build-up - The vegetation screens will be managed under a landscape or vegetation management plan so that they are managed in perpetuity as a low threat and do not increase the threat toward the Project - Ongoing monitoring and maintenance of landscaping and bushfire fuel loads.	Operation
Offices and buildings	BF04	Offices and maintenance buildings will comply with minimum BAL29 bushfire construction levels as detailed in AS3959.	Detailed design

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Impact	Reference	Environmental management measure	Timing
Social and economic			
Community and stakeholder engagement	S01	A Community and Stakeholder Engagement Plan (CSEP) will be prepared and implemented, as per the recommendations outlined in Section 12 of the SIA, to help provide timely and accurate information to the community during construction. The plan will include but not be limited to: ▪ Mechanisms to provide details and timing of proposed activities, potential impacts and mitigation measures to nearby residents and communities, visitors and motorists (e.g. haulage activities, high noise generating activities, etc) ▪ Processes for engaging with affected residents and stakeholders about potential impacts and proposed management measures ▪ Process for receiving and responding to queries and complaints regarding the Project's construction, operation and decommissioning, e.g. a Project website with contact details.	Prior to construction, construction, operation, decommissioning
	S04	Implementation of Community Benefit Sharing in accordance with Renewable Energy Policy Framework benefits sharing guideline in consultation with Council.	Operation
Community values	S02	The Project will engage and work with local interest groups, such as land care, to assist or inform restoration works (e.g., planting Squirrel Glider habitat trees or rehabilitating wildlife corridors).	Prior to construction, construction
Local businesses and suppliers	S03	To minimise potential impacts and maximise opportunities for business and industry, the Project will: ▪ Commit to considering local business opportunities in Project procurement practices, including encouraging contractors to source local goods and services, where possible ▪ Consider a number of initiatives to encourage use of local services such as preparing a register of local businesses with which to communicate opportunities, and engaging with local Councils and business groups about local business and skill requirements to improve preparedness.	Prior to construction, construction, operation, decommissioning
Tourism	S05	Implement environmental management measures outlined in Noise and Vibration Assessment, LCVIA, the Construction Traffic Management Plan (CTMP) and dust suppression measures in Construction Environmental Management Plan, as recommended in the SIA.	Prior to construction
	S06	Implementation of a Landscape Management Plan to guide the installation, establishment and maintenance of the proposed native vegetation and landscape works, including screening vegetation (where possible).	Prior to construction
Waste			
Waste generation	WS01	A Waste Management Plan will be prepared, implemented and regularly updated to manage waste generated by the Project during construction, operation and decommissioning. The plan will confirm the following:	Construction, operation, decommissioning

Impact	Reference	Environmental management measure	Timing
		▪ A summary of the waste types, classification and estimated annual quantities of wastes produced during construction of the Project ▪ Measures to manage waste disposal in accordance with the principles of the waste hierarchy, with emphasis on reduce, reuse, recycle prior to disposal of its wastes ▪ Procedure for assessing, classifying and storing waste in accordance with the Waste Classification Guidelines (EPA, 2014) and management options ▪ Procedures for storage, transport and disposal of waste ▪ Monitoring, record keeping and reporting, such as waste tracking data demonstrating the lawful disposal of contaminated products, waste or residues generated at the facility.	

