Armidale East BESS

Application Number: **02649** Commencement Date: **22/10/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Armidale East BESS

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Solar Farm

1.1.4 Estimated start date *

01/06/2026

1.1.4 Estimated end date *

01/06/2056

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Proposed Action is located approximately 18 km east of Armidale, NSW adjacent to the existing Metz Solar Farm (Att 1). The Proposed Action includes the construction, operation, and decommissioning of a Battery Energy Storage System (BESS) with a nominal capacity of up to 400 MW / 1600 MWh and would supply electricity to the national electricity market during peak periods with an operational life of up to 40 years.

The Proposed Action is located within the New England Renewable Energy Zone (New England REZ) which has been identified as having significant national and state-wide potential to produce renewable energy. New network infrastructure will be built in the REZ to enable new generation and storage projects to connect and transport their energy to consumers, both in and outside the REZ.

The Proposed Action would support grid stability, reliability and efficiency, important to the integration of greater renewable energy sources. It aims to minimise potential environmental impacts, through its design, construction, operation and decommissioning phases. As dictated by market demands and grid needs, the Project would:

- Provide new industries and opportunities to Armidale and broader region.
- Facilitate energy shifting or level out the imbalances between supply and demand, especially during peak demand periods.
- Improve voltage support and improved power quality.
- Provide stored electricity, to supply the Australian grid closer to main consumption areas.
- Better integrate the contribution of renewables.
- Reduce energy wastage (curtailment).

There are several terms associated with the Proposed Action include **Project Area**, **Disturbance Footprint** and **Avoidance Area** which are defined and expanded on below.

- ***Project Area*** – refers to the total area:
    - Lot 101 DP1237661
        - Freehold land zoned as RU1 Primary Production under the Armidale Regional LEP
        - Total area of 242 ha
    - Road reserve (Bayley Park Road)
        - Land zoned as RU1 Primary Production and owned by the Armidale Regional Council (ARC)
        - This area will be used for access purposes via Bayley Park Road
        - Total area of 1 ha
    - Road reserve (Waterfall Way)
        - Land owned by Transport for NSW
        - This area will be used to facilitate access
- ***Disturbance Footprint*** - this is the area within the Project Area that is directly or indirectly impacted by the 'Proposed Action' and covers an area of 12 ha which will be used for the BESS, access tracks, onsite substation, O&M buildings and all ancillary infrastructure and an additional 1 ha for access purposes via Bayley Park Road
- ***The Avoidance Area*** - refers to any area within the Project Area that does not intersect with the Disturbance Footprint and is not to be cleared or disturbed during the course of the Proposed Action.

The sum of the Disturbance Footprint and Avoidance Area equals the Project Area.

Project Lifecycle

Planned activities associated with the Project are listed below (see Att 2, Section 1.1, pp. 1-4, note that this document is in a draft stage and may not be suitable for public display):

- **Stage 1 (Pre-construction):** The Project may include physical works ahead of the main construction phase including site access and track upgrades, installation of fencing, artefact salvage if required,

geotechnical drilling and/or surveying and preparation of construction compounds and site facilities. This phase would take approximately two - three months.

- **Stage 2 (Construction):** Delivery and construction of BESS, substation and connection infrastructure which will take approximately 10 months. Earthworks would also include grading and compacting to form a suitable substrate for the installation of the BESS. The earthworks and excavations associated with the access tracks, buildings and cabling trenches would require removal of vegetation cover and soil disturbance in some areas.
- **Stage 3 (Post Construction)**: Commissioning and testing will take approximately six months.
- **Stage 4 (Operation):** The operational lifespan could be up to 40 years with cells refurbishment being required at 20 years. Activities undertaken during operation would include:
    - Infrastructure maintenance
    - Monitoring the performance of the BESS
    - Inspection of the installation
    - Routine preventative maintenance
    - Emergency repair response (24 hours)
    - Site security response (24 hours)
    - Vegetation management within the Development footprint in accordance with the fire management and biodiversity management plans.
- **Stage 5 (Post-Construction Rehabilitation):**
    - Removal of all temporary structures, including offices, storage containers, and workshops.
    - Clearance of remaining debris and construction materials.
    - As part of the mitigation measures proposed revegetation and regeneration of Box Gum Woodland within the Project Area but outside of the Disturbance Footprint. This revegetation would involve planting relevant species for the community so that functionally important species will persist.
- **Stage 6 (Decommissioning):** The Project has a 40-year lease agreement with the landowner whereafter:
    - An upgrade of the BESS could be undertaken and consequently either the project will need to request an extension or lodge a new development application. Alternatively, the Project would be dismantled and repurposed where possible. The battery containers would be removed, and the footings on which they are supported, would be removed. All buildings would be removed, including the PCSs together with the associated footings. All underground cabling would be removed.
    - Batteries can be refurbished (overseas by the manufacturer) or recycled domestically for reprocessing. The shipping containers, cabling, transformers and switch gear are largely able to be reused or recycled. Some integrated plastic components may degrade over time to the point where they are not suitable for reuse, but these elements are minor. Gasses from the air conditioning and fire suppression systems can be captured and reused.
    - The objective of decommissioning is to maximise recycling options and return the disturbed area to a safe, non-polluting and stable state. The broader area would remain suitable for continued agricultural or other land use options.

An indicative infrastructure Layout is provided in Att 1, Armidale East BESS, Site Map and Infrastructure Layout.

Project Impacts

The Project will have direct and indirect impacts. The construction and operational phases have the potential to impact biodiversity values at the site that cannot be avoided via impact minimisation and avoidance measures. These would occur through residual direct impacts such as habitat clearance and associated noise and disturbance, and ongoing existence of infrastructure which may create barriers to movement.

Direct impacts during the pre-construction and construction phases will results from activities including but not limited to vegetation clearing, and construction of internal access roads. Direct impacts include the following (refer to Att 2, Section 8.1, pp. 111 - 115):

- Clearing for construction
    - reduction in community extent and integrity
    - clearing for construction: habitat loss, trampling, loss of individuals
- Habitat loss
    - including loss of hollow bearing trees and fallen timber
    - displacement of resident fauna
- Injury or mortality of fauna

Indirect impacts that contribute to key threatening processes from the proposal include soil and water contamination, invasion of key emerging weeds, creation of barriers to fauna movement, or the generation of excessive dust, light or noise (refer to Att 2, Section 8.2, pp. 115-128):

- Accidental clearing or impacts to vegetation can occur where clearing boundaries are not delineated, or where machinery or materials are stockpiled within driplines of trees.
- Edge effects can occur where works and/or development occur in close proximity to vegetation, and can include shading, invasion by exotic species, and increase in edge ratios as a result of clearing patches.
- Increased risk of starvation, exposure and loss of shade or shelter through vegetation removal and edge effects, potential exists for sheltering locations to be impacted.
- Reduced viability of adjacent habitat due to vehicle traffic.
- Transport of weeds and pathogens from the site to adjacent vegetation.
- Cumulative loss of breeding habitat and competition for remaining resources.
- Inhibition of nitrogen fixation and increased soil salinity as increased soil salinity has the potential to occur as a result of vegetation removal impacting groundwater, bringing salt to surface.
- Increase in predatory and pest animal species populations.
- Increased sediment load within waterways and soil movement have potential to occur as a result of construction works.
- Increased risk of fire.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Key NSW Planning Policy and Framework

Planning Systems State Environmental Planning Policy 2021 ***Environmental Planning and Assessment Act 1979 (EP&A Act).:***

Clause 20 of Schedule 1 of the SEPP SRD states that the following is considered a SSD: Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that: (a) has a capital investment value of more than $30 million, or (b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.' The Project would have a capital investment cost estimate of more than $30 million. Therefore, the Project is classified as "State Significant Development" under division 4.7 of the EP&A Act. The Minister for Planning and Public Spaces is the consent authority for SSD, and SSD applications are assessed by DPE (unless specific conditions occur e.g., where 50 or more people have objected to the application, the local council has objected to the application; and/or the applicant has disclosed a reportable political donation, whereby the Independent Planning Commission (IPC) would be the consent authority.

Commonwealth Approval under the ***Environment Protection and Biodiversity Conservation Act 1999*** **(EPBC Act):**

The Proposed Action has the potential to impact upon matters of National Environmental Significance (MNES) including threatened species. The MNES Significant Impact Guidelines are utilised to help determine if the Proposed Action is likely to have a significant impact upon MNES.

Under Part 3 of the EPBC Act, approval from the Australian Government Minster for the Environment is required for:

- An action that is likely to have a significant impact on MNES.
- An action taken by a person on Commonwealth land that is likely to have significant impact on the environment.
- An action taken by any person outside of Commonwealth land that is likely to have significant impact of the environment on Commonwealth land.
- An action taken by a Commonwealth agency anywhere in the world that is likely to have a significant impact on the environment.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Scoping Phase

The PPA commenced community engagement and consultation in July of 2023. The communication and engagement activities applied a broad approach, and developed stakeholder lists to assess the current state of community sentiment towards the Project while working through queries and concerns and identifying potential community benefit opportunities. Engagement during this phase included:

- Near neighbours were identified and contacted via posted mail and email mail.
- Community information drop-in sessions
- Electronic direct mail
- Set up of a website
- A community feedback survey
- In-person meetings with representatives from the ARC, Regional Development Australia and the Hillgrove Progress Association.
- Email correspondence was sent to the Member for Armidale, the Member for New England, Newara Aboriginal Corporation, and Armidale Local Aboriginal Land Council (LALC), TAFE Armidale, University of New England, New England North West NSW Business Chamber, Hillgrove Progress Association and Community Power Agency.

EIS Phase

Community consultation for the EIS phase of the Proposed Action recommenced in February of 2024 where the PPA continued discussions with stakeholders including near neighbours, targeted stakeholders and the broader community. Other stakeholder engagement during this phase included:

- Community information drop-in sessions for neighbours, members of the broader community and identified stakeholders to learn more about the project, and the SSD process, and provide their feedback.
- In person briefings / interviews with targeted stakeholders, including ARC, the Armidale Mayor, Joblink Plus, Regional Development Australia (RDA), Sustainable Living Australia, Community Power Agency, Department of Regional NSW, the University of New England and more.
- Ongoing liaison via email, phone calls and meetings continued throughout the engagement period.

Engagement with Indigenous Stakeholders

Consultation with Aboriginal stakeholders was undertaken in accordance with Section 60 of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2019 and following the process outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCRP). The guide outlines a four-stage process of consultation as follows:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

Stage 1. Letters outlining the development proposal and the need to carry out an ACHA were sent to statutory authorities including Heritage NSW, as identified under the ACHCRP on 25 July 2023. An advertisement was placed in the local newspaper, the *Armidale Express*,on 28 July 2023 seeking registrations of interest from Aboriginal people and organisations. A further series of letters was sent to other organisations identified by Heritage NSW in correspondence with NGH on 03 and 04 August 2023.

Stage 2. On 13 August 2023, an *Assessment Methodology* document for the Project was sent to all the RAPs listed above via email. This document provided details of the background to the proposal, a summary of previous archaeological surveys, and the proposed heritage assessment methodology for the

proposal. The document invited comments regarding the proposed methodology and sought any information regarding known Aboriginal cultural significance values associated with the Proposal Area and/or any Aboriginal objects contained therein.

Stage 3. The *Assessment Methodology* outlined in Stage 2 included a written request to provide any information that may be relevant to the cultural heritage assessment of the Proposal Area. It was noted that sensitive information would be treated as confidential and not shared if requested. Cultural information pertaining to the area was received in response to the methodology and in instances that any such information was approved by the RAP for inclusion in the this report it was incorporated into the cultural context information of the ACHA. In any instances when information was asked to be kept confidential and not shared this information has been held as confidential. The survey fieldwork was organised, and two of the 15 registered groups were selected for fieldwork participation by the Proponent.

Stage 4 The initial draft version of the ACHA for the proposal was forwarded to the RAPs inviting comment on the results, the significance assessment and the recommendations post completion of the testing program.

See Attachment 3 for details. Note that because this Aboriginal Cultural Heritage Assessment is still in draft waiting for the RAP period of comment to lapse, it is not suitable for public display as part of this referral and is therefore a sensitive document.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint.

Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	31124444622
Organisation name	NGH PTY LTD
Organisation address	2010 NSW

Referring party details

Name	Tammy Vesely
Job title	Senior Project Manager
Phone	0452 151 752
Email	tammy.v@nghconsulting.com.au
Address	T3, Level 7, 348 Edward St, Brisbane City, Qld 4000

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	60151469662
Organisation name	FRV SERVICES AUSTRALIA PTY LIMITED
Organisation address	2000 NSW

Person proposing to take the action details

Name	Ana Lazaro
Job title	Project Developer
Phone	0426 411 175
Email	ana.lazaro@frv.com
Address	Suite 1001, level 10, 1 York St. 2000 | Sydney | Australia

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

FRV Services Australia has a strong track record of responsible environmental management and is committed to sustainable practices in all its operations. Since entering the Australian market, the company has adhered to all relevant Commonwealth, State, and Territory environmental regulations, consistently prioritizing the protection of ecosystems and biodiversity in its renewable energy projects.

To date, FRV Services Australia has not been subject to any proceedings under Commonwealth, State, or Territory law concerning the protection of the environment or the conservation and sustainable use of natural resources. The company continues to implement industry-leading environmental standards, including comprehensive environmental impact assessments, habitat rehabilitation measures, and strict compliance with environmental laws, ensuring minimal impact on local ecosystems and communities.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

FRV is committed to developing its assets with due care to the receiving built and natural environments. In designing and operating its renewable energy assets, FRV is committed to the principles of sustainable development, resource efficiency, conducting best practice, and avoiding and minimising impacts where possible.

FRV constructs and operates renewable energy assets across Australia. Solar energy, combined with utility-scale battery energy storage systems (BESS), are among the cleanest energy generators, producing minimal greenhouse gas emissions, a reduction in air and water pollution, and providing support for a transition to a low-carbon economy

FRV adheres to strict guidelines and policies in designing and constructing its assets. Projects are subject to stringent environmental impacts assessments to ensure projects follow all relevant environmental regulations and industry best-practices. FRV works closely with its contractors to ensure potential impacts are mitigated and environmental performance is closely monitored.

FRV prioritises and partners with suppliers that can demonstrate its technologies and equipment is efficient, safe, and environmentally friendly and that can align with the project's environmental goals. Contractors are chosen based on their track record in successfully delivering projects with adherence to the environment and regulatory framework.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	60151469662
Organisation name	FRV SERVICES AUSTRALIA PTY LIMITED
Organisation address	2000 NSW

Proposed designated proponent details

Name	Ana Lazaro
Job title	Project Developer
Phone	0426 411 175
Email	ana.lazaro@frv.com
Address	Suite 1001, level 10, 1 York St. 2000 | Sydney | Australia

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	31124444622
Organisation name	NGH PTY LTD
Organisation address	2010 NSW
Representative's name	Tammy Vesely
Representative's job title	Senior Project Manager
Phone	0452 151 752
Email	tammy.v@nghconsulting.com.au
Address	T3, Level 7, 348 Edward St, Brisbane City, Qld 4000

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	60151469662
Organisation name	FRV SERVICES AUSTRALIA PTY LIMITED
Organisation address	2000 NSW
Representative's name	Ana Lazaro
Representative's job title	Project Developer
Phone	0426 411 175
Email	ana.lazaro@frv.com
Address	Suite 1001, level 10, 1 York St. 2000 | Sydney | Australia

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

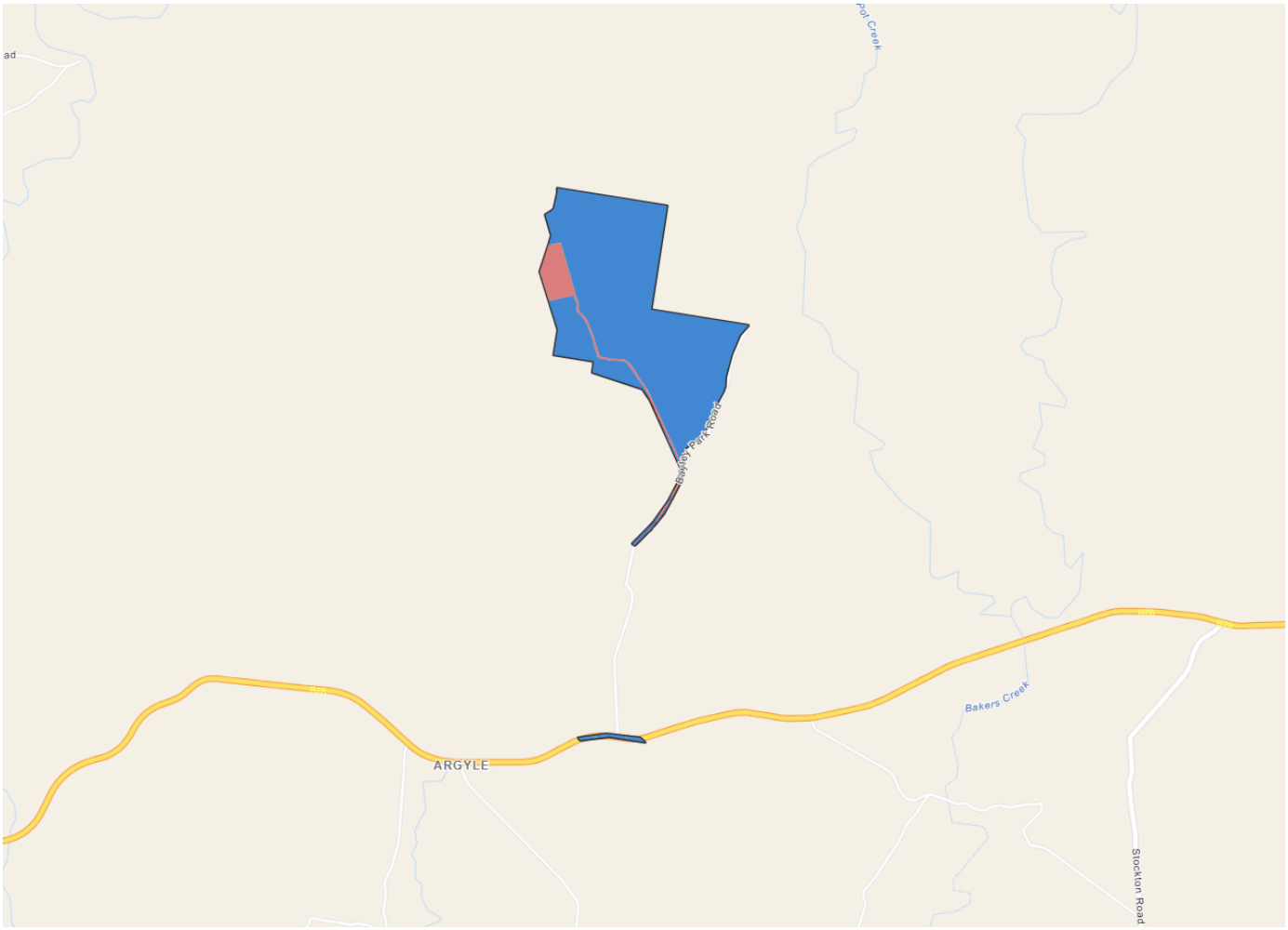
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Referring party

2. Location

2.1 Project footprint



Project Area: 248.94 Ha **Disturbance Footprint:** 17.38 Ha **Avoidance Area:** 231.57 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Bayley Park Road, Metz, NSW (adjacent to the Metz Solar Farm).

2.2.2 Where is the primary jurisdiction of the proposed action? *

New South Wales

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Project Area consists of Lot 101 DP1237661 with additional clearing and road widening on sections of Bayley Park Road. All road widening works associated with Bayley Park Road will be within the Armidale Regional Council (ARC) owned and managed road reserve. Minor clearing and regrading works will be required within the Waterfall Way road reserve (owned by Transport for NSW).

- Lot 101 DP1237661
    - Freehold land
- Road reserve (Bayley Park Road)
    - Land owned by the Armidale Regional Council (ARC)
- Road reserve (Waterfall Way)
    - Land owned by Transport for NSW

The Project Area is zoned Primary Production (RU1) under the *Armidale Regional Local Environmental Plan 2012* (Armidale Regional LEP). The objectives of this Zone are:

1. To encourage sustainable primary industry production by maintaining and enhancing the natural resource base
2. To encourage diversity in primary industry enterprises and systems appropriate for the area.
3. To minimise the fragmentation and alienation of resource lands
4. To minimise conflict between land uses within this zone and land uses within adjoining zones
5. To allow for non-agricultural land uses that will not restrict the use of other land in the locality for agricultural purposes.

Due to the small area of impact proposed, the Proposed Action will have minimal impact on adjacent areas of primary production and minimise fragmentation of resource lands. The Proposed Action will encourage diversification of appropriate land use and is highly compatible with the adjacent energy generation and transmission infrastructure, including the Metz Solar Farm and adjacent 330kV transmission line.

Development of a prescribed non-residential zone for energy production, storage and associated infrastructure is permissible with consent under the State Environmental Planning Policy (Transport and Infrastructure) 2021.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area’s environment.

The Project Area is located within the Armidale Regional Local Government Area (LGA) within the New England North-West region. The Project Area is located 18km east of Armidale and adjacent to the operational Metz Solar Farm. Access to the site will be via Waterfall Way (Grafton Road), turning into Bayley Park Road. A TransGrid 330 kV overhead transmission lines runs north, immediately adjacent to the Project Area, which feeds into the Armidale substation. It is proposed to connect the Project directly into the overhead transmission line via overhead cabling.

The broader area encompasses significant natural assets, including World Heritage-listed rainforest within the Oxley Wild Rivers and New England national parks, scenic waterfalls and gorges, and rich pastoral lands. The ARC was established through amalgamation of the Armidale Dumaresq and Guyra Shire councils in 2016, and now encompasses the key towns and localities of Armidale, Metz, Hillgrove, Guyra, Tingha, Ben Lomond, Ebor, and Wollomombi.

The areas surrounding the Project Area are predominately agricultural lands used for grazing. Adjacent land uses include:

- Energy production (Metz Solar Farm)
- Cropping
- Grazing native pastures
- Grazing modified pastures
- Environmental forest plantations.

The development site is mapped as Class 5 in accordance with the Land and Soil Capability Scheme. This category is described as moderate to low capability land (i.e. the land has high limitations for high-impact land uses.

An existing creek crossing for the proposed road upgrade on Bayley Park Road is mapped as Key Fish Habitat within Limerick Creek however no other waterways or dams will be impacted by the Project. See Att 2, Section 3, pp. 16-24 (note that this document is in a draft stage and may not be suitable for public display).

Current Condition

Surrounding the Project Area

The land is characterised by undulating topography with a mixture of land uses including grazing, forestry, energy generation and transmission. Despite heavy clearing in the past, native vegetation remains including ‘pasture-improved’ grasslands, remnant trees and remnant forest. Non-native vegetation occurs in the pine tree plantation, exotic grassland along Bayley Park Rd and already developed areas such as roads, the adjacent Metz Solar Farm, two residential dwellings along with ancillary buildings and gardens.

The Project Area

The Project Area itself been largely cleared of vegetation and is currently used for grazing. The site was observed to be gently undulating to flat. There were scattered trees observed throughout the paddock as well as a mix of exotic weeds and tussock type grasses. Ground cover varied from heavily grazed to dense and weedy with a mix of introduced, naturalised and native grasses. General surface conditions include:

- Vegetation covering most of the soil (generally >90%)
- Small patches of rocky outcrop
- Mostly cleared of tall standing native vegetation

Aquatic / riparian environment

Seven first order Strahler streams exist within the Disturbance Footprint however, surface water flow would only be present in periods of heavy rainfall. A separate first order stream runs adjacent to the western side of the proposed BESS site. There are several dams within the Project Area, one of which features some aquatic and minimal fringing vegetation. No wetlands occur within 10km of the Project Area.

Bayley Park Road crosses a third-order stream (Limerick Creek) that flows north-west to south-east and during wet periods on field surveys this area did contain seasonal pools of water and a minimal flow of water. Limerick Creek provides a riparian corridor with semi-permanent pools and rivulets that eventually drains into Cooney Creek. Riparian vegetation such as trees and shrubs are virtually absent along Limerick Creek, with riparian vegetation only occurring along Cooney Creek south of Waterfall Way. Overall, aquatic and riparian connectivity in the assessment area is poor (see Att 2, Section 3.2.2, pg. 17).

Terrestrial environment

No state or regionally significant biodiversity links occur within or in proximity to the Project Area. The Project Area lies within a predominately cleared and fragmented landscape used for agriculture and forestry thereby limiting habitat connectivity. The Project Area includes a patchy mosaic of woodland, dry forest and pasture with larger patches of woody vegetation further afield. The Project Area is highly modified and does not contribute substantially to local or regional connectivity. Movement corridors are provided along Bayley Park Rd with Box-Gum Woodland on either side of the road connecting Box-Gum Woodland from south of the subject land to the east and west of the subject land for birds. Trees within the BESS subject land may function as a stepping stones for bird species with medium gap crossing thresholds (~100m). Overall, terrestrial connectivity is poor (see Att 2, Section 3.2, pp. 16-20).

Geology

The Project Area falls across two Mitchell Landscapes namely (see Att 2, Section 3.2, pp. 16-20):

- Dingo Spur Meta-sediments
- Moonbi-Walcha granites

There are no caves, crevices, cliffs or other areas of geological significance within or adjacent to the subject land as was determined through several site visits in conjunction with aerial imagery.

Native Vegetation

Narrow-leaved Black Peppermint *(Eucalyptus nicholii)* (threatened under the EPBC Act) and Box Gum Woodland (Critically Endangered Ecological Community under the EPBC Act) are the only MNES identified in the Disturbance Area. Shrubs are sparse and the ground layer is dominated by grasses and forbs including:

- *Poa sieberiana* (Grey Tussock-Grass)
- *Microlaena stipoides* (Weeping Grass)
- *Dichelachnemicrantha* (Shorthair Plumegrass)
- *Cynodon dactyon* (Common Couch)

Refer to Att 2., Section 4, pp. 24-48.

Habitat suitability

The habitat in the Project Area consists of grassland, grassy woodlands and open forest. The grassland and woodland habitats are structurally simple with little in the way of midstorey, a simplified understorey and single-aged tree stands. Ten hollow bearing trees were recorded within the Disturbance Footprint with potential to provide habitat for fauna including six eucalyptus tree species that could be used by koala. See Att 2, Section 5, pp. 49-95.

3.1.2 Describe any existing or proposed uses for the project area.

The Project is situated in the New England North West Region in NSW, specifically in the Metz SAL of the Armidale Regional LGA. The New England North West Region sits inland in the north of NSW and offers residents a mix of urban and rural lifestyles. The region features a diverse geology, productive agricultural areas, and significant natural assets, including the World Heritage-listed Gondwana rainforests.

Armidale Regional LGA encompasses diverse land uses ranging from residential, commercial, industrial, and rural zones. Agriculture plays a significant role in the local economy, and as such, much of the land supports variety of agricultural activities. In 2020-2021, Armidale's agricultural output was valued at $163 million, with livestock slaughtering accounting for 68.8% of the total value.

The Project Area's existing land use is only grazing whilst adjacent land uses include cropping, grazing, plantations and energy generation. Metz is a rural locality which straddles Waterfall Way to the north and south and is situated approximately 20km east of Armidale. Within this locality, the proposed BESS would be located on private land, that is zoned RU1 Primary Production. The areas surrounding the Project site are predominately agricultural lands used for grazing. The Metz Solar Farm is situated adjacent to the Project site. A lack of available industrial and commercial land has been identified by Council as a potential development constraint for Armidale.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

Areas of Outstanding Biodiversity Value

No areas of outstanding biodiversity value occur within the Project Area.

National Parks

National Parks include the New England National Park (85 km east of Armidale), the Cathedral Rock National Park (70km east of Armidale), and the Oxley Rivers National Park accessible via the Waterfall Way.

Matter of National Environmental Significance

Surveys confirmed the presence of the following MNES (listed threatened species and ecological communities) (see Att 2, Section 5.3, pp. 67-77, note that this document is in a draft stage and may not be suitable for public display):

- Critically Endangered Ecological Community (CEEC) Box Gum Woodland (BGW) which covers an extent of approximately 4.988 ha within the Project Area. The extent of this community in the surrounding landscape is unknown. Approximately 4.39 ha are located within the Disturbance Footprint and will be removed as we result of the Proposed Action.
- Threatened Narrow-leaved Black Peppermint, specifically 15 individuals with the Project Area of which three are located within the Disturbance Footprint and will be removed as we result of the Proposed Action.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Project Area is characterised by gently undulating to flat topography.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The subject land has been predominantly cleared for pasture improved grasslands currently used for sheep grazing as well as forestry plantation (Pine) adjacent to the Project Area. Adjacent areas to the subject land have also been extensively cleared for agricultural use in the past with a portion of the cleared land now used as the Metz Solar Farm, as evidenced by recent aerial imagery and verification from site visits.

Threatened Ecological Communities (TEC)

The EPBC Protected Matters Report identified three EPBC Act listed TECs, all considered 'likely to occur' in the search area (Att 2, Section 4.3, pp. 31-42 (note that this document is in a draft stage and may not be suitable for public display):

- New England Peppermint *(Eucalyptus nova-anglica) Grassy Woodlands* (Critically Endangered) - confirmed as absent through surveys
- Lowland Rainforest of Subtropical Australia (Critically Endangered) - confirmed as absent through surveys
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered) - this Critically Endangered Ecological Community has been confirmed as present (4.07 ha)

Threatened Species

The EPBC Protected Matters Report identified 52 threatened species with the potential to occur within the search area. There were 16 flora species and 36 fauna species identified. A habitat evaluation was conducted for each individual species to determine whether suitable habitat and known records of species exist, to warrant further investigating through an assessment of significant impact. Of these species, five were considered likely to utilise habitat found within the Project Area (Att 2, Section 5, pp. 49 - 96 note that this document is in a draft stage and may not be suitable for public display):

- *Climacteris picumnus victoriae* (Brown Treecreeper south-eastern) – Vulnerable.
- *Dasyurus maculatus maculatus* (Spotted-tail Quoll southeastern mainland population) – Endangered.
- *Eucalyptus nicholii* (Narrow-leaved Black Peppermint) – Vulnerable.
- *Hirundapus caudacutus* (White-throated Needletail) – Vulnerable, Migratory, Marine.
- *Stagonopleura guttata* (Diamond Firetail) – Vulnerable.

Detailed assessment in the form of an Assessment of Significance (AoS) under the EPBC Act was undertaken for:

- *Climacteris picumnus victoriae* (Brown Treecreeper south-eastern) – Vulnerable
- *Eucalyptus nicholii* (Narrow-leaved Black Peppermint) – Vulnerable
- *Stagonopleura guttata* (Diamond Firetail) – Vulnerable

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Remnant Native Vegetation

Despite heavy clearing in the past, the areas surrounding the Project Area includes vegetation which is predominately native including ‘pasture-improved’ grasslands, remnant trees and remnant forest. Non-native vegetation occurs in the pine tree plantation, exotic grassland along Bayley Park Rd and already developed areas such as roads, the adjacent Metz Solar Farm, two residential dwellings along with ancillary buildings and gardens.

Four Plant Community Types were identified on the NSW State Vegetation Type mapping as occurring within the Project Area:

- PCT 3344 ‘New England Ribbon Gum Grassy Forest’
- PCT 3351 ‘Armidale Creekflat Snow Gum Woodland-Scrub’
- PCT 3352 ‘Armidale Quartz Hills Stringybark Forest’ generally present in the proposed road access
- PCT 3359 ‘New England Hills Stringybark-Box Woodland’ *present in the proposed BESS area and road access and is associated with White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland TEC.*

Soils

The geology of Armidale Plateau Subregion of the New England Tablelands Bioregion area includes (Att 2, Section 3.2, pp. 16-24 note that this document is in a draft stage and may not be suitable for public display):

- Fine grained Permo-Carboniferous sedimentary rocks, granites and multiple Tertiary basalt flows.
- Texture contrast soils on sedimentary rocks and granite, mellow (soft and friable) and well drained on upper slopes, harsh and poorly drained on lower slopes. Variable stony loams to deep black earths in valley floors on basalt. Deep, dark loamy alluvium in swampy valleys.

The results of laboratory analysis indicate that the topsoil and subsoils are consistent with their classifications of Kandosol and Kurosols which have poor structure, low fertility and present a moderate to high erosion risk (water).

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

No Commonwealth Heritage places overlay the Project Area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The Armidale area was originally inhabited by the Anaiwan, Gumbaynggirr and Dhunghatti people. Early mapping of Aboriginal tribal boundaries by Tindale (1974) identifies the Proposal Area as being within the Nganyaywana language group. Today the Proposal Area is generally noted as being within the traditional lands of the Anaiwan language group, however this is disputed and noted to also be within the lands of the Gumbaynggirr language group.

Although largely recognised as Anaiwan Country, the Gumbaynggirr people have strong ties to Country in the Armidale region as well; with evidence that they have lived in the area since at least the 1800s. Gumbaynggirr people note that Armidale was the hunting ground of “King” Bobby and his people who are noted to be part of the Gumbathagang Oban Tribe.

- There are no Commonwealth Heritage places occur in the Project Area.
- There are no Aboriginal landscape or features recorded within the Project Area.
- There are no places of historical cultural heritage value within the Project Area
- There are no National Heritage Areas (Indigenous values) recorded in the Project Area.

AHIMS Search

The Aboriginal Heritage Information Management System (AHIMS) is a database of previously recorded Aboriginal heritage sites in NSW. A search provides basic information about any sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been added to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the Project Area on AHIMS.

The AHIMS search returned no sites within the Disturbance Footprint however records were returned within 500 m of the Project Area.

Additional Searches

Additional searches were undertaken of the other relevant heritage registers to identify any items or places in proximity to the Project Area and surrounding landscape including:

- The NSW State Heritage Inventory (SHI): this includes items on the State Heritage Register (SHR), items listed by state agencies, and items listed on Local Environment Plans (LEP).
- The Australian Heritage Database: this includes items on the National and Commonwealth Heritage Lists, to identify any items that are currently listed within or adjacent to the Project Area

These searches returned no records.

Site Survey

Rock outcroppings were noted to be scattered throughout the proposed BESS site however the stone material was noted to generally be a poor quality coarse-grained volcanic material. The outcroppings and cobbles within the BESS site and Proposal Area were visually inspected with no evidence of quarrying, cultural placement/arrangement or flaking identified.

During the survey a total of four new Aboriginal sites (three isolated finds and one low density artefact scatter) were recorded.

Summary

It was concluded based on the visual inspections undertaken that there was negligible potential for the presence of intact subsurface deposits with high densities of cultural material due to the shallow soil profile and distance to water across the Project Area. The existing disturbed road corridors were also determined to have negligible potential for the presence of intact subsurface deposits with high densities of cultural material, despite proximity to Limerick Creek, due to the high level of disturbance clearly visible along Bayley Park Road and Waterfall Way (Grafton Road).

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The New England Tablelands Bioregion is an extensive area of 3,002,213 ha which lies between the North Coast and Nandewar bioregions in northeast NSW. It includes towns such as Armidale and Guyra in NSW. The bioregion includes parts of the MacIntyre, Clarence, Gwydir, Macleay, Namoi and Manning River catchments

The aquatic environment within the Project Area is sparse with seven first order Strahler streams existing directly within the Disturbance Footprint. Surface water flow would only be present in periods of heavy rainfall. A separate first order stream runs adjacent to the western side of the proposed BESS site. There is one dam within the Project Area which features some aquatic and minimal fringing vegetation. No wetlands or Ramsar listed wetlands occur within 10km of the Project Area.

Bayley Park Road crosses Limerick Creek (third-order stream) which is mapped as Key Fish Habitat (KFH) under the NSW Fisheries Management Act 1994. The Proposed Action intersects with Limerick Creek KFH at the access point from Bayley Park Rd. During wet periods on field surveys this area did contain seasonal pools of water and a minimal flow of water (Att 2, Section 3.2.2, pp. 17 note that this document is in a draft stage and may not be suitable for public display).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Gondwana Rainforests of Australia are listed as a World Heritage Site owing to the following criteria:

- Representative of major stages of earth's history, including the record of life, significant on-going **geological processes** in the development of landforms, or significant geomorphic or physiographic features
- Representative of significant **ecological and biological processes** in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals
- Representative of **significant natural habitats** for in-situ conservation of biological diversity, including those containing threatened species

The activity to be undertaken within the 10 km radius of the Gondwana Rainforests is limited to minor intersection works on Waterfall Way (Grafton Road) within the road reserve which would not impact (either directly or indirectly) a World Heritage Site located 8 km away in terms of the criteria listed above.

Further to this, the ACHA has considered the potential for impacts to local cultural heritage. The area of the proposed existing road upgrades along Bayley Park Road and at the intersection of Waterfall Way (Grafton Road) with Bayley Park Road was determined to have negligible potential for the presence of intact subsurface deposits despite the proximity to Limerick Creek due to the high levels of disturbance the area had been subject to during the construction and maintenance of the existing road.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar Wetlands located within 10 km of the Project Area.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Aphelocephala leucopsis	Southern Whiteface
No	No	Arthraxon hispidus	Hairy-joint Grass
No	No	Bertya sp. Clouds Creek (M.Fatemi 4)	
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Callistemon pungens	
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
No	No	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
Yes	Yes	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
No	No	Dichanthium setosum	bluegrass
No	No	Diuris eborensis	
No	No	Erythrotriorchis radiatus	Red Goshawk
No	No	Euastacus simplex	Simple Crayfish, Small Mountain Crayfish
Yes	Yes	Eucalyptus nicholii	Narrow-leaved Peppermint, Narrow-leaved Black Peppermint
No	No	Euphrasia arguta	
No	No	Falco hypoleucos	Grey Falcon
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe

Direct impact	Indirect impact	Species	Common name
No	No	Grantiella picta	Painted Honeyeater
No	No	Haloragis exalata subsp. velutina	Tall Velvet Sea-berry
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Lathamus discolor	Swift Parrot
No	No	Litoria castanea	Yellow-spotted Tree Frog, Yellow-spotted Bell Frog
No	No	Litoria piperata	Peppered Tree Frog
No	No	Litoria subglandulosa	New England Tree Frog, Glandular Frog
No	No	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	Neophema chrysostoma	Blue-winged Parrot
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Petrogale penicillata	Brush-tailed Rock-wallaby
No	No	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
No	No	Picris evae	Hawkweed
No	No	Pseudomys novaehollandiae	New Holland Mouse, Pookila
No	No	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Rostratula australis	Australian Painted Snipe
No	No	Saltuarius moritzi	New England Leaf-tailed Gecko, Moritz's Leaf-tailed Gecko
Yes	Yes	Stagonopleura guttata	Diamond Firetail
No	No	Thesium australe	Austral Toadflax, Toadflax
No	No	Vincetoxicum woollsii	

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	Yes	New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands
Yes	Yes	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

See Att 2, Appendix B for assessments of significance (note that this document is in a draft stage and may not be suitable for public display.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The EPBC Act listed form of Box-gum Woodland (Critically Endangered Ecological Community /CEEC) covers approximately 4.88 ha within the Project Area and 298.67 ha within 500m of Development Footprint. The Proposed Action will remove approximately 4.39 ha of this community, which equates to 90% of the community within the Project Area and 4.67% within 500 m of the Disturbance Footprint.

Two hollow bearing trees would be removed which may be suitable for hollow dependant fauna species which rely on Box-gum Woodland. However, other potentially suitable hollow-bearing trees occur in the Project Area and the removal of these trees is unlikely to lead to a substantial change in faunal species assemblage.

Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) and New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands

Targeted flora surveys detected 15 individuals within the Project Area. The Proposed Action will remove three of these 15 individuals, and potential habitat for the species will be reduced by approximately 0.35 ha. Due to historical land use, clearing for agriculture and the establishment of the Metz Solar Farm, the population already exists within a fragmented state within the Project Area and surrounds.

Diamond Firetail (*Stagonopleura guttata*)

No individuals were recorded during multiple site visits to the Project Area however sighting have been made approximately 1.7 km south of the Project Area as well as in the greater region in remnant woodlands and nearby national parks. Furthermore the Disturbance Footprint includes 5 ha of woodland, which is considered suitable habitat for the Diamond Firetail. Although no individuals were recorded within the Project Area there is possibility that local breeding activities if present, could be disrupted. However, given the low density of sightings and the fragmented nature of the habitat, any undetected local population is not considered an ‘important population’.

Brown Treecreeper (*Climacteris picumnus victoriae)*

Although Brown Treecreepers (*Climacteris picumnus*) were not recorded during multiple site visits to the Subject Land, there are records approximately 4.4 km to the north and more broadly within the region, particularly in remnant woodlands and nearby national parks. Any potential population using the Subject Land is unlikely to be an ‘important population’ due to several factors: the area lies well within the species' distribution range, there is a relatively low density of recorded sightings compared to other local areas, and the habitat is highly fragmented and has been subjected to decades of grazing pressure. However, 5ha of woodland would be cleared and may be suitable habitat.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

See Att 2, Appendix B for assessments of significance (note that this document is in a draft stage and may not be suitable for public display.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The National Recovery Plan (Department of Environment, Climate Change and Water NSW, 2010) notes that "*given the currently highly fragmented and degraded state of this ecological community, all areas of Box-Gum Grassy Woodland which meet the minimum condition should be considered critical to the survival of this ecological community*". Therefore, based on the recovery plan for this community, the entirety of the 4.88 ha of CEEC within the Project Area is likely to be habitat critical to the survival of the community. The Proposed Action would substantially change this patch of Box-gum Woodland through direct clearing and would also increase the distance between woodland patches. Currently this is 600m, but with the removal of Box-gum Woodland in the development footprint, the distance between patches would increase to 1.2km; punctuated by scattered trees (i.e. causing an increase in fragmentation). However, this effect will be mitigated as the intervening areas of scattered trees are to be regenerated (i.e. stock exclusion) and revegetated (i.e. planting) in key locations to link and expand woodland patches. The outcome in these areas would be re-instatement of Box-gum Woodland and improvement of habitat quality and quantity.

Narrow-leaved Peppermint, Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) and New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands

No habitat critical to the survival of the species has been declared and therefore the removal of three individuals is unlikely to adversely affect the survival of the species. Furthermore this population exists as a fragmented patch which is not near the limit of the species' distribution range. Additionally, there are 46 additional *Eucalyptus nicholii* in low density that have previously been recorded within 10km of the subject land.

Diamond Firetail (*Stagonopleura guttata*)

No Diamond Firetails were recorded during multiple site visits to the Project Area. Conservation advice for the Diamond Firetail highlights that eucalypt woodlands with low tree density, few large logs, minimal litter cover, and high grass cover for foraging are critical to the species' survival (DCCEEW, 2023). While such critical habitat is present within the subject land, the highly fragmented nature of the site and historical groundcover disturbance from grazing reduce the likelihood of an important population being present. Although the development will impact potential foraging and breeding habitat, the small extent of suitable habitat affected, coupled with the availability of similar habitat in the surrounding landscape, suggests that the proposal is unlikely to lead to a long-term decrease in the size of an important population of the species.

Brown Treecreeper (*Climacteris picumnus victoriae)*

The proposed action is unlikely to fragment an existing population of the species as connectivity via stepping stones, mosaic woodland/grassland and scattered trees would be maintained. Given the small scale of habitat disturbance and the implementation of mitigation measures, the proposed action is unlikely to substantially reduce the species' area of occupancy, disrupt important populations, or interfere with its recovery efforts. Consequently, the impact on the Brown Treecreeper is assessed as negligible and is unlikely to be significant.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

See Att 2, Appendix B for assessments of significance (note that this document is in a draft stage and may not be suitable for public display).

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The Proposed Action would see the removal of 4.39 ha of EPBC Act listed Box-gum Woodland CEEC which would see a reduction (90%) of the extent of Box-gum Woodland within the Disturbance Footprint and approximately 4.67% within 500 m of the Disturbance Footprint. However the removal of this patch is unlikely to:

- Modify or destroy abiotic factors necessary for the community's survival in the locality due to the implementation of mitigation measures,
- Cause a substantial reduction in the quality or integrity of an occurrence of the community, and
- Interfere with the recovery of this community which has historically been cleared for livestock grazing and cropping which has already resulted in significant fragmentation within the Project Area and surrounds.
- Lead to a substantial change in faunal species assemblage through the removal of two hollow bearing trees as other potentially suitable hollow-bearing trees occur in the Project Area.
- Generate an increase in invasive species harmful to the ecological community. Although *Rubus fruticosus species aggregate* (Blackberry) was recorded within the Disturbance Footprint (Weed of National Significance), mitigation measures implemented during construction in the form of a weed management plan will manage and restrict weed movement.
- Kill or inhibit the growth of the community from the regular mobilisation of fertilisers, herbicides or other chemicals as weed control will be undertaken in line with the weed management plan which will include measures to minimise spray drift.

If unmitigated, the removal of 4.39 ha of this CEEC, has the potential to lead to a significant impact. For this reason measures have been developed to minimise and mitigate impacts, including sites for regeneration and revegetation, protection of retained vegetation during construction, hygiene protocols and weed controls. With the implementation of these measures, the local occurrence of Box-gum Woodland CEEC is unlikely to be significantly impacted and therefore deemed not to be a controlled action.

Narrow-leaved Peppermint, Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) & New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands

The population of *Eucalyptus nicholii* that is present within the Project Area is not considered an important population for the species as it currently exists as a fragmented patch. This patch is not near the limit of the species' distribution range and has an existing limited ability to disperse due to being located directly adjacent to Bayley Park Road within the road reserve and surrounded by the existing Metz Solar Farm. There will be a minor reduction in the area of occupancy of the species by 0.35 ha and only minor further fragmentation is likely to occur. The Proposed Action is unlikely to impact habitat critical to the survival of the species or disrupt the breeding cycle of the species. It is also unlikely that the Proposal will decrease the availability or the quality of habitat for the species, or increase invasive species becoming established or introduce disease. The design of the Proposal has undergone changes to reduce the adverse impacts on the population, therefore it is unlikely that the Proposal will interfere substantially with the recovery of the species.

Diamond Firetail (*Stagonopleura guttata*)

No individuals were sighted during multiple site visits to the Project Area and the proposed action is unlikely to significantly reduce the area of occupancy for the species, as only a small portion of the habitat will be impacted. The general area will remain occupiable in a modified form, ensuring that the overall habitat availability for the species is preserved.

Brown Treecreeper (*Climacteris picumnus victoriae)*

The proposed action involves a minor reduction in suitable habitat however this will be mitigated by planned revegetation efforts aimed at enhancing habitat connectivity. Given the small scale of habitat disturbance and the implementation of mitigation measures, the proposed action is unlikely to substantially reduce the species' area of occupancy, disrupt important populations, or interfere with its recovery efforts. Consequently, the impact on the brown treecreeper is assessed as negligible and is unlikely to be significant.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Location of the Proposed Action

The initial location of the Proposed Action considered several possible impacts. Key considerations included selecting a Project Area that lacked karst formations, caves, crevices, cliffs, rocks, or other significant geological features. This decision was made to avoid disturbing sensitive geological areas which may also provide habitat for an array of threatened and non-threatened fauna.

Furthermore, the project aimed to utilise an area with existing infrastructure, such as access tracks, to reduce the need for habitat removal, thereby minimising impacts on habitat connectivity. The use of the existing track also helped avoid additional impacts to waterbodies, such as Limerick Creek, where an existing track and culvert already crossed the water, further limiting potential environmental disturbances. These measures were implemented to minimise the overall environmental footprint of the project.

Design of the Proposed Action

The current design of the Proposed Action is the result of an iterative process which has adapted progressively to avoid limit impacts. The proposed Disturbance Footprint layout has been located and designed to avoid and minimise impacts to native vegetation and biodiversity values as much as possible, including Box-gum Woodland and *E.nicholii*. The initial design considered different options for access into the site from Bayley Park Road. The option that was chosen is the shortest route, with the least vegetation and clearing of mature trees.

Summary

The measures taken to avoid and minimise impacts can be seen below:

- Site selection in pasture improved grassland area
- Utilisation of existing access track
- Placement of the BESS on natural rise
- Proximity to existing transmission line and Metz Solar Farm
- Avoidance of Carex Sedgeland
- Modification of access track away from residence
- Avoidance of Box-gum Woodland and 12 *E.nicholii* trees by redesigning Bayley Park Rd upgrade to single lane road with waiting bays

Mitigation Measures

A summary of the proposed mitigation and management measures include but are not limited to the following:

- Regeneration and revegetation of Box Gum Woodland outside of the Disturbance Footprint
- Implementation of pre-clearance surveys
- Installation of nest boxes
- Implementation of relevant management plans including:
    - A Biodiversity Management Plan
    - Construction Environmental Management Plan

Adaptive management during construction and operation will be receptive to any new and relevant data that may arise through ongoing assessment and monitoring and is key to the successful implementation of the relevant management plans. This will allow ongoing flexibility to manage objectives, allow for relevant feedback and modifications. Construction management plans will have an adaptive management component.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No species listed on the EPBC Act have been identified as having the potential to be significantly impacted by the Proposed Action. As such, the proposal is not considered to require referral or offsets in accordance with the EPBC Offsets Policy. Note that Box-gum Woodland CEEC and woodland habitat for Brown Treecreeper and Diamond Firetail will be offset under the NSW Biodiversity Offsets Scheme.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Motacilla flava	Yellow Wagtail

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not likely to have a direct or indirect impact on any migratory species, as there are no records of migratory species within the Project Area.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The controlling provision is not present in the Project Area.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

Location Considerations

A combination of conditions needs to be considered when selecting a site appropriate for a BESS. These key conditions help narrow the search to specific geographical areas. The choice of this location was driven by a combination of:

- Setbacks that minimise the impact on nearby properties
- Ideal connection point into the national energy grid through an existing transmission line traversing the site to the north of the development
- Excellent access to major roads network.

Most suitable sites present some degree of restrictions such as creek lines, vegetation to be retained, etc. FRV works to incorporate these restrictions so that they can co-exist alongside the project's footprint. No alternative sites have been considered as this site provides an optimal combination of:

- Sufficient levels or available capacity on the grid distribution system
- Close proximity to a grid connection
- Close proximity to the Metz Solar Farm
- Suitable planning context
- Low potential impacts to biodiversity and heritage
- Low potential social impacts, such as noise and visual
- Community acceptance
- Good road access
- Low land use conflict.

The location of the Project Area within the Lot was driven by a combination of:

- Proximity to the associated landholder
- Reduced land use conflict and ability to continue current agricultural operations
- Proximity to existing infrastructure
- Proximity to the existing transmission lines
- Existing vegetative screening
- No surface water or flooding potential
- Views of the BESS screened by elevation.

Do-Nothing Alternative

The 'do nothing' option represents the status quo situation; avoiding all development impacts but similarly not realising a proposal's potential benefits. The direct consequence of not proceeding with the Project would be to forgo any benefits, most importantly, the Project's contribution to:

- Electricity reliability and security benefits
- Direct or indirect socio-economic benefits.

The environmental impacts associated with the development and operation of the proposed BESS would be avoided if the 'do nothing' option was selected. In this case, key impacts relate to:

- Biodiversity
- Traffic
- Social
- Visual and other amenity impacts

None of these were concluded to be substantive or lead to long term negative impacts to the environment and community. In this case, the potential benefits are considered to outweigh the impacts and as such the 'do nothing' option is not the preferred option.

Alternative site access locations

Four options were considered for the access into the Project Area.

Option 1 - is the preferred route by the associated receiver. This option has the least ground disturbance of all four options, with minimal vegetation/mature tree clearing. It is the shortest route from Grafton Way to the site. This option does not impact on the associated receiver's driveway access, or views from their living room and bedrooms. This is due to a natural barrier in the form of slope and the orientation of their residence/windows.

Option 2 - has the least vegetation/mature tree clearing but has the largest ground disturbance of all four options. It is the third longest route from Grafton Way to the site. This option will impact views from the associated receiver's home, and is not the preferred option.

Option 3 - has the most vegetation/mature tree clearing and has one of the largest ground disturbance of all four options. It is the second longest route from Grafton Way to the site. This option will impact views from the associated receiver's home, and is not the preferred option.

Option 4 - has the most vegetation/mature tree clearing, and has one of the largest ground disturbance of all four options. It is the longest route from Grafton Way to the site. This option also requires passing under the existing 330 kV line twice and provides difficulty for construction of the BESS units as the first component of the project to be placed is the substation, which will connect immediately into the 300 kV line. This means that once the substation is placed, manoeuvring for the BESS location becomes extremely challenging as there will be limited space for trucks to enter.

Chosen option - Option 1 was determined to be the preferred option, with the least social, financial and environmental risk to the project. The final proposed route was driven by a combination of:

- Shortest length
- Least ground disturbance
- Landholder access and reducing the use of associated and non-associated (rental) private driveway access
- Proximity to associated and non-associated (rental) dwellings – located as far away as possible
- Following the natural contours and elevation of the land
- Full avoidance of riparian vegetation within Limerick Creek, south of the access road – the vegetation within the creek and inundation zone has been potentially flagged as an Endangered Ecological Community (EEC) under the *Biodiversity Conservation Act 2016* (BC Act): Carex Sedgeland of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions
- Potential flooding risk from Limerick Creek.

As detailed above, the Development Footprint has been modelled as a worst-case scenario allowing for uncertainty in design and will be reduced following detailed design. As far as practicable, the Proposed Action will seek to avoid impacts to native vegetation. While clearing will be required, the final design will avoid as much mature standing vegetation as possible.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 Armidale East BESS, Site Map and Infrastructure Layout.pdf Armidale East BESS Subject Land and Layout	16/07/2024	No	High
#2.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	20/12/2024	Yes	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 3 ACHAR.pdf Aboriginal Cultural Heritage Assessment	18/12/2024	Yes	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment 2.pdf Draft Biodiversity Development Assessment Report	19/12/2024		High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	31124444622
Organisation name	NGH PTY LTD
Organisation address	2010 NSW
Representative's name	Tammy Vesely
Representative's job title	Senior Project Manager
Phone	0452 151 752
Email	tammy.v@nghconsulting.com.au
Address	T3, Level 7, 348 Edward St, Brisbane City, Qld 4000

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Tammy Vesely of NGH PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	60151469662
Organisation name	FRV SERVICES AUSTRALIA PTY LIMITED
Organisation address	2000 NSW
Representative's name	Ana Lazaro

Representative's job title	Project Developer
Phone	0426 411 175
Email	ana.lazaro@frv.com
Address	Suite 1001, level 10, 1 York St. 2000 | Sydney | Australia

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Ana Lazaro of FRV SERVICES AUSTRALIA PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Ana Lazaro of FRV SERVICES AUSTRALIA PTY LIMITED**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *