

Appendix 5

Consolidated Management
and Mitigation Measures



Appendix 5 – Consolidated Management Measures

Neoen will be responsible for implementing the management and mitigation measures identified in the EIS. The management and mitigation measures will be implemented through a construction environmental management plan, operational environmental management plan and decommissioning and rehabilitation plan. These plans will be prepared sequentially, prior to each stage of the Project by Neoen and the relevant contractor, and in consultation with relevant Government Agencies. The following table provides a consolidated list of the management and mitigation measures applicable to the Project and relevant timing for implementation.

Aspect	Management/Mitigation Measure	Timing
General	Neoen will prepare and implement a Construction Environmental Management Plan (CEMP) for the Project, incorporating all relevant management and mitigation measures outlined in the EIS.	Prior to the commencement of construction
	Neoen will prepare and implement a Operation Environmental Management Plan (OEMP) for the Project, incorporating all relevant management and mitigation measures outlined in the EIS.	Prior to the commencement of operation
	<p>Construction works (excluding quiet works such as office-based work activities) will be primarily completed between standard construction hours in accordance with the Interim Construction Noise Guideline (DECC 2009), which are as follows:</p> <ul style="list-style-type: none"> • 7:00 am to 6:00 pm – Monday to Friday • 8:00 am to 1:00 pm – Saturdays • Sunday and Public Holidays – no work to be completed <p>Construction works, other than quiet non-noise generating works (such as office work), including heavy vehicle movements into and out of the site, will generally be restricted to standard construction hours. Works carried out outside of the hours will be limited to:</p> <ul style="list-style-type: none"> • works that do not cause noise emissions above 35 dB(A) at any nearby non associated dwellings • the delivery of materials as requested by Police or other authorities for safety reasons • emergency work to avoid the loss of lives, property, and/or to prevent environmental harm, or • works where Neoen demonstrates and justifies a need to operate outside the recommended standard hours <p>Prior to undertaking such works (outside of standard construction hours) Neoen will undertake a notification and consultation process with any landowners potentially affected by noise-related impacts. The approach to notification and consultation will be outlined in the Construction Environmental Management Plan (CEMP).</p>	Construction

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Visual	<p>Neoen will provide screen and/or supplementary planting, at the request of the landowners identified in Table 1.</p> <p>Table 1 Mitigation and Visual Impact Rating</p> <table border="1"> <thead> <tr> <th>Dwelling ID</th> <th>Visual Impact Rating (no mitigation)</th> <th>Proposed Mitigation</th> <th>Visual Impact Rating (mitigation implemented)</th> </tr> </thead> <tbody> <tr> <td colspan="4">Black Line of Visual Magnitude</td> </tr> <tr> <td>12</td> <td>Moderate</td> <td>Screen planting to the north west of the dwelling</td> <td>Negligible-Low</td> </tr> <tr> <td>18</td> <td>Moderate</td> <td>Scattered screen planting to the south west of the dwelling</td> <td>Negligible</td> </tr> <tr> <td>19</td> <td>Moderate</td> <td>Screen planting to the north west of the dwelling</td> <td>Negligible-Low</td> </tr> <tr> <td>221</td> <td>Moderate</td> <td>Screen Planting to the south west of the dwelling</td> <td>Negligible</td> </tr> <tr> <td>226</td> <td>Moderate</td> <td>Scattered screen planting to the south west of the dwelling.</td> <td>Negligible</td> </tr> <tr> <td>309</td> <td>Moderate</td> <td>Screen planting to the south east of the dwelling</td> <td>Negligible-Low</td> </tr> <tr> <td>20</td> <td>Moderate</td> <td>Screen planting to the north west of the dwelling</td> <td>Negligible-Low</td> </tr> </tbody> </table>	Dwelling ID	Visual Impact Rating (no mitigation)	Proposed Mitigation	Visual Impact Rating (mitigation implemented)	Black Line of Visual Magnitude				12	Moderate	Screen planting to the north west of the dwelling	Negligible-Low	18	Moderate	Scattered screen planting to the south west of the dwelling	Negligible	19	Moderate	Screen planting to the north west of the dwelling	Negligible-Low	221	Moderate	Screen Planting to the south west of the dwelling	Negligible	226	Moderate	Scattered screen planting to the south west of the dwelling.	Negligible	309	Moderate	Screen planting to the south east of the dwelling	Negligible-Low	20	Moderate	Screen planting to the north west of the dwelling	Negligible-Low	<p>Offers made prior during construction with agreed works to be completed prior to operation, subject to an agreement being reached with the landowner.</p> <p>Should the landowner not take up the initial offer of works, Neoen will maintain the offer of mitigation throughout the operational phase.</p>
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	<p>Night lighting of ancillary infrastructure will be limited to low-level lighting for security, night time maintenance and emergency purposes. During construction appropriate mitigation will be applied to lighting (including directional lighting and light shields) to reduce any associated impact.</p>	<p>Construction and Operation</p>																																				
Noise	<p>Each WTG will:</p> <ul style="list-style-type: none"> • Be uniform in the colour, design, height, and rotor diameter • Be finished in matt-white and non-reflective material to reduce visibility • not have any unnecessary signage or lighting. 	<p>Construction</p>																																				
	<p>Fixed construction noise sources such as crushing and screening plant, concrete batching plant, generators and compressors will be located at the maximum practicable distance to the nearest non-associated dwellings, and where practicable, use existing topography (or raw or processed materials) to block line of sight between the fixed noise source and the non-associated dwelling.</p> <p>Neoen will provide Acoustic screens or mounding for fixed crushing/screening plant and concrete batching plants wherever these noise sources are located within 2400 m of a non-associated dwelling and do not have direct line of sight blocked by site topography. These screens or mounds will be:</p> <ul style="list-style-type: none"> • located as close as practicable to the noise source • constructed from mounding using excavated soil from the site or a material with a minimum surface density • of 10 kg/m², such as 1.2mm thick sheet steel or 9mm thick compressed fibre cement sheeting, or use proprietary barriers such as the FlexShield “Sonic Quilt” 	<p>Construction</p>																																				

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	<ul style="list-style-type: none"> constructed to a minimum height that blocks direct line of sight between the noise source and any non-associated dwellings within 2400 m constructed such that air gaps or openings at joints between sections of the acoustic screens are minimised. 	
	<p>Neoen will provide acoustic enclosures for site compressors and generators located within 2400 m of a non-associated dwelling.</p>	
	<p>Neoen will investigate and implement alternative construction processes where feasible and reasonable to reduce noise (e.g. hydraulic or chemical splitters as an alternative to impact rock breaking and the use of broadband reversing alarms in lieu of the high-pitched alarms).</p>	
	<p>The CEMP will include the following noise management measures:</p> <ul style="list-style-type: none"> site works will be centralised within the site and materials stored as far from dwellings as practicable works will be undertaken to reduce noise levels wherever possible (no excessive dropping of materials from height to reduce peak noise events) plant known to emit noise strongly in one direction, such as the exhaust outlet of generator set, shall be orientated so that the noise is directed away from noise sensitive areas if practicable machines that are used intermittently shall be shut down in the intervening periods between works or throttled down to a minimum worksite induction training will cover noise reduction requirements for all construction staff all equipment will have Original Equipment Manufacturer (OEM) mufflers (or better) installed equipment will be maintained and fitted with adequately maintained silencers which meet the OEM design specifications. Inspection monitoring will be undertaken. If plant and equipment is determined to be noisier than other similar machines it will be replaced or rectified as required. 	
	<p>Neoen will implement the following noise related requirements as part of the community engagement process:</p> <ul style="list-style-type: none"> community information newsletters (including via website) providing details of the construction plan, duration of the construction phases and contact details of relevant project team members (Project Manager and/or site Environmental Representative) a feedback mechanism for the community to submit questions to the construction team, and for the construction team to respond regular updates on the construction activities to local authorities to assist in complaint management if necessary. 	<p>Construction and Operation</p>

Aspect	Management/Mitigation Measure	Timing
	<p>Prior to any non-quiet construction activity outside of standard work hours occurring within 2000 m of a non-associated dwelling, or significant construction traffic periods or impacts on local roads, Neoen will contact (within a reasonable timeframe before the proposed works) the local community potentially affected by the proposed works to provide the location of the work, the day(s) and date(s) of the work, the hours involved and the contact details of the Project Manager and / or site Environmental/Community Representative.</p>	Construction
	<p>In the event that blasting is required:</p> <ul style="list-style-type: none"> • a blasting methodology will be designed by a blasting specialist, during the detailed design phase to design blasts to comply with the criterion. • a monitoring regime will be developed and implemented as part of the CEMP to monitor compliance with relevant blasting criteria. 	Construction
	<p>To reduce potential noise impacts associated with construction traffic movements, Neoen will:</p> <ul style="list-style-type: none"> • communicate with the affected community in accordance with the commitments outlined above • manage traffic movements to avoid excessive acceleration of trucks and the use of truck engine brakes in close proximity to non-associated dwellings, particularly through towns and in the vicinity of the intersection providing access to the Project Area • provide information regarding the transport route to all construction staff and the need to minimise impacts through driver operation (e.g. restricting use of engine brakes) at certain locations • schedule construction traffic deliveries such that they are as evenly dispersed as practicable • restrict traffic movements to the day-time operating hours (as far as practicable), subject to the justifications for activity outside of this time as detailed above 	Construction
Biodiversity	<p>Salvage of biodiversity features, including habitat resources (e.g., hollow logs, tree hollows, fallen timber and rocks/boulders) and replacement of them in suitable locations in the landscape to augment existing habitat.</p>	Construction
	<p>A pre-clearing procedure will be implemented to minimise the potential for impacts on native fauna species (focusing on threatened species) as a result of the clearing of hollow-bearing trees. The pre-clearing procedure is designed to minimise impacts to hollow-dependent and ground-dwelling fauna.</p>	
	<p>Pre-clearance surveys and tree-felling supervision recommendations will be implemented to minimise the potential for impacts on native fauna species (including threatened species) as a result of the clearing of hollow-bearing trees.</p> <ul style="list-style-type: none"> • Pre-clearance surveys and Tree felling will be undertaken in accordance with the mitigation and management measures outlined in Section 4.3 of the Thunderbolt Energy Hub Stage 1 - BDAR 	
	<p>Implement hygiene protocol in accordance with the NSW Threatened Species Management Information Circular No.6 (April 2008)) and saving Our Species Guidelines for threatened frog species.</p>	Construction and Operation

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	<p>Flocculants or other chemicals proposed to be used on site are required to be known and verified as being safe in sensitive environments and particularly in relation to amphibians.</p>	
	<p>Implementation of a Koala sighting register</p>	
	<p>Weed management controls will include:</p> <ul style="list-style-type: none"> • machinery and equipment will be cleaned thoroughly prior to entering the Subject Land. Cleaning must include the removal of all mud and plant matter, followed by washing with high pressure water. • mulch containing weeds will be placed in piles separate from clean mulch, removed from site, and disposed of in accordance with weed management guidelines as soon as practicable. 	
	<p>Access control is an important feature in protecting and demarcating areas outside the disturbance area from vehicle access, human access, and accidental disturbance. Measures include:</p> <ul style="list-style-type: none"> • appropriate fencing and signposting of areas to prevent the uncontrolled entry of people, accidental disturbance and to minimise vehicular and human traffic • clear and visible signage is to be appropriately located to inform the workforce and others of the restricted access or otherwise of areas outside the Subject Land and • locking of gates to prevent unwanted vehicle, person access and disturbance. 	
	<p>General fencing will be non-inhibiting fauna fencing (excludes security fencing).</p>	
	<p>During construction, temporary fencing will be used to demarcate vegetation where required to avoid accidental damage to areas outside of the disturbance area.</p>	Construction
<p>The following mitigation actions will be implemented for the Project to develop a greater understanding and awareness of biodiversity issues in non-ecological trained personnel:</p> <ul style="list-style-type: none"> • Inductions for the workforce will be undertaken to make them aware of the key ecological issues present in the Subject Land and so that they know their role and responsibilities in the protection and/or minimisation of impacts to all native biodiversity • Inductions will identify the location of sensitive flora and fauna and the policies being implemented to protect the biodiversity values of such areas. • Specific Koala material will be prepared and provided to all personnel visiting or working on the Project. The material will focus on educating about any Koala high use areas or specific movement corridors are identified through the koala sighting register, suitable habitat for the species, tips on how to identify during work, photographic examples of scratch marks and scats. 	Construction and Operation	

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	<p>Neoen will prepare and implement a Bird and Bat Adaptive Management Plan (BBAMP) to measure any impacts on aerial fauna by the Project. The plan will develop trigger levels and mitigation measures designed to manage such impacts through Project operation, in consultation with BCD. The BBAMP will provide guidance to develop a framework for monitoring such impacts. This will include baseline monitoring and ongoing monitoring.</p>	<p>Operation (plan to be prepared prior to the commencement of operation)</p>																				
	<p>Neoen will develop a biodiversity offset strategy during the assessment process in consultation with BCD, DPIE and DAWE; and based on the credits required to be retired to offset the impacts of the Project as outlined in Table 2 and the offset options available under the BC Act and BC Regulation including:</p> <ul style="list-style-type: none"> • Land based offsets through the establishment of new Stewardship Sites (and subsequent retirement of credits) or by retiring credits from existing Stewardship Sites. Neoen would retire the required number and class of credits determined in accordance with the BDAR and the offset rules in the BC Regulation. • Securing (purchasing) credits through the open credit market, and/or • Paying into to the Biodiversity Conservation Fund (BCF) <p>Table 2 Credits Required to Offset the Project</p> <table border="1"> <thead> <tr> <th>PCT/Species-credit</th> <th>Credits Required</th> </tr> </thead> <tbody> <tr> <td colspan="2">Ecosystem Credits</td> </tr> <tr> <td>PCT 501: Bendemeer White Gum - Silvertop Stringybark - Rough-barked Apple +/- Moonbi Apple Box grassy open forest of the southern New England Tableland Bioregion</td> <td>3239</td> </tr> <tr> <td>PCT 510: Blakely's Red Gum - Yellow Box grassy woodland of the New England Tableland Bioregion</td> <td>377</td> </tr> <tr> <td>PCT 542: Stringybark - Rough-barked Apple - cypress pine shrubby open forest of the eastern Nandewar Bioregion and western New England Tableland Bioregion</td> <td>143</td> </tr> <tr> <td>PCT 559: Youmans Stringybark - Mountain Gum open forest of the western New England Tableland Bioregion</td> <td>640</td> </tr> <tr> <td>PCT 582: Sedgeland fens wetland of impeded drainage of the Nandewar Bioregion and New England Tableland Bioregion</td> <td>71</td> </tr> <tr> <td colspan="2">Species Credits</td> </tr> <tr> <td>Blue grass (<i>Dichanthium setosum</i>)</td> <td>1594</td> </tr> <tr> <td>Koala (<i>Phascolarctos cinereus</i>)</td> <td>3220</td> </tr> </tbody> </table> <p>Note: credit requirements subject to micro siting, final credit requirement to be confirmed during the detailed design phase</p>	PCT/Species-credit	Credits Required	Ecosystem Credits		PCT 501: Bendemeer White Gum - Silvertop Stringybark - Rough-barked Apple +/- Moonbi Apple Box grassy open forest of the southern New England Tableland Bioregion	3239	PCT 510: Blakely's Red Gum - Yellow Box grassy woodland of the New England Tableland Bioregion	377	PCT 542: Stringybark - Rough-barked Apple - cypress pine shrubby open forest of the eastern Nandewar Bioregion and western New England Tableland Bioregion	143	PCT 559: Youmans Stringybark - Mountain Gum open forest of the western New England Tableland Bioregion	640	PCT 582: Sedgeland fens wetland of impeded drainage of the Nandewar Bioregion and New England Tableland Bioregion	71	Species Credits		Blue grass (<i>Dichanthium setosum</i>)	1594	Koala (<i>Phascolarctos cinereus</i>)	3220	<p>Prior to clearing of native vegetation requiring offsets (or timing as otherwise agreed with the Secretary of DPE)</p>
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<p>Should the detailed design of the Project (following micro siting) result in changes to the credit calculation applicable to the Project, prior to construction Neoen will recalculate the biodiversity offset credit liabilities in consultation with BCS and confirm with DPIE.</p>	<p>Prior to the commencement of construction</p>																					

Aspect	Management/Mitigation Measure	Timing
Traffic	Neoen will construct an intersection with basic left and short channelised right treatments (as per Austroads standards) providing for direct access from the New England Highway. The design will be subject to further detailed design including further consultation with and approval from Transport for NSW (TfNSW) as part of Project implementation.	Construction
	Neoen will undertake an additional detailed route analysis during the detailed design phase once the turbine component and transport vehicle configurations are confirmed, to confirm the level of works and approvals required along the identified transport route to accommodate the swept paths of the OSOM vehicles this will include consultation with the relevant roads authorities for the proposed works areas. Neoen will undertake any works identified through this process prior to the use of the relevant roads in consultation with the relevant roads Authority.	Prior to the commencement of construction
	Subject to the approval of TfNSW, Neoen will install advisory 'truck turning' signage on the approaches to the Project Area Intersection with the New England Highway, to highlight to motorists the potential for turning heavy vehicles to/from the side road.	Upon the commencement of construction
	Neoen will prepare and implement a Transport Management Plan (TMP) outlining proposed traffic and transport management measures and processes for all phases of the Project. The management measures will be designed to minimise the impact of Project traffic (including OSOM turbine component transport vehicles) on the external road network.	Prior to the commencement of construction
	Neoen will undertake further consultation with the City of Newcastle (CoN) and Muswellbrook Shire Council (MSC) regarding an infrastructure or maintenance agreement to cover any required mitigation works to manage the expected pavement impacts of the Project on the lower order, local government-controlled road links of Selwyn Street and George Street (CoN - both routes) and Bengalla Road, Wybong Road, Kayuga Road, Ivermein Street, Stair Street and Dartbrook Mine Access Road (MSC - Route 2 only). This would also include pre and post dilapidation inspections to be undertaken on the sections of the local government roads used by Project traffic, with these inspections to be completed by representatives of the Neoen and the relevant Council.	Prior to the commencement of construction
Aboriginal Archaeology	Ensure that all employees and contractors are aware that it is an offence under Section 86 of the NPW Act to harm or desecrate an Aboriginal object unless that harm has been subject to approval as part of the necessary approvals process.	Construction and Operation
	<p>An Aboriginal cultural heritage management plan (ACHMP) for the Project will be developed in consultation with the registered Aboriginal parties, including:</p> <ul style="list-style-type: none"> Protecting the Aboriginal archaeological sites and areas of archaeological potential identified in Table 3 including establishing appropriate fencing/site demarcation prior to the commencement of construction and ensuring ongoing protection during construction and operation. Impacts to sites and areas of archaeological potential identified in Table 3 that cannot be practically avoided. This will include the provision of methodologies for the completion of the recommended mitigation activities, as 	ACHMP to be prepared prior to the commencement of construction

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	<p>referenced in Table 3. This may include surface collection, salvage excavation and/or community collection prior to or during the course of construction activities.</p> <ul style="list-style-type: none"> • Protocols to be followed in the instance that additional ground disturbance works are required outside the Development Corridor. This will include requirements for further survey and assessment of any such works. • The management of any new Aboriginal archaeological sites that may be identified during these inspections or over the course of construction or operational activities. • The management of Aboriginal skeletal remains should any be identified within the construction or operational activities for the Project. • Monitoring and reporting on the effectiveness of these measures and to compile a report on the outcomes of any approved mitigation works. • Ensuring that all staff and contractors working on the Project receive Aboriginal cultural heritage awareness training and are informed of their obligations to comply with the requirements of the Aboriginal cultural heritage management plan. <p>Table 3 Recommendations by site/area of archaeological potential</p> <table border="1"> <thead> <tr> <th>Sites</th> <th>Proposed Management Strategy</th> <th>Requirements</th> </tr> </thead> <tbody> <tr> <td> TWF AS1 TWF AS2 TWF AS3 Possible Scarred Trees 1-4 Potential Stone Arrangements 1 and 5 </td> <td> Outside Development Corridor therefore no impacts required (avoidance) </td> <td> Establish appropriate fencing/site demarcation prior to the commencement of construction and ensure ongoing protection during construction and operation </td> </tr> <tr> <td> TWF IA1^ TWF IA2^ TWF IA3^ TWF IA4 Spring Creek 1 Pine Creek 1 Pine Creek 2 Pine Creek-3 </td> <td> Minimise impacts (micro-siting/final design demonstrates that impacts to sites can be fully or partially avoided) </td> <td> Establish appropriate fencing/site demarcation of the site/area (or portion thereof that is not being impacted) prior to the commencement of construction and ensure ongoing protection during construction and operation </td> </tr> <tr> <td> Pine Creek 1 Pine Creek 2 Pine Creek-3 Potential Stone Arrangements 2, 3 and 4 </td> <td> Minimise impacts (micro-siting/final design demonstrates that impacts to sites cannot be fully or partially avoided) </td> <td> Surface collection of identified surface artefacts Community collection post-clearance and in association with earthworks and/or Salvage excavation In relation to Potential Stone Arrangements 2-4, further consultation with Aboriginal parties regarding appropriate mitigation measures for these potential sites (if required) can be undertaken as a component of the development of an Aboriginal cultural heritage management plan for the Project. </td> </tr> </tbody> </table> <p>^Surface collection only to be undertaken at TWF IA1-3</p>	Sites	Proposed Management Strategy	Requirements	TWF AS1 TWF AS2 TWF AS3 Possible Scarred Trees 1-4 Potential Stone Arrangements 1 and 5	Outside Development Corridor therefore no impacts required (avoidance)	Establish appropriate fencing/site demarcation prior to the commencement of construction and ensure ongoing protection during construction and operation	TWF IA1^ TWF IA2^ TWF IA3^ TWF IA4 Spring Creek 1 Pine Creek 1 Pine Creek 2 Pine Creek-3	Minimise impacts (micro-siting/final design demonstrates that impacts to sites can be fully or partially avoided)	Establish appropriate fencing/site demarcation of the site/area (or portion thereof that is not being impacted) prior to the commencement of construction and ensure ongoing protection during construction and operation	Pine Creek 1 Pine Creek 2 Pine Creek-3 Potential Stone Arrangements 2, 3 and 4	Minimise impacts (micro-siting/final design demonstrates that impacts to sites cannot be fully or partially avoided)	Surface collection of identified surface artefacts Community collection post-clearance and in association with earthworks and/or Salvage excavation In relation to Potential Stone Arrangements 2-4, further consultation with Aboriginal parties regarding appropriate mitigation measures for these potential sites (if required) can be undertaken as a component of the development of an Aboriginal cultural heritage management plan for the Project.	
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Historic Heritage	An unexpected heritage finds protocol will be established and included in the CEMP and OEMP.	Construction Operation
	All Project team members and construction contractors will be required to undertake a heritage-specific induction to support the use of the heritage finds protocol.	
	During construction, in the unlikely event that unexpected historical archaeological material is discovered, all work in the area will cease and a suitably qualified archaeologist consulted to determine an appropriate course of action. Depending on the extent and significance of the archaeological remains encountered, consultation with Heritage NSW may also be required prior to the commencement of works.	Construction
Aviation	Overhead transmission lines and/or supporting poles associated with the Project that are located where they could adversely affect aerial application operations will be identified in consultation with local aerial agriculture operators and marked in accordance with Part 139 Manual of Standards (MOS) Chapter 8 Division 10 section 8.110 (7) and 8.110 (8) where applicable.	Detailed Design (any required markings to be completed during construction)
	To facilitate the flight planning of aerial application operators, the location and height of 'as constructed' WTGs and the WMT will be provided to landowners so that, when asked for hazard information on their property, the landowner may provide the aerial application pilot with all relevant information.	Construction and Operation
	Neoen will provide 'As constructed' details of WTG and WMT coordinates, and elevations to Airservices Australia.	
	Neoen will engage with local aerial agricultural operators and aerial firefighting operators in developing procedures for such aircraft operations in the vicinity of the Project.	
	Details of the final wind farm layout will be provided to local and regional aircraft operators prior to construction in order for them to consider the wind farm for their operations.	
	The rotor blades, nacelles and towers of the WTGs will be painted in white to provide sufficient contrast with the surrounding environment.	
	During the detailed design process, any required marking of the temporary and permanent meteorological monitoring masts will be confirmed, according to the requirements set out in Manual of Standards (MOS) Part 139 Chapter 8 Division 10 (as modified by the guidance in NASF Guideline D).	Detailed Design (prior to the commencement of construction of meteorological masts)
Telecommunications	Should material impact to AM/FM Signals, Satellite Television/internet, wireless internet, mobile phones, fixed point-to-point and point-to-multipoint links, emergency services (point-to-point links) occur in the vicinity of the Project Area as a result of the Project, Neoen will apply appropriate mitigation in consultation with the relevant operator and landowner.	Operation
	In relation to television broadcasting, Neoen will undertake pre-construction measurements of signal strength at selected dwellings within 3 km of the Project Area to enable any interference after construction to be investigated. If	Prior to the commencement of construction

Aspect	Management/Mitigation Measure	Timing
	there are material impacts, Neoen will apply appropriate mitigation in consultation with the relevant operator or landowner once the Project is operational	
Bushfire	<p>A Bushfire Emergency Management Plan will be developed for the Project in accordance with PBP 2019 and in consultation with the RFS (including any requirements in relation to aerial firefighting). The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project, including:</p> <ul style="list-style-type: none"> • detailed measures to prevent or mitigate fires igniting, outlining: <ul style="list-style-type: none"> ○ APZ locations and management requirements ○ access locations, passing bays and any alternate emergency access ○ management requirements in relation to aerial firefighting ○ water supply and location and any other bush fire suppression systems (including any drenching systems, static water supply, natural water sources) ○ work that should not be carried out during total fire bans ○ availability of fire-suppression equipment ○ storage and maintenance of fuels and other flammable materials • 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 • an appropriate Emergency Evacuation Plan (including bush fire emergency management). 	<p>The Bushfire Emergency Management Plan will be prepared prior to the commencement of construction.</p> <p>Implementation during construction and operation</p>
Blade Throw	Unless otherwise agreed with host dwelling (ID 302), as part of the detailed design phase a site-specific blade throw modelling assessment will be undertaken (once the WTG model is confirmed and any necessary controls identified in the assessment will be implemented).	Detailed Design (prior to the commencement of construction)
Hazard	Neoen will ensure that all suppliers and contractors handling ANE and Class 1.1 materials possess the required SafeWork NSW licences.	Construction
	Neoen will also ensure that that all suppliers and contractors supplying, transporting and handling ANE and Class 1.1 materials have systems in place to ensure that safety and security risks are managed in accordance with the NSW Explosives Act and the NSW Explosives Regulation which includes the requirement to comply with Code of Practice, Mobile Processing Units (Australian Explosives Industry Safety Group Inc., 2018).	
	Diesel fuel (a class C1 combustible liquid) will be stored within the Project Area in a self-bunded bulk tank.	Construction and Operation
	Storage of diesel fuel, and any flammable and combustible liquids (fuels and oils), will be undertaken in accordance with AS1940:2017 The storage and handling of flammable and combustible liquids and flammable liquids will be stored separately from combustible liquids.	

Aspect	Management/Mitigation Measure	Timing
Water Resources	The CEMP will include relevant erosion and sediment control measures, developed in accordance with Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (DECC, 2008) (the 'Blue Book').	Construction
	The OEMP and the Decommissioning and Rehabilitation Plan (to be developed 2 years prior to closure) will also include relevant surface water and erosion sediment control management measures.	Operation
	The erosion and sediment control measures will be prepared by a suitably qualified soil and water specialist, e.g., a Certified Professional in Erosion and Sediment Control.	Construction and Operation
	<p>The CEMP will likely include the following ESC measures:</p> <ul style="list-style-type: none"> • Undertake targeted soil testing (in particular, to identify any dispersive soils) to determine topsoil and subsoil properties in high-risk areas to be disturbed (e.g. steep slopes, in close proximity to streams). • Diversion of clean water around disturbed areas. • Staging of works to minimise the extent of ground disturbance at any one time and progressive rehabilitation • Stockpiles managed in accordance with 'Blue Book' standard drawing SD 4-1 Stockpiles • Constructed batters with maximum slopes consistent with Figure 4.7 of Volume 1 of the 'Blue Book' • Access tracks that are constructed and maintained consistent with Volume 2C Unsealed Roads of the 'Blue Book' • Fuels, chemicals and liquids are stored in impervious bunded areas, a minimum of 50 m away from: <ul style="list-style-type: none"> ○ rivers, creeks or any areas of concentrated water flow ○ flooded or poorly drained areas ○ slopes above 10% ○ Chemical spill kits will be available and personnel will be trained in spill response ○ All vehicles and mobile plant will be appropriately maintained and subject to daily pre-start checks for fluid leakage. • Bunded concrete wash-out bunds lined with plastic sheeting will be provided and sign posted so they are clearly identified by contractors and concrete agitator/pump drivers. No concrete wash-out will occur within 50 m of drainage lines or waterways. • Inspection and maintenance of installed erosion and sediment controls • Monthly downstream water quality monitoring (pH, turbidity and TSS). An appropriate downstream water quality monitoring location(s) will be identified during preparation of the CEMP. 	Construction
	<p>Soil amelioration and rehabilitation:</p> <ul style="list-style-type: none"> • Minimum 200 mm of topsoil to cover any dispersive subsoils (outside of rocky areas) • Ameliorate dispersive subsoils with gypsum around hard surfaces (e.g. turbine foundations) where concentrated flows have the potential to erode non-dispersive topsoil 	Construction

Aspect	Management/Mitigation Measure	Timing
	<ul style="list-style-type: none"> • Use of biodegradable rolled erosion control products (e.g. jute mesh or mat) to provide stability during revegetation of disturbed areas • Use appropriate species suited to the low fertility soils 	
	Undertake trenching in accordance with Volume 2A Installation of Services of the 'Blue Book'	Construction
	All mobile concrete batching plants will be located in appropriately sized bunded areas to contain surface runoff that has the potential to have elevated pH and concentrations of fine sediment. Water captured within the bunds will be utilised for concrete production or removed from site by a suitably licenced waste contractor.	Construction
	Potable water demands for both the construction and operational phases of the Project will be supplied via water tanker and stored in on-site water tanks. Potable water storages will be routinely tested to ensure water quality meets the requirements of the Australian Drinking Water Guidelines (ADWG) (National Health and Medical Research Council, 2011) and an appropriate maintenance regime will be implemented to ensure water quality ADWG water quality standards are maintained.	Construction and Operation
	Any other water sourced from either surface water or groundwater sources to meet Project construction demands will be licenced and managed, as required, in accordance with the requirements of the Water Management Act 2000.	Construction
	Wastewater generated by amenities during the Project construction phase will be collected in a tank(s) and periodically removed by a suitably licenced waste contractor. During the operational phase of the Project, the volume of amenities wastewater will be significantly lower than that generated in the construction phase and will be managed by either collection in a tank(s) and periodic removal by a suitably licenced waste contractor or in an on-site wastewater management system.	Construction and Operation
	<p>Project waterway crossings will be designed to minimise impacts on stream stability and fish passage and will be designed with reference to:</p> <ul style="list-style-type: none"> • Guidelines for Controlled Activities on Waterfront Land (the CAA Guidelines) (Department of Planning, Industry and Environment (DPIE) Water, 2018) • Why Do Fish Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Department of Primary Industries (DPI) Fisheries, 2003) • Fisheries NSW Policy and guidelines for fish habitat conservation and management, (NSW DPI, 2013). 	Detailed Design (prior to construction of waterway crossings)
	<p>For works on waterfront land (within 40m of top of bank) the following measures will be incorporated into the design of the works and controls included in the Soil and Water Management Plan:</p> <ul style="list-style-type: none"> • A site specific erosion and sediment control plan will be prepared for all works on waterfront land • Where possible infrastructure will be maintained outside of the vegetated riparian zone • Utilise stream crossings for co-location of services to avoid the need to trench through stream beds wherever practicable 	Construction

Aspect	Management/Mitigation Measure	Timing
	<ul style="list-style-type: none"> Rehabilitate disturbed areas and provide scour protection to bed and banks as required to mitigate any areas with increased potential for erosion due to changes in flow regimes associated with Project infrastructure Where practicable, undertake works on waterfront land from April to mid-October when fish passage is unlikely to occur. 	
	<p>During detailed design consultation will be undertaken with DPI Fisheries to determine if any of the proposed waterway crossings require consideration of fish passage. For any crossings that do require consideration of fish passage, the relevant DPI Fisheries guidelines will be considered during the detailed design process.</p>	Detailed Design (prior to construction of waterway crossings)
	<p>Development of the Emergency Response Plan to be included in the CEMP and OEMP will include consultation with NSW State Emergency Services (NSW SES) and local Councils covering the management and response to flooding.</p>	Construction and Operation
	<p>In the unlikely event that the detailed design determines that the depth required for drilling for rock anchor foundations is greater than currently planned and that it could result in interception of the groundwater table, an assessment of potential groundwater impacts will be undertaken in accordance with the NSW Aquifer Interference Policy (NSW Government, 2012).</p>	Construction
Waste	<p>Neoen will prepare a Waste Management Plan which will include a detailed breakdown of waste types and quantities in accordance with relevant legislation and guidelines.</p> <p>The Waste Management Plan will outline the measures and strategies to be implemented on site to manage, reuse, recycle and safely dispose of waste including:</p> <ul style="list-style-type: none"> separation and storage of recyclable and non-recyclable materials reuse and collection/transportation of waste procedures for tracking waste storage and disposal <p>On-site waste management will include the appropriate separation and storage of waste streams to enable recycling and reuse wherever possible to reduce associated environmental impacts and impact to the capacity of local waste management facilities.</p>	<p>The Waste Management Plan will be prepared prior to the commencement of construction.</p> <p>Implementation during construction and operation</p>
Decommissioning and Closure	<p>Should decommissioning be required, Neoen will prepare a Decommissioning and Rehabilitation Plan for the Project, 2 years prior to closure. The plan will include rehabilitation of the site and a detailed review of the associated waste streams and recycling/disposal options available at the time. Preparation of the Decommissioning and Rehabilitation Plan will be subject to consultation with key stakeholders including relevant the host landholders, community, Local and State Government.</p>	2 years prior to decommissioning
Air Quality	<p>The CEMP will include relevant management measures to limit off-site dust impacts. Specific measures will include:</p> <ul style="list-style-type: none"> application of water and/or dust suppressants using a water cart (as required) to minimise dust emissions from areas exposed by construction 	Construction

Aspect	Management/Mitigation Measure	Timing
	<ul style="list-style-type: none"> locate, shape and seed longer-term topsoil stockpiles in a strategic manner to minimise dust erosion from exposed surfaces implement and enforce speed limits for construction vehicles and equipment on unsealed access tracks and hardstand areas limit construction activities during unfavourable (windy) weather conditions dust controls (such as water sprays or dust capture systems) for the construction phase concrete batching plants undertake blasting activities in accordance with a detailed methodology prepared by a suitably qualified person and implement a blast monitoring program regular inspections/audits to ensure appropriate air quality controls are being implemented during construction activities 	
	<p>The OEMP, will include on-site management measures to limit off-site air quality emissions. Specific measures will include:</p> <ul style="list-style-type: none"> implement and enforce speed limits for operations vehicles and equipment on unsealed access tracks and hardstand areas minimise dust emissions from exposed areas through the application of water and/or dust suppressants using a water cart (as required) limit operational maintenance activities during unfavourable (windy) weather conditions regular inspections/audits to ensure appropriate air quality controls are being implemented during operations and maintenance activities. 	Operation
Social Impact	<p>Community Relations Plan (CRP) - Neoen will continue to update and implement the CRP. This will continue to be led by an internal resource, and identify mechanisms and methods to be utilised to engage with key stakeholders, periodic action plans, targets, responsibilities for implementation, as well as a monitoring and evaluation framework throughout the life of the Project.</p>	Construction Operation Decommissioning
	<p>Neoen will develop and implement a Benefit Sharing Program which includes:</p> <ul style="list-style-type: none"> Neighbour Benefit Sharing Program which includes direct payments being offered to neighbours who own a residential dwelling within 3.5km of a proposed wind turbine. Payments will be made on a sliding-scale based on the distance of their dwelling to wind turbines, and the number of turbines nearby. The payments will be annual and will commence at the beginning of the operations phase of the project, which is typically 25-30 years. The final amount received by neighbours will depend on the constructed wind turbine layout, to be determined in the construction phase when final distances from dwellings to turbines will be confirmed. The annual payments will begin once the Project commences operations. Community Benefit Sharing Program - Neoen will implement a Community Benefits Sharing Program (CBSP) with the aim of providing significant and meaningful benefits to the communities surrounding the Project Area. 	Operation. The Program will be implemented in the first year of operations and will be ongoing.

Aspect	Management/Mitigation Measure	Timing
	<ul style="list-style-type: none"> • The Community Benefit Fund will commence once the Project is operational and will provide \$100,000 annually . Local projects and initiatives to be funded will be based on community feedback. This may include local projects such as sports, clubs, tourism, heritage, arts and culture via a yearly competitive grants process. <p>Neoen will develop and implement a local participation plan prior to the construction phase of the Project. The LPP will include local participation planning, including employment and procurement and will focus on understanding existing capabilities within the social locality and the potential for the Project to contribute to building capacity in new areas. The LPP will contain initiatives to proactively facilitate enhancement of local employment and procurement to meet the Project’s construction and operational needs, and will include the following:</p> <ul style="list-style-type: none"> • Options for prioritising the employment of local workers • Supplier and servicing opportunities for local businesses • Up-skilling, re-skilling and training opportunities for local people • Jobs, supplier, and servicing opportunities that target partnerships with local and active social enterprises. • Actionable targets with associated responsibilities, including mechanisms to involve local stakeholders in its development and implementation • Information provision relating to the Project’s construction requirements in the pre-construction phase (post development approval) • Mechanisms for local businesses, job seekers and services to register their capabilities and interest in working with the Project • Investigate options for prioritising the employment of local workers 	<p>Prior to the commencement of construction.</p>
<p>Economic Impact</p>	<p>Prior to commencing construction and responding to actual regional demands at that time, Neoen will prepare an Accommodation, Procurement and Employment Strategy (as part of the development of the Neoen LPP) for the Project in consultation with relevant stakeholders. This would include:</p> <ul style="list-style-type: none"> • An updated review of accommodation availability to ensure there is sufficient accommodation for the workforce associated with the construction phase of the Project and identification of any required management measures and • Measures to addresses any specific cumulative impacts arising associated with identified concurrent SSD projects under construction. 	<p>Prior to the commencement of construction.</p>