

# Appendix 2

## Updated mitigation measures

## UPDATED MANAGEMENT AND MITIGATION MEASURES

Updated management and mitigation measures identified for the amended project, following additional assessment and review of the submissions received is provided below. Additional measures that have been included or measures changed since the EIS have been **bolded**.

ID	Management/mitigation measure	Timing*
<b>Consultation</b>		
<b>C1</b>	<p><b>ACEN will prepare a Community and Stakeholder Engagement Plan. The plan will outline the strategy for ongoing engagement with the community and stakeholders throughout construction, operation and decommissioning of the project.</b></p> <p><b>ACEN will continue to seek feedback on the development of management plans and strategies as the project moves from development into pre-construction, construction, and operational phases.</b></p>	<b>Detailed design</b>
<b>Landscape character and visual</b>		
LCV1	The turbines selected for the project will be finished with a low reflectivity surface treatment in accordance with the requirements of the Wind Energy: Visual Assessment Bulletin. The blades, nacelle and tower will use consistent colouring.	Detailed design
LCV2	The wind farm site will not include unnecessary lighting, signage, or logos.	Detailed design
LCV3	<p>Access tracks:</p> <ul style="list-style-type: none"> <li>• where possible existing roads, trails or tracks will be used as access tracks to reduce the need for new roads</li> <li>• new roads will minimise cut and fill where feasible and avoid the need for vegetation clearing where possible</li> <li>• local materials will be used in the construction of access tracks where possible and practical.</li> </ul>	Detailed design
LCV4	<p>Transmission lines:</p> <ul style="list-style-type: none"> <li>• where possible underground cabling will be used for electrical reticulation</li> <li>• the route for any proposed overhead transmission lines should be chosen to reduce visibility from surrounding areas.</li> <li>• routes for overhead transmission lines will be planned to minimise vegetation loss</li> </ul>	Detailed design

ID	Management/mitigation measure	Timing*
LCV5	Visual screening planting for dwellings will be undertaken in consultation with the landowners of residences identified as requiring mitigation measures in the addendum LVIA ( <b>Appendix 4</b> of the amendment report and <b>Appendix 6</b> of the response to submissions report)	During construction
<b>Noise and vibration</b>		
NV1	The predicted operational wind turbine noise levels will be updated with final layout and sound power levels of the final turbine technology selected, to verify compliance with the criteria in accordance with the Wind Energy: Noise Assessment Bulletin.	Detailed design
NV2	The predicted operational related infrastructure noise levels will be updated with the final design and sound power levels of the final equipment selection to verify compliance with the criteria in accordance with the Noise Policy for Industry.	Detailed design
NV3	The procurement contract for the supply of turbines to the site will typically include specifications concerning the allowable total noise emissions from the turbine, and the permissible characteristics of the turbine. In the event that turbine emissions are found to exceed the contracted values, the supplier will be required to implement measures to reduce the noise to the contracted value. This can include measures to rectify manufacturing defects or appropriate control settings.	Detailed design
NV4	A noise management plan will be prepared which identifies how compliance with the wind farm's operational noise limits will be demonstrated, including details of testing procedures and reporting time frames following commencing of operation of the wind farm.	Prior to construction
NV5	Construction noise and vibration management measures will be implemented consistent with recommendations contained within the Interim Construction Noise Guideline as relevant to the project.	Construction
NV6	Compliance monitoring will be conducted to satisfy the Wind Energy: Noise Assessment Bulletin including evaluation of special noise characteristics.	Operation
<b>Biodiversity</b>		
B1	<p>Measures proposed to mitigate and manage prescribed biodiversity impacts at the development site will be documented in a biodiversity management plan, that includes an approved bird and bat adaptive management plan (BBAMP). The BBAMP is to include:</p> <ul style="list-style-type: none"> <li>• up to 12 months of bird utilisation studies at the 33 designated sites described in this report, across four (4) seasons, to provide more accurate risk data</li> </ul>	Prior to construction / during operation

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>• carcass monitoring during the first 2 years of the operation of the wind farm, to estimate the number of birds and bats struck by turbine blades</li> <li>• scavenger assessment, to allow adjustment of carcass search data for carcasses removed prior to surveys.</li> <li>• bird Utilisation Studies at a subset of the 33 sites, to measure the ongoing impacts of the wind farm on bird populations locally</li> <li>• monitoring of bats across four seasons, to measure the ongoing impacts of the wind farm on microbat populations locally.</li> <li>• a strategy and notification protocol in the event that the wind farm significantly impacts protected or threatened species.</li> </ul> <p>The BBAMP will be implemented for the first 5 years of operation of the project.</p>	
B2	Pre-clearance surveys will be undertaken prior to tree clearing. A qualified ecologist/licensed wildlife handler will supervise tree removal in accordance with best practice methods.	Prior to construction / construction
B3	Active breeding or nesting identified during pre-clearance surveys will be avoided in August, September and October which is the breeding/nesting period for most fauna species.	Prior to construction / construction
B4	A procedure will be developed for the relocation of habitat features (e.g. fallen timber, hollow logs) to adjacent retained habitat.	Prior to construction
B5	<p>Clearing protocols will be developed that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance (e.g. removal of vegetation by chainsaw instead of heavy machinery where only partial clearing is proposed).</p> <p>Fencing (or other barriers as required) and signage will be placed around those areas of vegetation to be maintained to prevent any accidental construction damage and provide a barrier between the development footprint and retained areas.</p>	Prior to construction / construction
B6	All waterway crossings will be designed and constructed in accordance with <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (Update 2013) where appropriate.	Detailed design
B7	<p>Appropriate controls will be implemented to manage exposed soil surfaces and stockpiles to prevent sediment discharge into waterways.</p> <p>All works within proximity to the drainage lines will have adequate sediment and erosion controls (e.g. sediment barriers, sedimentation ponds). Revegetation will also commence as soon as is practicable to minimise risks of erosion.</p>	Prior to construction / construction

ID	Management/mitigation measure	Timing*
B8	Construction works will predominately be undertaken during daylight hours. Occasionally night lights will be used. Lights associated with operation will be directional to avoid unnecessarily shining light into adjacent retained vegetation where possible. Noise impacts around batch plants and compounds to be managed where they impact on residents.	Construction
B9	Suitable indigenous species will be used as ground cover species in any revegetation areas.	Construction
B10	Appropriate demarcation will be installed when works are within 100m of any threatened flora to provide a 10m exclusion zone around threatened flora and will also be used to demarcate the extent of the transmission line easement during construction.	Construction
B11	All machinery will be cleaned prior to entering and exiting the construction site to minimise the transport of weeds to vegetated areas to be retained. Weeds that are present within the study area that are listed under the NSW Biosecurity Act 2015 will be managed in accordance with a weed management plan.	Construction
B12	<p>All personnel working on the project will undertake an environmental induction as part of their site familiarisation. This will include:</p> <ul style="list-style-type: none"> <li>• site environmental procedures (vegetation management, sediment and erosion control, exclusion fencing and noxious weeds)</li> <li>• what to do in case of environmental emergency (e.g. chemical spills, fire, injured fauna)</li> <li>• key contacts in the case of an environmental emergency.</li> </ul>	Construction
<b>B13</b>	<p><b>ACEN proposes to provide for a 1:1 protection (measured by area) and enhancement of Box Gum Woodland within the locality, such that the impacts of the project are minimised in a local context.</b></p> <p><b>In addition to the mandatory requirement for offsets under the BOS, an additional and appropriate measure (AAM) that ACEN commits to is:</b></p> <ul style="list-style-type: none"> <li>• <b>within 5 years of Notice to Proceed (NtP), ACEN will establish a Conservation Agreement under Part 5 Division 3 of the BC Act over a parcel of land equivalent in size to the clearing of Box Gum Woodland associated with the project</b></li> <li>• <b>the Conservation Agreement will include Native Vegetation Management and augmentation, to restore species composition to replicate the condition of Box Gum Woodland that was cleared</b></li> <li>• <b>the priority location for delivering the AAM will be the Tomahawk property</b></li> </ul>	<b>Within 5 years of NtP</b>

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>• <b>where ACEN can further reduce impacts to Box Gum Woodland during the detailed design and construction phase, the area of restoration required can be amended to the final area of impact.</b></li> </ul>	
	<b>Traffic and transport</b>	
TT1	<p>A construction traffic management plan (CTMP) will be prepared in consultation with Warrumbungle Shire Council, Transport for NSW and other relevant local councils as appropriate.</p> <p>The plan will include the following (with consideration given to potential cumulative impacts of the project with other developments where relevant):</p> <ul style="list-style-type: none"> <li>• details of the transport routes to be used for all project-related traffic</li> <li>• details of any road upgrade works required by the Development Consent</li> <li>• a protocol for undertaking independent dilapidation surveys to assess the existing condition of the proposed construction routes prior to and post-construction, and post-decommissioning</li> <li>• a protocol for the repair of the construction routes if dilapidation surveys identify these roads to be damaged during construction, operation or decommissioning works</li> <li>• details of the measures that will be implemented to minimise traffic impacts during construction, operation and decommissioning works, including: <ul style="list-style-type: none"> <li>• traffic control plans, including detours and signage</li> <li>• notifying the local community about project-related traffic impacts</li> <li>• procedures for receiving and addressing complaints from the community about project-related traffic</li> <li>• minimising potential for conflict with coach and school bus services, other road users during peak hours as far as practicable (measures also required during operation of the project) including consultation with service providers</li> <li>• minimising dirt tracked onto the public road network from project-related traffic</li> <li>• scheduling of haulage vehicle movements to minimise convoy length or platoons</li> <li>• responding to local climate conditions that may affect road safety, such as fog, dust and wet weather</li> <li>• responding to any emergency repair or maintenance requirements</li> <li>• a traffic management system for managing OSOM movements.</li> </ul> </li> <li>• a program to ensure drivers associated with the project receive suitable training on the Driver Code of Conduct and any other relevant obligations under the CTMP</li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>a flood response plan detailing procedures and options for safe access to and from the site in the event of flooding</li> <li>controls for transport and use of dangerous goods in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development, Australian Dangerous Goods Code and Australian Standard 4452 Storage and Handling of Toxic Substances.</li> </ul>	
TT2	An engineered detailed design based on full 3D swept path analysis for the OSOM access intersections and proposed road upgrades and timing (refer to Table 4-2 in RtS) will be developed in consultation with the relevant road authority. The design will be developed to the standard and satisfaction of Warrumbungle Shire Council and referred to TfNSW under Section 138 of the <i>Roads Act 1993</i> as appropriate.	Prior to construction
TT3	Parking requirements for the project construction and operation workforce will be provided onsite and parking will not be permitted on public roads adjacent to the worksites.	Prior to construction
TT4	ACEN will undertake consultation with landholders affected where any proposed upgrades impact land outside of the public road reserve.	At all times
<b>TT5</b>	<p><b>If the alternate access to the Girragulang Road cluster is constructed, the new intersection on the Golden Highway would be designed to achieve safe intersection sight distance (SISD) in accordance with the requirements of <i>Austroads Guide to Road Design Part 4A (AGRD04a)</i> (Austroads, 2021). The location of the new intersection would need to consider the limitation of the vertical road alignment of the Golden Highway, such that the minimum SISD of 284m is provided for both directions of travel along the Golden Highway.</b></p> <p><b>Alternatively, a temporary reduction of the speed limit could be explored in consultation with Transport for NSW and Warrumbungle Shire Council in the vicinity of the alternative access, to satisfy a lower SISD at the alternative access location.</b></p>	<b>Detailed design</b>
<b>Hazards and risks</b>		
AV1	ACEN will contact the landowners and aerial operators for Coolah Airport (YCAH), Coolah ALA, Ozton Tongy ALA and local aerial agricultural operators and aerial firefighting operators to inform them of the project.	Prior to construction

ID	Management/mitigation measure	Timing*
	Details of the project, including location and height information of wind turbines, WMT and overhead powerlines will be provided to facilitate the flight planning of aerial application operators.	
AV2	ACEN will consult with the Department of Defence on any potential impacts of the project on military flying training within Danger Area D538B Surface to 10,000 feet.	Prior to construction
AV3	<p>Consultation will be undertaken with Airservices Australia to assess potential impacts of the project and to address the lowest safe altitude (LSALT) impact of air route W627 which will need to be raised.</p> <p><b>ACEN will provide Airservices a minimum of seven months' notice prior to construction of affected turbines to allow for the publication cycle of the Aeronautical Information Package (AIP).</b></p>	Prior to Construction
AV4	All meteorological masts and wind turbines will be reported to CASA as a vertical obstacle.	Prior to construction
AV5	ACEN will consult with Airservices Australia and provide all relevant project information to allow for publication of wind turbine locations in aeronautical charts and the En Route Supplement Australia (ERSA). This will include 'as constructed' details of wind turbines and meteorological masts coordinates and elevations.	Prior to construction / operation
AV6	The rotor blades, nacelle and the supporting tower of the wind turbines will be painted white.	Detailed design
AV7	<p>The meteorological masts will have aviation marker balls or highly visible flags or sleeves placed on the outside of the guy wires and paint markings will be applied in alternating contrasting bands of colours to at least the top third of the masts.</p> <p>Consideration will be given to MOS 139 Chapter 8 Division 10 Obstacle Markings (as modified by the guidance in NASF Guideline D).</p>	Detailed design
TC1	ACEN will consult with NBN, NSW Police Force and Warrumbungle Shire Council regarding the potential interference caused by turbine LV7, MH 47 and MH48 on their point-to-point links crossing the wind farm site.	Prior to construction
TC2	ACEN will contact the operators of all potentially affected base stations within 60 km of the wind farm site to identify the associated link paths and determine the likelihood of the project causing interference to their services.	During construction
TC3	If interference to point-to-point or point-to-multipoint links is experienced by the operators, options to re-route the links, installation of additional towers, or replacing the affected links with alternative communications infrastructure will be explored.	Operation



ID	Management/mitigation measure	Timing*
TC4	Bureau of Meteorology will be consulted, and their feedback sought on whether interference to their services is likely. If it is determined that interference such as signal clutter is expected, Bureau of Meteorology can train their users to take the locations of the wind turbines into account when analysing the data.	Prior to operation
TC5	If interference is experienced at receivers as a result of the project, ACEN will work with the resident to achieve an acceptable outcome. This may include replacement of an existing antenna with a higher gain antenna or installation of alternative technology such as satellite television.	Operation
HH1	Substations will be fenced off from public access and clearances from the electrical equipment to the outer fencing will provide a sufficient buffer for EMF exposure.	Operation
HH2	All electrical equipment including the substation, step-up facility and high voltage transmission lines will be designed and installed in accordance with the relevant guidelines for EMF exposure.	Detailed design
BF1	<p>A bushfire emergency management and operations plan (BEMOP) will be prepared and form part of the CEMP and OEMP. The BEMOP will include:</p> <ul style="list-style-type: none"> <li>• detailed measures to prevent or mitigate fires igniting</li> <li>• 24-hour emergency contact details including alternative telephone contact</li> <li>• inductions for construction personnel on bushfire risk management and other fire related risks that could present at the wind farm site, the project bushfire contingency plan and emergency response procedures</li> <li>• availability of fire-suppression equipment, access, and water including site infrastructure plans and site access and internal road plans</li> <li>• location of hazards (physical, chemical, electrical) that will impact on the firefighting operations and procedures to manage any identified hazards during firefighting</li> <li>• storage and maintenance of fuels and other flammable materials</li> <li>• notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate</li> <li>• appropriate bush fire emergency management planning</li> <li>• such additional matters as required by the NSW RFS District Office.</li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
BF2	All plant, vehicles, and machinery will be routinely inspected and cleaned of any accumulated flammable debris.	During construction and operation
BF3	A dedicated static water supply (approximately 50-80kL) for bush firefighting purposes will be provided at strategic locations within the construction workforce accommodation and each wind farm cluster with respect to essential equipment and accessibility.	Detailed design
BF4	No hot works will be carried out on Total Fire Ban Days unless specified in the approved BEMOP.	During construction
BF5	A minimum 10m asset protection zone (APZ) will be established and maintained for the life of the project for the structures and associated buildings and infrastructure (excluding road access to the site and power or other services to the site and associated fencing). The APZ will be to the standard of an Inner Protection Areas (IPA) as outlined in Appendix 5 of Planning for Bushfire Protection 2019 and the NSW RFS document Standard for Asset Protection Zones.	Operation
BF6	Internal access ways will be maintained through the life of the project and will support access for Cat-1 fire vehicles consistent with the NSW RFS Fire Trail Standards.	Operation
BF7	An APZ will be established around all habitable (construction workers accommodation) buildings and any associated buildings within 10m from a habitable building in accordance with PBP Table A1.12.3 Minimum distances for APZs -FFDI 80 areas <29kW/m <sup>2</sup> @ 1090K (flame temp.)	Construction
BF8	A minimum 11m APZ for all buildings associated with the workforce accommodation component. The APZ must be installed and maintained for the life of the development to the standard of an Inner Protection Areas (IPA) as outlined in Appendix 5 of PBP and the NSW RFS document Standard for asset protection zones.	Construction
BF9	Internal access ways to the construction workers accommodation will be maintained of the life of the project and will support access for Cat-1 fire vehicles consistent with the NSW RFS Fire Trail Standards.	Construction
BF10	All habitable buildings in the workers accommodation will be constructed to BAL-29 construction in accordance with Section 7 of AS3959-2018 Construction of Building in Bushfire Prone Areas.	Detailed design
BF11	Non-habitable buildings associated with the construction workers accommodation site will be constructed to BAL 29 AS3959 construction or be located greater than 10m from any habitable building to prevent building to building fire.	Detailed design

ID	Management/mitigation measure	Timing*
BF12	Access to construction workers accommodation will be two-wheel drive, all weather access and in accordance with Appendix 3 of PBP	Construction
<b>BF13</b>	<p><b>An Emergency Response Plan (ERP) will be developed for the site in accordance with Hazardous Industry Planning Advisory Paper No 1. The ERP will:</b></p> <ul style="list-style-type: none"> <li>• <b>address foreseeable on-site and off-site fire events and other emergency incidents (such as fires involving, battery energy storage systems, bushfires in the immediate vicinity) or potential hazmat incidents.</b></li> <li>• <b>detail the appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and other first responders (including electrical hazards)</b></li> <li>• <b>include and define the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be instigated and minimum evacuation zone distances.</b></li> <li>• <b>Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP.</b></li> </ul> <p><b>Two copies of the ERP will be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point/s"</b></p>	<b>Prior to construction</b>
<b>BF14</b>	<b>The ERP will include the requirement for wind turbines to be shut down immediately during emergency operations, and where possible and if appropriate turbine blades should be stopped in the 'Y' or 'rabbit ear' position to provide the maximum airspace for aircraft to manoeuvre underneath the blades and removes one of the blades as a potential obstacle</b>	<b>Prior to construction</b>
BT1	Wind turbine components will be manufactured and certified to current best practice Australian and international (IEC 61400-23) safety standards and are equipped with sensors that can react to any imbalance in the rotor blades and shut down the turbine if necessary.	At all times
BT2	Wind turbines will be subject to stringent safety and security measures including regular maintenance and servicing (within an ISO90001 Quality Assurance system).	At all times
BT3	Contractors certified in the manufacture, delivery, build, inspection, maintenance and repair of turbine components will be employed.	At all times
BS1	The BESS would be operated and managed in accordance with the safety requirements for the selected battery technology. Safe handling and operation of battery technology will include storage in	Operation

ID	Management/mitigation measure	Timing*
	a cool (preferably below 30°C) and ventilated area; away from moisture, sources of heat, open flames, food and drink. Appropriate personal protective equipment will be used when handling battery technology.	
BS2	Transformer oil would be handled and managed in accordance with the safety data sheet, including use of required personal protective equipment when handling.	Operation
BS3	Refrigerant would be handled and managed in accordance with the safety data sheet, which includes protection from sunlight and storage in a cool, well-ventilated place. Appropriate personal protective equipment will be used when handling refrigerant.	Operation
<b>BS4</b>	<b>ACEN will confirm with the BESS supplier that the BESS systems have been designed and/or improved to address the lessons learnt from the Victorian Big Battery fire incident in 2021. Additionally, ACEN to ensure that the BESS supplier's requirements on equipment clearances, installation, commissioning, operations and maintenance, and emergency response are met.</b>	<b>Prior to construction</b>
<b>Aboriginal heritage</b>		
AH1	ACEN will develop an Aboriginal Cultural Heritage Management Plan (ACHMP) in consultation with the RAPs and the Environment and Heritage Group of DPE, to the satisfaction of the Planning Secretary. The ACHMP will include an unanticipated finds protocol, unanticipated skeletal remains protocol and long-term management of any artefacts.	Prior to construction
AH2	Transport route modifications associated with transporting project components from Newcastle Port along the Golden Highway to the wind farm site will be assessed for impacts to Aboriginal heritage sites	Prior to construction
AH3	The design of the transmission line will ensure that the areas of PAD associated with Cainbil Creek OS-1 are spanned and that any associated access tracks avoid the areas of PAD	Detailed design
AH4	Collection of all surface artefacts at Cainbil Creek OS-1 and The Rock IF-1 will be undertaken by an archaeologist. The methodology of the surface artefact collection will be contained in the ACHMP that will be reviewed by RAPs.	Prior to construction
AH5	The remainder of the site extent of Cainbill Creek OS-1 that will not be impacted by the project will be fenced with hi-visibility fencing prior to works commencing in the vicinity of the site. The fencing will remain in place for the duration of construction in the vicinity of the site.	During construction

ID	Management/mitigation measure	Timing*
AH6	Orana OS-1, Old Farm OS-1, Kensington OS-1, site 36-3-0111 and the potential ring tree shown in will be avoided. The site extent of each site will be fenced with hi-visibility fencing prior to works commencing in the vicinity of the site. The fencing will remain in place for the duration of construction in the vicinity of the site.	During construction
AH7	Additional research will take place at Old Farm OS-1. This will involve non-invasive recording, mapping, and photography.	Prior to construction
AH8	All land-disturbing activities will be confined to within the survey boundary. Should the parameters of the proposed work extend beyond this, then further archaeological assessment will be required.	During Construction
<b>Historic heritage</b>		
HH1	A historical heritage management plan (HHMP) will be developed in consultation with the Department and will contain procedures should a new discovery of significant historic artefacts or items be made during construction or operation of the project.	Prior to construction
HH2	The location of each item should be considered when finalising the design for the access tracks, the overhead transmission line and the underground reticulation location as outlined in <b>12.3.2 (of the EIS)</b> .	Detailed design
HH3	Mt Hope-HS01, <b>Collier Creek-HS01</b> and The Rock-HS01 will be avoided.	Prior to construction
HH5	<b>The extents of the four items (Mt Hope-HS01, The Rock-HS01, The Rock HS02 and Collier Creek-HS01) will be fenced temporarily during construction.</b>	During construction
HH6	If items of historic heritage significance are uncovered during, then an unanticipated finds protocol for historic heritage will be implemented. The Unanticipated Finds Protocol for Historic Heritage will be guided by section 6.4 of the HIS ( <b>Appendix O</b> of EIS) and included in the HHMP.	During construction
HH7	To avoid the potential for harm to historic objects on unassessed adjacent landforms, all ground surface disturbing activities will be confined to the impact footprint outlined in this EIS.	During construction
<b>Water and soils</b>		
SW1	All waterway crossings will be designed and constructed in compliance with the Department of Primary Industries, Office of Water, Guidelines for riparian corridors on waterfront land and Guidelines for watercourse crossings on waterfront land <b>including Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)</b> .	Detailed design

ID	Management/mitigation measure	Timing*
SW2	Concrete wash from concrete batching plants will be appropriately contained and disposed of. Bunded areas of the batching plant will be designed to contain peak rainfall events and will be remediated after the completion of the construction phase. All waste will be collected and reused or removed from site by an appropriately licensed contractor.	Detailed design
SW3	Additional investigation and planning will be undertaken during the detailed design to manage erosion risk associated with stormwater. Measures such as inclusion of culverts and rock armouring would be included to address the potential for erosion impact specifically during flood events.	Detailed design
SW4	<p>Infrastructure, including turbines, substations, control buildings, stockpiles, and site compounds and turnaround areas will not be constructed on waterfront land as defined in the guidelines for controlled activity (Department of Planning and Environment, 2022).</p> <p>Other infrastructure, such as access tracks and electrical reticulation will be constructed in accordance with the guidelines for controlled activity (Department of Planning and Environment, 2022).</p>	Detailed design
SW5	<p>A construction soil and water management plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction works, including contaminated land. The CSWMP will provide:</p> <ul style="list-style-type: none"> <li>• measures to minimise/manage erosion and sediment transport both within the construction footprint and offsite including requirements for the preparation of erosion and sediment control plans (ESCP) for all progressive stages of construction. The plans will incorporate the principles of the existing guidelines, Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008).</li> <li>• measures to manage waste including the classification and handling of spoil</li> <li>• procedures to manage unexpected contamination, including: <ul style="list-style-type: none"> <li>○ acid sulfate soils</li> <li>○ salinity in soils</li> </ul> </li> <li>• measures to manage stockpiles including locations, separation of waste types, sediment controls and stabilisation</li> <li>• measures to manage accidental spills including the requirement to maintain materials such as spill kits</li> <li>• dewatering protocol if groundwater is intercepted</li> <li>• controls for receiving waterways which may include: <ul style="list-style-type: none"> <li>○ designation of 'no go' zones for construction plant and equipment</li> </ul> </li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>creation of catch/diversion drains and sediment fences at the downstream boundary of construction activities where practicable to support containment of sediment-laden runoff</li> </ul>	
SW6	Exposed or cleared areas will be stabilised as soon as possible to minimise erosion and sedimentation that has the potential to pollute watercourses in the area.	Prior to construction
SW7	Soil testing for clay content, cation-exchange capacity and electrical conductivity will be conducted as part of geotechnical investigations to inform detailed design. Where sodic soils are identified within an area where trenching is required, soil amendment with gypsum at an appropriate rate will be included within the CSWMP. <b>To inform the decommissioning and rehabilitation plan soil testing will incorporate representative soil profiles including soil features such as horizon presence and depth, structure, texture, Potential of Hydrogen (pH) and cation exchange capacity.</b>	Prior to construction / <b>construction</b>
SW8	The CSWMP will include a section on unexpected finds, in the event of exposing previously unknown contaminated land during construction and as part of ongoing operation of the infrastructure. All such finds will be investigated and quantified in terms of potential pollution risks. Where appropriate, action will be undertaken to comply with the requirements of section 120 of the POEO Act (prohibition of pollution of waters) and the CLM Act.	Prior to construction / construction
SW9	All vehicles onsite will be confined to the construction impact footprint during construction and the access track network during operation.	Construction and operation
SW10	The use of any farms dams during construction will be agreed with the landholder and the estimated maximum harvestable right dam capacity will not be exceeded.	Construction
SW11	Where possible, access routes and tracks will be constructed in already disturbed areas and personnel will keep to established tracks wherever possible.	Construction
SW12	If groundwater is intercepted and dewatering is required during construction of the turbine footings, dewatering will be managed in accordance with the CSWMP.	Construction
SW13	Following construction all disturbed land will be rehabilitated to an appropriate state as agreed with the landowner. Topsoil will be stockpiled and reused in the rehabilitation.	Post-construction
<b>SW14</b>	<b>Assessment to determine if the construction of any section of the project will constitute an aquifer interference will be completed by ACEN prior to construction. ACEN will submit a hydrogeological assessment against the NSW Aquifer Interference Policy (2012) (AIP) to DPE Water, if the project is found to be an aquifer interference activity.</b>	Prior to construction

ID	Management/mitigation measure	Timing*
<b>Waste and resources</b>		
WR1	<p>A construction waste management plan will be prepared in consultation with Warrumbungle Shire Council. The waste management plan will include:</p> <ul style="list-style-type: none"> <li>• details of the quantities of each waste type and the proposed reuse, recycling and disposal locations</li> <li>• details on how the waste will be transported to disposal locations during construction and decommissioning</li> <li>• details on measures to reduce the types and volumes of waste</li> <li>• measures to maximise reuse and recycling.</li> </ul>	Prior to construction
WR2	ACEN will continue to consult with Warrumbungle Shire Council <b>and Dubbo Regional Council</b> around specific details of the waste management strategy throughout the life of the project.	At all times
WR3	All waste generated from the project will be assessed, classified and managed in accordance with the <i>Waste Classification Guidelines</i> (EPA, 2014).	At all times
WR4	Management of wastes will follow the resource management hierarchy principles in accordance with the WARR Act (i.e. avoid > reduce > reuse > recycle > recover > disposal).	At all times
WR5	Skip bins will be made available onsite to enable waste separation for recycling (e.g. separate skip bins for cardboard recycling, plastics and timber collection). General waste bins will be provided for disposal of materials that cannot be cost-effectively recycled.	At all times
WR6	Waste will be disposed of at suitable facilities permitted to accept the waste.	At all times
WR7	All trucks transporting waste from the site will have covered loads to prevent spillage and other nuisances.	At all times
WR8	The site septic system will be installed and operated in accordance with Warrumbungle Shire Council regulations.	At all times
WR9	ACEN will consider reasonable and feasible alternative disposal methods for the wind turbine components based on the industry standards at the time of decommissioning.	Decommissioning
<b>WR10</b>	<b>ACEN will continue working with councils in the region regarding options for the disposal of sewage waste as the operations of the proposed potential workforce accommodation are further developed.</b>	<b>At all times</b>



ID	Management/mitigation measure	Timing*
<b>Social</b>		
<b>S1</b>	<b>ACEN commits to a total financial contribution of \$25,500,000 to be spent within the local community. This is equivalent to 1.5% of the projects capital investment value, in line with Council position.</b>	<b>Prior to construction</b>
S2	<p>A Community Benefit Scheme Framework will be developed to consolidate the various community benefit initiatives, including:</p> <ul style="list-style-type: none"> <li>• VPA</li> <li>• Neighbouring property benefits scheme</li> <li>• Community grants</li> </ul> <p>This framework will provide a framework for distribution of benefit and mechanisms to track and monitor the effectiveness of community benefits.</p> <p>The framework will include targets to enhance the community benefit sharing scheme by linking to outcomes that meet community priorities identified in the social impact assessment. For example, education and training outcomes for youth, community transport and connectivity, small business and enterprise capacity building, various community grants and scholarships in arts, sporting and culture.</p>	Prior to construction
S3	<p>A Neighbouring Property Benefit Scheme has been offered to residential properties neighbouring the wind farm site. This scheme, amongst others, will have an indirect benefit for the local economy and community more broadly for the life of the project.</p> <p>The Neighbouring Property Benefit Scheme framework was setup as a direct response to the issues raised regarding equality and fair distribution of benefits.</p>	Prior to construction
S4	<p>During the development phase of the project ACEN has been assisting with community grants to support various initiatives and programs within the local community including education, arts, sporting and culture sectors. This support will continue throughout construction, operation and decommissioning.</p>	Prior to construction
S5	<p>The construction environmental management plan and Construction Traffic Management Plan would include development of relevant measures in response to social impacts including:</p> <ul style="list-style-type: none"> <li>• amenity related impacts such as noise and dust</li> <li>• traffic impacts, including potential impacts to public transport providers including the coach service that operates as part of Transport for NSW TrainLink and the school bus service operated by Grace Coaches</li> <li>• an adaptive monitoring and management strategy that responds to any unforeseen matters that may arise</li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>cumulative impacts due to other major projects in the locality.</li> </ul>	
S6	<p>Workplace strategies will be implemented that encourage the integration of incoming populations with local communities including, but not limited to:</p> <ul style="list-style-type: none"> <li>workplace behaviours policies</li> <li>employee inductions and toolboxes and opportunities for workforce participation in community events and initiatives</li> </ul>	During construction
S7	<p>ACEN will appoint a full time, locally based resource prior to and during construction with experience in community relations and workforce engagement. This resource will be responsible for:</p> <ul style="list-style-type: none"> <li>community and workforce engagement and communications (including media)</li> <li>responding to community enquiries and complaints</li> <li>event planning and participation</li> <li>community benefit sharing implementation</li> <li>local participation plan implementation</li> </ul>	Prior to and during construction
S8	<p>A robust and supportive social performance and communications plan will be prepared to:</p> <ul style="list-style-type: none"> <li>facilitate communication between ACEN, the Construction Contractor and the community</li> <li>to outline an adaptive management and monitoring framework that defines how ACEN will track, measure and respond and report on social performance</li> <li>the objectives of this plan would be in line with the DPE's Community Participation Plan (DPIE, 2019) and seek to ensure that ACEN's engagement is open and inclusive, easy to access, relevant, timely and meaningful.</li> </ul> <p>This plan would:</p> <ul style="list-style-type: none"> <li>consider all phases of the project, from detailed design to operation</li> <li>outline a process that ensures communication materials are accessible to all community members, including the culturally and linguistically diverse community and those people with disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities</li> <li>have measurable targets, performance indicators and means by which performance can be measured</li> <li>have clearly defined roles and responsibilities for the delivery of activities</li> <li>include a timetable of actions and events</li> <li>identified the resourced needed to implement the plan.</li> <li>key components of the plan, including outcomes of social performance monitoring, would be made accessible to the public to further increase levels of trust and awareness.</li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
S9	<p>The social performance and communications plan will include a complaints management procedure which will outline a grievance process for the community to raise comments, questions and complaints will be established prior to construction commencing.</p> <p>The grievance process will be made publicly available and include a feedback process through which the complainant is provided with information relating to how their concern has been assessed, considered, and where feasible, addressed.</p>	Prior to construction
S10	<p>ACEN will, in consultation with Council, continue to investigate the benefits of inclusion of a construction workers accommodation to address the issue of increased pressure on housing and accommodation due to the construction workforce raised by community members as an area of concern.</p>	Prior to construction
S11	<p>A plan of management will be developed for the construction workers accommodation should it be developed. The primary purpose of this plan is to:</p> <ul style="list-style-type: none"> <li>• outline how the proposed construction workers accommodation will maintain a high level of amenity for neighbouring properties and for the workforce</li> <li>• strategies to encourage the integration of the workers camp with local communities to ensure that the economic benefits associated with the presence of a workforce are received by local businesses and service providers</li> <li>• policies and guidelines around expectations for workforce behaviours</li> <li>• consider appropriate safety and security measures.</li> </ul> <p>The plan would be developed in consultation with relevant stakeholders including community representatives, council and emergency services.</p>	Prior to construction
S12	<p>A Local Participation Plan and Aboriginal Participation Plan will be developed that prioritises participation and commits to procurement, employment and job readiness investment targets for ACEN and its contracting partners.</p> <p>The plans would be supported through procurement and employment systems that are embedded into construction contracts, management and assurance to ensure:</p> <ul style="list-style-type: none"> <li>• tenders are reviewed prior to release to extract smaller packages of work where there is known local and Indigenous business capability</li> <li>• <b>there are provisions in larger contracts, awarded to bigger business that encourage subcontracting opportunities for smaller local businesses</b></li> <li>• tender evaluation criteria and weightings are built into procurement processes</li> <li>• identification of priority roles to be filled by local and Indigenous candidates</li> </ul>	Prior to construction

ID	Management/mitigation measure	Timing*
	<ul style="list-style-type: none"> <li>• candidate assessment criteria and weightings</li> <li>• initiatives to enhance the retention of local and Indigenous employees</li> <li>• initiatives to promote the transition from training to long term employment.</li> </ul> <p>The plan will be strategic in terms of labour hire and relevant contractual conditions to ensure that issues around career path progression for youth and the equitable distribution of job opportunities are considered. <b>ACEN will provide assistance and mentorship to smaller regional businesses to support the start-up of management contracts.</b></p>	
S13	<p>ACEN will advocate with industry bodies such as EnergyCo for a strategic approach to understanding and managing the cumulative impacts on the REZ on regional communities regarding access, accommodation and housing and the use of infrastructure and service.</p> <p>ACEN will advocate to industry groups such as EnergyCo and Re-Alliance to commission research in response to ongoing community concerns about the potential of wind farms to devalue properties. This research should be made publicly available for all communities impacts by the REZs.</p>	Ongoing
S14	<p><b>ACEN will continue to work with Warrumbungle Shire Council and Mid-Western Regional Council to develop the workforce accommodation and employment strategy (WAES) for the project and identify opportunities for legacy solutions that may facilitate future development of the region. The WAES will document actions that seek to support the following key objectives:</b></p> <ul style="list-style-type: none"> <li>• <b>identify how the construction workforce will be accommodated and incentivised to stay at the facility, and measures to further minimise pressure on the existing capacity of short term tourist accommodation in the local area, if required</b></li> <li>• <b>facilitate an increase in the extent of geographic area for local hires ad workforce accommodation</b></li> <li>• <b>facilitate enhanced local workforce participation.</b></li> </ul>	Ongoing
S15	<p><b>ACEN will develop and implement safety measures within the construction workforce accommodation facility, including security patrols and adequate fencing and worker training, as well as complaints reporting processes for nearby landholders.</b></p>	Construction
S16	<p><b>The construction workforce accommodation facility will consider the provision of a medical centre and first aid station with an on site nurse to reduce pressure on local health service providers. This nurse should be sourced from outside the regional workforce due to existing issues with recruitment for rural positions unless otherwise deemed appropriate.</b></p>	Prior to construction

ID	Management/mitigation measure	Timing*
<b>Economic</b>		
E1	Local residents will be preferentially employed where they have the required skills and experience or are able to be upskilled and can demonstrate a cultural fit with the organisation. ACEN would work with Warrumbungle Shire Council to develop an employment strategy to maximise local hires wherever possible.	Prior to construction/ construction
E2	Non-labour inputs to production will be locally sourced where local producers can be cost and quality competitive, to support local industries.	Prior to construction/ Construction
E3	ACEN will continue and expand its participation, as appropriate, in business group meetings, events or programs in the regional community including (but not limited to) the operation of the CCC and the community benefits fund. For additional information refer to Chapter 5 of the EIS.	Ongoing
<b>Land use</b>		
LU1	Consultation will continue to be undertaken with participating landholders to minimise disruption to agricultural activities during construction and operation.	Detailed design / prior to construction
LU2	Consultation will continue to be undertaken with mining and exploration title holders as required regarding any planned exploration activities within the vicinity of the project. Final wind turbine locations and details of project infrastructure will be provided to the licence holders prior to construction.	Detailed design / prior to construction
LU3	Biosecurity management will include: <ul style="list-style-type: none"> <li>measures to manage the impacts of weeds, disease and pest animals during construction, operation, and decommissioning activities</li> <li>biosecurity response measures where impacts are identified</li> <li>contingency measures if existing measures are inadequate in managing the risk/impact.</li> </ul>	At all times
LU4	Targeted weed management will be implemented before vegetation clearance and during construction. <b>Weed management will be considered and where appropriate managed during operation</b> to minimise the spread of weeds.	During construction <b>and operation</b>
LU5	All machinery will be cleaned prior to entering and exiting the construction site to minimise the transport of weeds to vegetated areas. Weeds that are present within the construction site that are	During Construction

ID	Management/mitigation measure	Timing*
	listed under the NSW Biosecurity Act 2015 will be managed in accordance with a weed management plan.	
LU6	<p>A decommissioning and rehabilitation plan will be prepared that outlines the rehabilitation objectives and strategies to rehabilitate the wind farm site to an appropriate standard in consultation with the landholder. This will include but not be limited to:</p> <ul style="list-style-type: none"> <li>• rehabilitation objectives and strategies</li> <li>• describing the design criteria of the final land use and landform</li> <li>• performance indicators to be used to guide the rehabilitation of the land</li> <li>• expected timeline for the rehabilitation program.</li> </ul>	Prior to decommissioning
<b>Air quality</b>		
AQ1	Air quality management measures will be included in the construction environmental management plan for the project. The construction environmental management plan will outline the management measures to control and minimise dust generation from the project.	Prior to construction
AQ2	Water and/or dust suppressants will be applied during high dust generating activities (such as quarrying, batch plant operation, rock crushing and earthworks) and to exposed areas, stockpiles and unsealed roads.	During construction
AQ3	The traffic management plan will include optimisation of vehicle movements onsite reducing wheel generated dust. It will also incorporate speed restrictions for equipment operating on unsealed access tracks and disturbed areas.	At all times
AQ4	Loads will be covered when transporting material off site.	At all times
AQ5	Exposed areas will be rehabilitated and stabilised progressively through vegetation planting as soon as practicable after construction to minimise dust from wind erosion.	During construction
AQ6	Weather will be monitored to limit dust generating activities during unfavourable, high dust-generating conditions such as extended dry periods or when Warrumbungle Regional Council has water restrictions in place.	During construction
<b>Climate change and greenhouse gas</b>		
CC&GHG1	Fuel and energy efficient equipment and vehicles will be selected where available.	Prior to construction
CC&GHG2	Equipment and vehicles will be regularly serviced and maintained to optimise efficiency.	At all times

ID	Management/mitigation measure	Timing*
	<b>Cumulative</b>	
CU1	A community and stakeholder engagement plan that includes ongoing consultation with neighbouring operations to manage and cumulative impacts will be developed and implemented.	Prior to construction
CU2	Ongoing consultation with TfNSW in the development of the Traffic Management Plan (TMP) to coordinate management of turbine delivery programs across the projects should they occur in parallel.	Prior to construction
CU3	The Accommodation and Employment Strategy (described in Section 14 of the EIS) will be developed and implemented for the project in consultation with Warrumbungle Shire Council to manage work force accommodation across the projects should they occur in parallel.	Prior to construction
CU4	ACEN will continue discussions with the proponent of Liverpool Range Wind Farm and other relevant projects to align management plans and consider construction traffic management along the New England Highway and the Golden Highway.	Prior to construction
<b>CU5</b>	<b>ACEN will continue to engage with other renewable energy proponents in the CWO-REZ and EnergyCo to provide a coordinated process for the identification and management of cumulative impacts where possible.</b>	<b>At all times</b>

\*Note: measures to be implemented during construction will be applicable to the timing of each stage of the construction program.

