EPBC Act referral

Australian Government
Department of Agriculture, Water and the Environment

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Title of proposal	2021/9060 - Powerlink Queensland Genex Kidston Connection Project

Section 1

Summary of your proposed action

1.1 Project industry type Energy Generation and Supply (renewable)

1.2 Provide a detailed description of the proposed action, including all proposed activities

Genex Power Limited (Genex) is seeking to establish the Kidston Renewable Energy Hub, a combination of solar and pump storage hydro, power generation facility at the Old Kidston mine in northwest Queensland. Queensland Electricity Transmission Corporation Limited (trading as Powerlink Queensland) has been engaged by Genex to connect this facility to its existing transmission network at Mount Fox, via a new 275 kilovolt (kV) electricity transmission infrastructure project known, as the Genex Kidston Connection Project (the Project).

The Project comprises the following components:

- a 275 kV switching station proposed in the locality of Mount Fox, Queensland (the 'Mount Fox switching station')
- an up to 185 kilometre (km) 275 kV single circuit twin conductor transmission line between Mount Fox switching station and the Kidston Renewable Energy Hub (the 'transmission line').

At the eastern extent of the Preferred Alignment, the 275 kV transmission line will connect into a new switching station at Mount Fox. The Mount Fox switching station will connect into Powerlink Queensland's existing double circuit 275 kV Ross to Chalumbin transmission line. In addition to providing a physical connection point for the new line, the Mount Fox switching station will provide critical power monitoring and control capabilities to safely and reliably operate the transmission network. The initial switching station footprint will measure approximately 210 m long by 150 m wide, and be constructed within a larger area of land to provide a buffer to adjacent land uses, sufficient area to establish a flat platform and future expansion opportunities.

Detailed design and costings are currently underway to optimise the configuration of the proposed 275 kV transmission line to the expected generation output requirements. The line will be a single circuit configuration on self-supporting structures (steel lattice towers and poles) structures. The transmission line will be located within a 60 m wide easement.

A detailed Project description is also provided in Att A – Detailed Project Description, including:

Transmission line construction activities:

- site set out
- mobilisation, including establishment of accommodation camps, laydowns and offices
- installation of gates, grids, cleandown bays and access tracks
- vegetation clearing
- tower site benching
- foundation installation
- structure assembly and erection
- conductor and earth wire stringing
- site rehabilitation
- demobilisation.

Switching station construction activities:

- vegetation clearing
- earthworks and levelling for the switching station platform and access road
- site fencing
- installation of a site drainage system
- installation of a switching station cable trench and conduit system
- installation of the switching station earthing mat
- installation of the switching station structure and building foundations
- buildings, structure and electrical equipment erection
- conductor and earth wire stringing
- site rehabilitation.

These activities as well as operational elements are further detailed in section 3.5 (pg 12) and section 3.6 (pg 23) respectively (Att A – Detailed Project Description).

1.3 What is the extent and location of your proposed action?

See Appendix B

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)

The Project commences near Mount Fox, approximately 100 km north-west of Townsville and extends in a westerly direction for approximately 185 km to the township of Kidston. The Project intersects three individual Local Government Areas

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(LGA) – Hinchinbrook Shire Council (HSC), Charters Towers Regional Council (CTRC) and Etheridge Shire Council (ESC). The infrastructure is located as follows.

The proposed switching station at Mount Fox is located within the HSC LGA. The nearest locality to the substation is Mount Fox and the nearest population centre is Ingham (approximately 40 km north-east of Mount Fox). Approximately 115 km of the proposed transmission line will be located within CTRC with the nearest population centre being Greenvale. The remainder of the Transmission Line, and the connection into the Kidston Renewable Energy Hub, is located within ESC LGA with the nearest population centre being Einasleigh (approximately 40 km north of Kidston).

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The proposed action area is approximately 1,124 ha, encompassing a 60 m wide easement over approximately 185 km, and a 5.56 ha area for the switching station (inclusive of a 30 m fire break around the infrastructure footprint). The disturbance area is approximately 564.40 ha. The avoidance area is approximately 559.09 ha. This has resulted in approximately 50% reduction in habitat loss.

1.7 Proposed action location

Lot - 59SP237064; 3198PH2177; 3WU48; 6WU50; 1OC64; 5234SP275834; 1CLK23; 5CLK23; 11CLK26; 501SP232789; 54

1.8 Primary jurisdiction Queensland

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

☐ Yes ☑ No

1.10 Is the proposed action subject to local government planning approval?

☐ Yes ☑ No

1.11 Provide an estimated start and estimated end date for the proposed action

Start Date 31/03/2022
End Date 01/02/2024

1.12 Provide details of the context, planning framework and state and/or local Government requirements

Planning Act 2016

The Project is proposed as 'Infrastructure' assessable under the Planning Act 2016 Infrastructure Designation process. Infrastructure Designation is a planning process under Chapter 2, Part 5 of the Planning Act 2016 that allows the Minster to designate premises for a type of infrastructure. The process provides infrastructure entities a streamlined, considered whole-of government response on a request for infrastructure. Development in relation to infrastructure under a designation is accepted development, with no further development approvals required under the Planning Act 2016.

Section 35 of the Planning Act 2016 identifies that the Planning Regulation 2017 describes the types of infrastructure that may be designated by the Minister. Schedule 5, Part 2, Item 7 of the Planning Regulation 2017 identifies 'electrical operating works', being operating works under the Electricity Act 1994, as infrastructure which may be designated.

In order to make a designation under Section 36 of the Planning Act 2016 the Minister must also be satisfied that adequate environmental assessment, including adequate consultation has been carried out in relation to the Project. A Ministerial Infrastructure Designation Proposal has been developed to address the requirements prescribed under the Planning Regulation 2017 to satisfy the requirements of the Minister.

Nature Conservation Act 1992

The Nature Conservation Act 1992 is the principal legislation for the conservation and management of Queensland's native flora and fauna. The Act is administered by the Department of Environment and Science (DES). In support of the Act, the Nature Conservation (Wildlife) Regulation 2006 lists 'protected wildlife' (flora and fauna species), which are considered to be

'Extinct in the Wild', 'Endangered', 'Vulnerable', 'Near Threatened' and 'Least Concern' wildlife.

In Queensland, all plants that are native to Australia are protected plants under the Act to prevent whole plants or protected plant parts from being illegally removed from the wild or illegally traded. The protected plants flora survey trigger map shows high risk areas for protected plants and is used to help determine flora survey and clearing permit requirements for a particular location. High risk areas represent areas where Endangered, Vulnerable or Near Threatened plants are known to exist or are likely to exist.

Where clearing occurs within a high risk area, a flora survey is required to determine the presence of protected plants within the clearing impact area. The flora survey must then be lodged with DES to either obtain an approval, or an exemption notice (if none present). A high risk area is present along the Preferred Alignment in the vicinity of Mount Fox. A survey was undertaken in line with the relevant guidelines, and determined no protected plants were present within the clearing impact area. Powerlink Queensland will obtain an exemption notice prior to construction. An exemption notice must be applied for within 12 months of completion of the survey.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders

Powerlink is committed to effective and genuine stakeholder and landholder engagement practices. Powerlink's activities are guided by a Stakeholder Engagement Framework which is underpinned by the key principles of integrity, openness, responsiveness, accountability and inclusiveness. These principles are consistent with Powerlink's values – accountability, customer, teamwork and safety. Powerlink's Stakeholder Engagement Framework is provided in Att B – Powerlink Stakeholder Engagement Framework.

Powerlink has undertaken consultation with Federal, State and Local Governments, elected representatives, industry groups and landholders as part of the Project. Appendix C provides an overview of key engagement activities undertaken for the project to date, demonstrating Powerlink's focus on effective engagement early in the project's lifecycle. Engagement activities were undertaken to help gain meaningful input into social, environmental and technical matters to be considered during the initial project design development phase and subsequent construction phase.

Landholder engagement is an essential component of the Ministerial Infrastructure Designation process under the Planning Act 2016. Powerlink has been working closely with landholders since the commencement of the Project in 2016, with a dedicated Landholder Relations team in place to form effective relationships, proactively provide relevant information and manage any enquiries. Consultation as a part of the Ministerial Infrastructure Designation process will be undertaken by both the Queensland Minister for Planning and Powerlink Queensland.

Powerlink is committed to establishing and maintaining respectful and cooperative engagement with Aboriginal Parties (Native Title Holders). Powerlink intends to meet its duty of care under the Aboriginal Cultural Heritage Act 2003 and has negotiated Cultural Heritage Management Agreements with each of the relevant Aboriginal Parties, and has met with each of the groups.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project

The Project has been subject to detailed environmental impact assessment through the provision of an Environmental Assessment Report (now called Ministerial infrastructure Designation Assessment Report) for an Ministerial Infrastructure Designation under the Planning Act 2016.

The Environmental Assessment Report is currently being updated for resubmission to the Minister for assessment. The Environmental Assessment Report assessed the potential environmental, social and economic impacts associated with the construction, operation and maintenance of the Project.

1.15 Is this action part of a staged development (or a component of a larger project)?

☐ Yes ☑ No

1.16 Is the proposed action related to other actions or proposals in the region?

☑ Yes ☐ No

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation)

Yes. Existing Powerlink Queensland infrastructure in the Project area includes the existing 275 kV Ross to Chalumbin Transmission Line and the Mount Fox Communications Site. The Kidston Renewable Energy Hub is currently under development, with the following key projects either completed or proposed.

The 50 MW Kidston Solar Project (Stage One) has completed construction and is generating electricity into the National Electricity Market through a connection to Ergon Energy's existing 132kV Ross-Kidston transmission line. This line does not have sufficient spare capacity for the following projects.

The 250 MW Kidston Pumped Storage Hydro Project (Stage Two) is currently in construction.

The 270 MW Kidston Solar Project (Stage Two) has received development approval from Etheridge Shire Council and State

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Government.
The 150 MW Kidston Wind Project (Stage 3) is currently in feasibility stage.

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Section 2

Matters of national environmental significance

2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?

☐ Yes ☑ No

2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?

☐ Yes ☑ No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

☐ Yes ☑ No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

☑ Yes ☐ No

Species or threatened ecological community

Black-throated finch (southern) (Poephila cincta)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The black-throated finch (Poephila cincta) was determined a likely occurrence within the proposed action area (Project Area). The Project Area falls within the modelled distribution of the species as well as a mapped 'important area' as identified in the Significant Impact Guidelines for the endangered black-throated finch (southern). As specified by the guidelines, where suitable habitat is validated to exist within mapped important areas, the species should be presumed to be present. ALA records of the species occur within 20 km of the Project Area. However, the field surveys of the Study Area did not record any individuals or evidence of nesting.

Potential habitat was identified within the Project Area including nesting, foraging and dispersal habitat. These areas were generally found to contain an abundance of preferred foraging grasses for the species, including: Alloteropsis semialata, Capillipedium parviflorum, Chrysopogon fallax, Digitaria sp., Eragrostis lacunaria, Eremochloa bimaculate, Eriachne mucronate, Heteropogon contortus, Heteropogon triticeus, Panicum decompositum, Themeda triandra. Habitat critical to the survival of the species has been identified as water sources, grass seeds, and trees providing suitable nesting habitat. As the Project Area contains all three resources, all potential habitat is considered habitat critical to the survival of the species.

Potential impacts of the Project on this species includes loss of nesting, foraging and dispersal habitat, direct mortality, proliferation of weeds or pests and altered fire regime. Direct impacts via vegetation clearing during the construction phase will occur to 0.570 ha of breeding habitat, 5.836 ha of foraging habitat and 39.309 ha of dispersal habitat.

In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164) which include weed and pest management as well as sediment and erosion control, the following species-specific mitigation measures will be implemented:

- Pre-clearance surveys by a spotter-catcher will be undertaken in mapped habitat areas and near water sources to ensure any potential nests are detected and demarcated.
- Any identified active nesting colonies within or adjacent to the Project alignment will be avoided during vegetation clearing with a sufficient buffer distance implemented to avoid potential disturbance and displacement until the nests have been vacated.

An assessment against Guideline 1.1 for this species is provide in Att A – MNES Report (page 246). The outcome of the assessment was that the Project may result in a significant impact on the species due to the loss of key habitat resources including potential nesting trees.

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Species or threatened ecological community

Northern quoll (Dasyurus hallucatus)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The northern quoll (Dasyurus hallucatus) was determined a likely occurrence within the proposed action area (Project Area). West of lot and plan 5234/SP275834, the Project Area occurs outside the mapped distribution of the species. Where the Project Area occurs within the mapped distribution, it covers both 'likely' and 'potential' areas as identified in the referral guideline document. The species is known from Girringun National Park which occurs to the north east and is functionally connected to habitat of the Project Area. No WildNet records occur within 20 km. However, a record from 1997 occurs within 50 km of the Project Area, located south east in Paluma National Park. Another record occurs approximately 70 km north near Undara Volcanic National Park.

A reconnaissance survey was completed for this species in June 2018 and no evidence of the species presence was detected. A targeted northern quoll survey was conducted in August 2021 however the results of this assessment were not available at the time of this referral. Although current evidence available suggests the species may occur in low densities only, a worst-case scenario approach has been adopted which assumes a high-density population (and thus an important population) may be present.

Suitable habitat was identified within the Project Area including potential breeding and denning and potential foraging and dispersal habitat. Cane toads, wild dogs and feral cats were recorded within the Project Area during the field survey, which are a threat to northern quoll populations and impact on the quality of the habitat. Dispersal and foraging habitat associated with or connecting populations important for the long-term survival of the northern quoll is also considered habitat critical to the survival of the northern quoll'. Based on this definition, all potential habitat is considered habitat critical to the survival of the species as it is largely functionally connected to Girringun National Park to the north east.

Potential impacts on this species as a result of the Project includes loss habitat, direct mortality, proliferation of weeds and an altered fire regime. Vegetation clearing required for the construction of the Project will result in direct impacts to 64.472 ha of breeding and denning habitat and 41.253 ha of foraging and dispersal habitat.

In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164) which include weed and pest management as well as sediment and erosion control, the following species-specific mitigation measures will be implemented:

(1) Hollow logs and felled hollow bearing trees should be relocated to other areas of mapped northern quoll habitat to provide denning resources

(2) Soils of the Project Area are generally free-draining and therefore unlikely to retain pooling water. Nonetheless, water retaining voids or pits in the design should be avoided where these are not otherwise required for the control of stormwater run-off and erosion and sediment control measures. Where pits, voids or trenches are required, include appropriate cover to prevent extended water retention in these spaces and/or subsequent breeding opportunities for cane toads.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 252). The outcome of the assessment was that the Project may result in a significant impact on the species due to the potential net loss of habitat critical to the survival of the species.

Species or threatened ecological community

Sharman's rock wallaby (Petrogale sharmani)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The Sharman's rock-wallaby (Petrogale sharmani) was recorded within and adjacent to the Project Area on lot and plan 3198/PH2177 within RE 9.12.1a. An adult female with a pouched joey was also recorded on a camera trap, indicating potential habitat is utilised by a breeding population. Suitable habitat identified includes potential breeding habitat as well as foraging and dispersal habitat. Habitat critical to the survival of the species is not defined for the Sharman's rock wallaby. However, based on the generic definition specified in the EPBC Act Significant Impact Guidelines 1.1, all potential habitat is considered habitat critical.

This species has a highly restricted distribution and is confined to an area of around 200,000 ha that occurs west of Ingham in north-eastern Queensland. Important populations are not defined for this species. However, due to the small total population size of this species (less than 800 mature individuals), all colonies are significant to the national population, with only 20 colonies known. Therefore, any individuals within the Study Area are considered an 'important population'.

The Project will result in direct impacts via vegetation clearing to 6.262 ha of breeding habitat and 2.105 ha of foraging and dispersal habitat. Indirect impacts include increased disturbance from activity, light and noise resulting in stress and potentially mortality of individuals. Vegetation clearance on or within close proximity to the suitable rocky habitat areas may reduce the suitability of that area for habitation (due to changes in microclimate, increased predation risk, and reduced foraging material within the immediate area).

It is likely that any Sharman's rock-wallabies present within the Project Area will vacate during any disturbance, such as the movement of vehicles and machinery, vegetation clearance, tower erection and line stringing activities. Stress has been known to result in the mortality of individuals, and cause females to 'throw' their pouch young. Disturbances which occur over shorter time periods are likely to have reduced impacts, with individuals expected to return to the area upon completion of the works.

In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164), the following species-specific mitigation measures will be implemented:

- Large boulders that must be removed for construction of the Project should be reinstated or relocated to adjacent areas of potential Sharman' rock wallaby habitat where possible
- All project activities should aim to cease at least one hour prior to dusk in areas of potential Sharman's rock wallaby habitat. This will ensure disturbance to foraging individuals will be kept to a minimum.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 264). The outcome of the assessment was that the Project may result in a significant impact on the species due to the potential to disrupt a breeding cycle, adversely affect habitat critical to the survival of the species and interfere with the recovery of the species.

Species or threatened ecological community

Greater glider (Petauroides volans sensu lato)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

Greater gliders (Petauroides volans sensu lato) (two individuals) were recorded during the field surveys adjacent to the Project Area within RE 9.3.6a on lot and plan 5/CLK23, at both a small unnamed creek and the Burdekin River where it meets Gray Creek. Based on current evidence it is expected this species occurs within the Project Area in low densities only. Suitable habitat was identified within the Project Area including potential breeding and foraging habitat and foraging and dispersal habitat. Habitat critical to the survival of the species is not defined for the greater glider. However, based on the generic definition specified in the EPBC Act Significant Impact Guidelines 1.1, all potential habitat is considered habitat critical.

The SPRAT database does not identify 'important populations' of the greater glider. However, as the species distribution in the northern extent is discontinuous, it is possible that individuals in this area comprise a genetically distinct population. As such, any individuals within the Project Area are considered an important population.

A total of 64.38 ha of potential habitat including 20.389 ha of breeding and foraging and 43.991 ha of foraging and dispersal habitat may be cleared as part of the Project. Other Project related potential indirect impacts relevant to the koala includes habitat fragmentation, pest incursion and fauna mortality via felling of hollow-bearing trees. In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164), the following species-specific mitigation measures will be implemented - All hollow-bearing trees will be inspected by a fauna spotter-catcher prior to clearing to identify any denning or nesting individuals.

The greater glider is considered to be particularly sensitive to forest clearance and to intensive logging. Notwithstanding relatively small home ranges (1 – 4 ha), but in part because of low dispersal ability, this species may be sensitive to fragmentation, have relatively low persistence in small forest fragments, and disperse poorly across vegetation that is not native forest. An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 279). The outcome of the assessment was that the Project may result in a significant impact on the species. This is primarily as a result of the potential for the Project to fragment an existing important population into two or more.

Species or threatened ecological community

Koala (Phascolarctos cinereus)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The koala (Phascolarctos cinereus) was determined a likely occurrence within the proposed action area (Project Area). Although no koala individuals were recorded, evidence of koala presence was identified during the field surveys including potential scats and scratches on koala food trees. Anecdotal information acquired from on-site personnel and local residents have confirmed the occurrence of the species at a number of locations in the wider local area. This information strongly suggests that koalas are present in the Project Area, albeit in low-densities. The SPRAT database does not identify 'important populations' of koala and the concept of 'important populations' has not been used in the EPBC Act Referral Guidelines for the Vulnerable Koala.

Suitable habitat was identified in the Project Area including potential refuge, foraging and dispersal habitat. The Project Area is dominated by remnant Eucalyptus woodland and open forests with undulating hills and high stream order watercourses. Dominant canopy species include Eucalyptus crebra (narrow-leaved ironbark), Eucalyptus persistens, Eucalyptus brownii (Brown's box), Eucalyptus camaldulensis (river red gum), Eucalyptus microneura (Georgetown box), Corymbia dallachiana (Dallachy's gum), Corymbia confertiflora (rough leaf cabbage gum), and Corymbia erythrophloia

(variable-barked bloodwood). Potential habitat was assessed against to habitat assessment tool detailed in the referral guidelines for this species, and was determined to have a score of 9. This indicates that all potential habitat present is considered habitat critical to the survival of the species.

A total of 564.208 ha of potential habitat including 504.082 ha of refuge, 9.327 ha of foraging and 50.799 ha of dispersal habitat may be cleared as part of the Project. Other Project related potential indirect impacts relevant to the koala includes pest incursion and fauna mortality via strike from moving vehicles and machinery. In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164), the following species-specific mitigation measures will be implemented - If an individual is found prior to or during clearing activities, it must not be forcibly relocated. Any tree that has a koala present, as well as any tree with its crown overlapping that tree, must not be removed and remain in place until the koala vacates the tree of its own accord.

Assessment of the impacts to the koala was completed via a two-step process that first determined if the Project would substantially interfere with the recovery of the species, and secondly if the Project will adversely affect habitat critical to the survival of the species. The full assessment against Guideline 1.1 for this species is provide in Att A – MNES Report (page 269). The outcome of the assessment was that the Project may result in a significant impact on the species as clearing required may adversely affect habitat critical to the survival of the species.

Species or threatened ecological community

Yakka Skink (Egernia rugosa)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The yakka skink (Egernia rugosa) is considered to potentially occur within the proposed action are (Project Area). This species was not detected during the field surveys and no desktop records of the species occur within 50 km. However, the yakka skink is known from the Einasleigh uplands and records of this species across its entire range are generally rare. The Project Area covers both ‘potential’ and ‘likely’ mapped habitat areas as identified in the Draft Referral guidelines for the nationally listed Brigalow Belt reptiles.

Potential breeding and foraging habitat was identified within the Project Area comprising open dry sclerophyll forest or woodland on substrates that may provide burrow opportunities (i.e. land zone 3 floodplains (not fringing riparian communities), land zone 5 and 7). As per the Draft referral guidelines for the nationally listed Brigalow Belt reptiles, the occurrence of known ‘important habitat’ is a surrogate for an ‘important population’ of this species. Based on the definitions of suitable habitat and important habitat in the referral guidelines, all potential habitat within the Project Area is considered important habitat. As such, any individuals present are considered an important population.

A total of 194.919 ha of potential breeding and foraging habitat may be cleared as part of the Project. Other Project related potential indirect impacts relevant to the yakka skink includes pest incursion, fauna mortality via entrapment in excavations/trenches, erosion and sedimentation and light disturbance. In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164), the following species-specific mitigation measures will be implemented:

(1) Large hollow logs that must be removed from areas of potential yakka skink habitat should be retained and relocated to adjacent or nearby areas of suitable yakka skink habitat.

(2) Survey works conducted prior to clearing will include colony searches in areas of potential yakka skink habitat.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 291). The outcome of the assessment was that the Project may result in a significant impact on the species. This is primarily due to the uncertainty regarding the potential presence of a colony, and thus the potential for direct impacts to occur within 200m of a colony.

Species or threatened ecological community

Ghost bat (Macroderma gigas)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The ghost bat (Macroderma gigas) is considered a potential occurrence within the proposed action area (Project Area). The Project Area occurs within the ‘likely’ distribution of the species as per its SPRAT. This species was not recorded during the field surveys, however scattered records within 80 km in the region, including at Blackbraes National Park and near Mount Surprise and Undara Volcanic National Park. Population estimates of this species surrounding the Project Area include 50 within Blackbraes/Chudleigh and 150 at Girringun-Gugu Badhun West of Ingham/Cardwell.

Potential foraging and dispersal routes between foraging and roost locations have been identified within the Project Area. Although no caves suitable for roosting were identified during the field survey, a number of ‘abandoned mines’ occur in the surrounding area which may contain mine shafts suitable for roosting (including one location within 70 m). However, given alluvial mining was known to occur historically in the area it is noted that not all abandoned mine sites are likely to be suitable. Habitat critical to the survival of the species is not defined for the ghost bat. However, based on the generic definition specified

in the EPBC Act Significant Impact Guidelines 1.1, all potential habitat is considered habitat critical to the survival of the species.

A total of 77.652 ha of potential foraging and dispersal habitat may be cleared as part of the Project. As potential roosting habitat occurs only within the wider Study Area and not the Project Area, no direct impacts are anticipated. Other Project related potential indirect impacts relevant to the ghost bat includes pest incursion and noise and vibration disturbance to nearby breeding sites/maternity roosts as a result of clearing, excavation and construction works. In addition to the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164), the following species-specific mitigation measures will be implemented:

(1) Surveys conducted prior to vegetation clearing commencing should include an inspection of the abandoned mine site that occurs within 70 m of the Project Area. If any roosting bats are present these areas should be monitored; no works should occur within the vicinity until the site has been vacated.

(2) Where pits, voids or trenches are required, include appropriate cover to prevent extended water retention in these spaces and/or subsequent breeding opportunities for cane toads.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 285). The outcome of the assessment was that the Project may result in a significant impact on the species. This is primarily as a result of the lack of certainty regarding the presence of potential maternity roosts and impacts to habitat critical to the survival of the species.

Species or threatened ecological community

Spectacled flying-fox (Pteropus conspicillatus)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The spectacled flying-fox (Pteropus conspicillatus) is considered a potential occurrence within the Project Area. Only the far eastern extent of the Project Area falls within the mapped distribution of the species. The species was not recorded during the field surveys and no flying-fox camps were located within the Project Area. Two publicly available records occur in the wider area: a 1974 record occurs 11 km south of the Project Area near the Gregory Highway while a more recent record (2007) is located approximately 40 km to the south east.

The Project Area contains vegetation that adjoins rainforest communities in the wider area. Vegetation is generally dominated by Eucalyptus spp. and is therefore considered suitable for foraging. This species is highly mobile and is expected to utilise potential foraging habitat to disperse within the landscape. Due to the lack of wet, closed forest and flying-fox camps no potential breeding habitat is identified. The National recovery plan for the spectacled flying-fox defines habitat critical to the survival of the species and includes all foraging habitats as well as suitable roosting habitat. As such, all potential habitat within the Project Area is considered habitat critical to the survival of the species.

Potential impacts on this species as a result of the Project includes loss habitat, direct mortality and an altered fire regime. Vegetation clearing required for the construction of the Project will result in direct impacts to 43.815 ha of foraging and dispersal habitat. The general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164) include weed and pest management as well as sediment and erosion control. These are considered sufficient to manage potential indirect impacts on the species.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 258). The outcome of the assessment was that the Project is unlikely to result in a significant impact on the species.

Species or threatened ecological community

Red goshawk (Erythrotriorchis radiatus)

Impact

A risk assessment for the red goshawk (Erythrotriorchis radiatus) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable habitat and ALA records within 50 km. As the species was not recorded during the field survey and it is known to have a large distribution and home range, only a very small number of individuals are expected to utilise the Project Area at any time. Nonetheless, any individuals within the Project Area are considered an important population.

Suitable habitat was identified within the Project Area including potential nesting habitat and foraging and dispersal habitat. However no known nesting sites occur and any potential nesting sites (i.e large trees with raptor nests) will be demarcated and avoided prior to construction. Suitable habitat of equal or greater quality is likely to be common in the local area. Due to the mosaic of vegetation types and the presence of essential features such as water and food resources, all potential habitat is considered habitat critical to the survival of the species. A total of 499.691 ha of foraging and dispersal habitat and 20.389 ha of nesting habitat will be directly impacted via vegetation clearing required for the construction of the Project. However, based on the small number of individuals likely to utilise potential habitat, the linear nature of the Project Area and the vast areas of suitable habitat within the local area, these impacts are expected to be low and inconsequential to the success of the

species. As this species is highly mobile and construction works will be completed in phases, areas of disturbance can be temporarily avoided. Habitat fragmentation impacts have been minimised by co-locating the Project Area with an existing transmission line. Threats to prey (birds) are unlikely to be increased beyond current levels with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

Grey falcon (Falco hypoleucos)

Impact

A risk assessment for the grey falcon (Falco hypoleucos) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

The grey falcon is considered a potential occurrence within the Project Area due to the presence of suitable habitat and two potentially unreliable records within 50 km. As the species was not recorded during the field survey and it is known to have a very large distribution and occur at low densities, only a very small number of individuals are expected to utilise the Project Area at any time. Nonetheless, any individuals within the Project Area are considered an important population.

Suitable habitat was identified within the Project Area including potential nesting habitat and foraging and dispersal habitat. All potential habitat including breeding habitat is degraded by existing cattle grazing activities (a known threat to the species). Conservatively, potential breeding habitat is still assumed to be habitat critical to the survival of the species. However, suitable habitat of equal or greater quality is likely to be common in the local area.

Vegetation clearing required for the construction of the Project will result in direct impacts to 246.861 ha of breeding habitat and 273.219 ha of foraging and dispersal habitat. However, based on the small number of individuals likely to utilise the Project Area, the linear nature of the Project Area and the vast areas of suitable habitat within the local area, these impacts are expected to be low and inconsequential to the success of the species. Potential breeding sites (i.e. tall trees with potential raptor nests) will also be demarcated and avoided prior to construction. As this species is highly mobile and construction works will be completed in phases, areas of disturbance can be temporarily avoided. Habitat fragmentation impacts have been minimised by co-locating the Project Area with an existing transmission line. Pest species populations (namely cats, which are a known threat to the species) are unlikely to be increased beyond current levels with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

Masked owl (northern) (Tyto novaehollandiae kimberli)

Impact

A risk assessment for the masked owl (Tyto novaehollandiae kimberli) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable habitat and a recent (2020) record within 20 km. As the species was not recorded during the field survey and it is known to have a large distribution and home ranges, only a small number of individuals are expected to utilise the Project Area at any time. Nonetheless, any individuals within the Project Area are considered an important population. Suitable habitat was identified within the Project Area including potential foraging and dispersal habitat and breeding/nesting habitat. Potential breeding habitat is considered habitat critical to the survival of the species. However, suitable habitat of equal or greater quality is likely to be common in the local area.

Vegetation clearing required for the construction of the Project will result in direct impacts to 204.044 ha of breeding habitat and 316.036 ha of foraging and dispersal habitat. However, based on the small number of individuals likely to utilise the Project Area, the linear nature of the Project Area and the vast areas of suitable habitat within the local area, these impacts are expected to be low and inconsequential to the success of the species. All hollow-bearing trees will be inspected by a fauna spotter-catcher prior to clearing to identify any denning or nesting individuals. As this species is highly mobile and construction works will be completed in phases, areas of disturbance can be temporarily avoided. The presence of exotic and invasive flora and fauna species are unlikely to be increased beyond current levels with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

Squatter pigeon (southern) (Geophaps scripta scripta)

Impact

A risk assessment for the squatter pigeon (southern) (Geophaps scripta scripta) was completed in Att A – MNES Report (Section 9.1, Table 18, pg 170).

This species as well as the northern subspecies were recorded within the Project Area during the field survey in low

numbers. As the Study Area does not occur within the mapped distribution of the species, these recorded occurrences are considered vagrant individuals and as per the definition of important populations on the species' SPRAT, do not constitute an important population.

Suitable habitat was identified within the Project Area including potential breeding, foraging and dispersal habitat. Habitat is not considered habitat critical to the survival of the species as it does not occur within the sub-species' distribution. Additionally, suitable habitat of equal or greater quality is likely to be common in the local area.

Vegetation clearing required for the construction of the Project will result in direct impacts to 107.364 ha of breeding habitat, 94.710 ha of foraging habitat and 362.135 ha of dispersal habitat. However, based on the low number of individuals utilising the Project Area, the linear nature of the Project Area and the vast areas of suitable habitat within the local area, these impacts are expected to be low and inconsequential to the success of the species. Furthermore, this species is known to utilise and persist in disturbed areas. As this species is ground-dwelling, indirect impacts such as an increased pest presence and traffic within the Project Area may lead to greater mortalities. Increased traffic within the Project Area will be temporary (primarily during construction) and pest levels are unlikely to be exacerbated beyond current levels. Potential indirect impacts will be low and managed via the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

White-throated needletail (Hirundapus caudacutus)

Impact

A risk assessment for the white-throated needletail (Hirundapus caudacutus) was completed in Att C MNES Report (Section 9.1, Table 18, pg 170).

The white-throated needletail breeds in the northern hemisphere and migrates in the austral summer months to Australia. While in Australia, this species is widespread and predominately aerial. This species may potentially occur in the airspace above the Project Area due to the presence of suitable habitat and multiple records occur within 50 km. Suitable habitat identified within the Project Area includes potential roosting and foraging habitat as well as foraging and dispersal habitat. All potential roosting and foraging habitat is considered to comprise important habitat. As important habitat for the species occurs, any individuals within the Project Area are considered an important population. However, as this species has a very large distribution and is constantly moving, only small numbers are expected to utilise the Project Area at one time.

Vegetation clearing required for the construction of the Project will result in direct impacts to 50.820 ha of important habitat as well as 513.389 ha of foraging and dispersal habitat. However, as this species is predominately aerial, is widespread within Australia and has broad habitat requirements, impacts are unlikely to affect the persistence of the species. In addition, it is likely vast areas of important habitat occur within the wider local area. All other key threats to this species are unlikely to be increased beyond current levels with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

Curlew sandpiper (Calidris ferruginea)

Impact

A risk assessment for the curlew sandpiper (Calidris ferruginea) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable foraging and dispersal habitat and two ALA records south west of Conjuboy (undated and 1970). However, potential habitat is marginal as it is limited to watercourses and small farm dams that are frequently accessed by cattle and generally lack mudflats. Only small numbers of this species occur inland. Furthermore, areas of higher quality potential habitat occur in the wider area including State significant wetlands, which are more likely to be utilised. Based on this and the low quality of potential habitat, only vagrant individuals are expected to utilise potential habitat on a transitory basis only.

Suitable habitat identified within the Project Area includes only marginal foraging and dispersal habitat. No areas of potential habitat are considered to comprise habitat critical to the survival of the species, due to the degraded nature and inland location. A maximum of 16.835 ha of potential habitat will be directly impacted via vegetation clearing and some water extraction activities may be required. Water extraction activities will only occur where supplies are abundant. No substantial or permanent impacts on the farm dam hydrology will occur and therefore the continuation of current habitat quality and extent is anticipated. The Project will not create a barrier that may hinder access to potential habitat. As construction will occur in phases along the linear Project Area, it is highly unlikely all areas of potential habitat will be disturbed at one time allowing for individuals to move to avoid disturbed areas. Indirect impacts such as increased erosion, sedimentation and contamination will be managed with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164). Other indirect impacts such increased dust, light and noise will be temporary and localised.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Species or threatened ecological community

Australian painted snipe (Rostratula australis)

Impact

A risk assessment for the Australian painted snipe (Rostratula australis) was completed in Att C– MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable foraging and dispersal habitat. However, potential habitat is marginal as it is limited to watercourses and small farm dams that are frequently accessed by cattle and generally lack rank emergent fringing vegetation. Additionally, no public records (ALA or WildNet) occur within 40 km of the Project Area and as such it is likely that only a small number of dispersing individuals would utilise potential habitat on a transitory basis. Furthermore, areas of higher quality potential habitat occur in the wider area including State significant wetlands, which are more likely to be utilised.

Suitable habitat identified within the Project Area includes only marginal foraging and dispersal habitat. No areas of potential habitat are considered to comprise habitat critical to the survival of the species, due to the degraded nature and inland location. A maximum of 16.835 ha of potential habitat will be directly impacted via vegetation clearing and some water extraction activities may be required. Water extraction activities will only occur where supplies are abundant. No substantial or permanent impacts on the farm dam hydrology will occur and therefore the continuation of current habitat quality and extent is anticipated. The Project will not create a barrier that may hinder access to potential habitat. As construction will occur in phases along the linear Project Area, it is highly unlikely all areas of potential habitat will be disturbed at one time allowing for individuals to move to avoid disturbed areas. Indirect impacts such as increased erosion, sedimentation and contamination will be managed with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164). Other indirect impacts such increased dust, light and noise will be temporary and localised.

Species or threatened ecological community

Blue grass (Dichanthium setosum)

Impact

A risk assessment for blue grass (Dichanthium setosum) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable habitat on basaltic soils, and a record from 2002 within 20 km. This species was not recorded during the field survey however only one survey was completed during spring and cattle grazing activities may have reduced detectability. Despite the moderate to high levels of cattle grazing, all potential habitat is conservatively considered habitat critical to the survival of the species.

Vegetation clearing required for construction of the Project will result in direct impacts to approximately 23.810 ha of potential habitat. However, additional surveys will be completed prior to clearing to determine the presence and extent of any individuals or populations within the footprint. If necessary, Project infrastructure may be micro-sited to ensure no direct impacts to known individuals or populations occur. Potential indirect impacts from the Project include weed incursion, creation of edge effects, elevated dust and erosion leading to loss of individuals and reduced seeding. These potential impacts will be managed as the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Species or threatened ecological community

Tephrosia leveillei (no common name)

Impact

A risk assessment for Tephrosia leveillei was completed in Att C - MNES Report (Section 9.1, Table 18, pg 170).

This species is considered a potential occurrence within the Project Area due to the presence of suitable habitat comprising Eucalypt woodland on alluvial plains. Although no records occur within 50 km this species is known from the Mt Fox area, which occurs at the eastern extent of the Project Area. This species was not recorded during the field survey however only one survey was completed during spring and cattle grazing activities may have reduced detectability. Given the habitat requirements of the species are not well known, all potential habitat is considered habitat critical to the survival of the species.

Vegetation clearing required for construction of the Project will result in direct impacts to approximately 51.777 ha of potential habitat. However, additional surveys will be completed prior to clearing to determine the presence and extent of any individuals or populations within the footprint. If necessary, Project infrastructure may be micro-sited to ensure no direct impacts to known individuals or populations occur. Potential indirect impacts from the Project include weed incursion, creation of edge effects, elevated dust and erosion leading to loss of individuals and reduced seeding. These potential impacts will be managed as the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

2.4.2 Do you consider this impact to be significant?

☑ Yes ☐ No

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?

☑ Yes ☐ No

Migratory species

Satin flycatcher (Myiagra cyanoleuca)

Impact

A full assessment against the Significant Impact Guidelines is provided in Att C – MNES Report (Appendix E).

The satin flycatcher (Myiagra cyanoleuca) was not recorded during the field surveys conducted for the Project. However, it is considered a potential occurrence due to the presence of suitable Eucalypt-dominated woodland and forest habitat and scattered records in the surrounding area (<50 km) particularly towards Mount Fox. Potential habitat within the Project Area is suitable for foraging and dispersal. Given this species breeds only in south eastern Australia, no potential breeding habitat has been identified.

The Referral guideline for 14 birds listed as migratory species under the EPBC Act, defines important habitat for the species as “Eucalypt forest and woodlands, at high elevations when breeding. They are particularly common in tall wet sclerophyll forest, often in gullies or along water courses. In woodlands they prefer open, grassy woodland types. During migration, habitat preferences expand, with the species recorded in most wooded habitats except rainforests. Wintering birds in northern Qld will use rainforest - gallery forests interfaces, and birds have been recorded wintering in mangroves and paperbark swamps.” As such, potential habitat within the Project Area is considered to meet the definition of important habitat. However, it is also highly likely to be common within the local area surrounding the Project Area.

Potential impacts on this species as a result of the Project includes loss habitat and increased weed incursion. Vegetation clearing required for the construction of the Project will result in direct impacts to 518.853 ha of foraging and dispersal habitat. As this species is highly mobile and clearing widths are generally narrow (a maximum width of 60 m) the Project is not considered likely to result in the creation of barriers to movement to, between or within habitat.

An assessment against Guideline 1.1 for this species is provide in Att C – MNES Report (page 297). The area threshold for impacts on important habitat for this species has been identified as 4,400 ha (1 %) and 440 ha (0.1 %). As the Project will result in direct impacts to a maximum of 518.853 ha of foraging and dispersal habitat that may be ‘important habitat’ to the species, the impact area exceeds the area threshold for this species. As such, it is possible the Project may result in a significant impact on the satin flycatcher.

Migratory species

Fork-tailed swift (Apus pacificus)

Impact

A risk assessment for the fork-tailed swift (Apus pacificus) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species may potentially occur in the airspace above the Project Area due to the presence of suitable habitat and two 2013 ALA records within 10 km of the Project Area at Greenvale. A large number of records occur within 50 km, largely along the coast.

This species was not recorded during the field surveys. The entire Project Area is considered to provide potential foraging and dispersal habitat due to the aerial nature of the species. No areas of potential habitat are considered habitat All potential habitat is considered important habitat as it meets the definition specified in the Referral guideline for 14 birds listed as migratory species under the EPBC Act. Direct impacts will occur to 564.208 ha of foraging and dispersal habitat via vegetation clearing. Given this species is predominately aerial and is widespread within Australia, impacts are unlikely to affect the persistence of the species. The Project will not create a barrier to movement. All other key threats to this species are unlikely to be increased beyond current levels with the implementation of the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Migratory species

Oriental cuckoo (Cuculus optatus)

Impact

A risk assessment for the oriental cuckoo (Cuculus optatus) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species potentially occurs within the Project Area based on the presence of suitable habitat and records at three locations within 10 km.

Potential habitat has been identified within the Project Area. Habitat is suitable for foraging and dispersal only as this species does not breed in Australia. It is also highly likely to be common within the local area surrounding the Project Area.

The Referral guideline for 14 birds listed as migratory species under the EPBC Act, defines important habitat for the species as “monsoonal rainforest, vine thickets, wet sclerophyll forest or open Casuarina, Acacia or Eucalyptus woodlands. Frequently at edges or ecotones between habitat types”. Potential habitat does meet the definition of important habitat for the species but does not meet the area requirements (lower threshold of 25,000 ha) to be considered nationally or internationally significant habitat and is unlikely to support an ecologically significant proportion of the population as defined under the Referral guideline for 14 birds listed as migratory species under the EPBC Act. A total of 564.208 ha of potential habitat will be directly impacted via vegetation clearing. This area is well below the clearing threshold for significant impacts as defined by the referral guidelines. This species is highly mobile and unlikely to be sensitive to potential indirect impacts associated with the Project, nonetheless these will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Migratory species

Black-faced monarch (Monarcha melanopsis)

Impact

A risk assessment for the black-faced monarch (Monarcha melanopsis) was completed in Att C– MNES Report (Section 9.1, Table 18, pg 170).

This species potentially occurs within the Project Area based on the presence of potentially suitable habitat and public records at three locations within 10 km. Given the species primarily coastal distribution, suitable habitat is limited to the far eastern extent of the Project Area.

The Referral guideline for 14 birds listed as migratory species under the EPBC Act, defines important habitat for the species as “wet forest specialist, found mainly in rainforest and wet sclerophyll forest, especially in sheltered gullies and slopes with a dense understorey of ferns and/or shrubs” Potential habitat within the Project Area is considered marginal only as it is not rainforest or wet sclerophyll. As such, potential habitat does not meet the definition of important habitat as per the Referral guideline for 14 birds listed as migratory species under the EPBC Act. Potential habitat is suitable for foraging and dispersal only as this species does not breed in north Australia. It is also highly likely to be common within the local area surrounding the Project Area.

An ecologically significant proportion of the population is 47 individuals (0.1% threshold). The lower area threshold for impacts on important habitat is 260 ha. As habitat does not meet the definition of ‘important habitat’, the area requirements to be considered nationally or internationally significant habitat are not relevant, and habitat is unlikely to support an ecologically significant proportion of the population. A total of 201.357 ha of potential habitat will be directly impacted via vegetation clearing. However, as this habitat is not ‘important habitat’ clearing thresholds for significant impacts as defined by the referral guidelines are not applicable. This species is highly mobile and unlikely to be sensitive to potential indirect impacts associated with the Project due to the existing presence of rubber vine and black rats. Nonetheless, these will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Migratory species

Spectacled monarch (Symposiachrus trivirgatus)

Impact

A risk assessment for the spectacled monarch (Symposiachrus trivirgatus) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species potentially occurs within the Study Area based on the presence of potentially suitable habitat and recent records at two locations within 10 km near Mt Fox. As per SPRAT, this species occupies dense vegetation, mainly in rainforest but also in moist or wet sclerophyll forest and occasionally in other densely vegetated habitats such as mangroves, drier forest, woodlands, parks and gardens. This species does not have specific requirements for breeding habitat. The Referral guideline for 14 birds listed as migratory species under the EPBC Act, defines important habitat for the species as “dense vegetation, mainly in rainforest but also in moist forest or wet sclerophyll and occasionally in other dense vegetation such as mangroves, drier forest and woodlands.”.

Potential habitat within the Project Area is suitable for breeding, foraging and dispersal, however is considered marginal as it is very rarely characterised as ‘dense’ and where dense vegetation does occur it is sporadic patches of Lantana. Given this, potential habitat within the Project Area does not meet the definition of important habitat. Due to the broad habitat requirements, suitable habitat is highly likely to be common within the local area surrounding the Project Area.

An ecologically significant proportion of the population is 650 individuals (0.1% threshold) or 330 for the wet tropics spectacled monarch. The lower area threshold for impacts on important habitat is 210 ha or 110 ha for the wet tropics spectacled monarch. The extent of habitat present within the Project Area would meet the area requirements to be considered nationally significant habitat as defined under the Referral guideline for 14 birds listed as migratory species under the EPBC Act. However, it is unlikely that this habitat supports an ecologically significant proportion of the population.

Direct impacts via vegetation clearing will occur to approximately 518.853 ha of potential habitat however as habitat is not

considered 'important' the referral impact thresholds do not apply. This species is highly mobile and unlikely to be sensitive to potential indirect impacts associated with the Project due to the existing presence of rubber vine and black rats. Nonetheless, these will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Migratory species

Rufous fantail (Rhipidura rufifrons)

Impact

A risk assessment for the rufous fantail (Rhipidura rufifrons) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

This species is likely to occur within the Study Area based on the presence of suitable habitat and records at ten locations within 20 km. This species mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts usually with a dense shrubby understorey including ferns. The Referral guideline for 14 birds listed as migratory species under the EPBC Act, defines important habitat for the species as "Moist, dense habitats, including mangroves, rainforest, riparian forests and thickets, and wet eucalypt forests with a dense understorey. When on passage a wider range of habitats are used including dry eucalypt forests and woodlands and Brigalow shrublands".

Potential habitat within the Project Area is suitable for foraging and dispersal, however is considered marginal as it is generally very dry and open. As this species doesn't not breed in north Queensland no potential breeding habitat is identified. Given a wider range of habitats are used while on passage as per the definition of important habitat, potential habitat is considered to meet the definition.

An ecologically significant proportion of the population is 4,800 individuals (0.1% threshold). The lower area threshold for impacts on important habitat is 750 ha. The extent of habitat present within the Project Area would meet the area requirements to be considered nationally significant habitat as defined under the Referral guideline for 14 birds listed as migratory species under the EPBC Act. However, this potential habitat is highly likely to be common within the local area surrounding the Project Area. It is unlikely that this habitat supports an ecologically significant proportion of the population and habitat will be used by foraging and dispersing individuals only.

A total of 306.061 ha of potential habitat will be directly impacted via vegetation clearing required for the Project. This area is below the clearing threshold for significant impacts and no impacts to breeding habitat will occur. Furthermore, this species is considered common and secure in Australia. It is highly mobile and unlikely to be sensitive to potential indirect impacts associated with the Project due to the existing presence of rubber vine and black rats. Nonetheless, these will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Migratory species

Wetland species including the glossy ibis (Plegadis falcinellus), red-necked stint (Calidris ruficollis), common greenshank (Tringa nebularia), common sandpiper (Actitis hypoleucos) and sharp-tailed sandpiper (Calidris acuminata)

Impact

A risk assessment for the glossy ibis, red-necked stint (Plegadis falcinellus), common greenshank (Tringa nebularia), common sandpiper (Actitis hypoleucos) and sharp-tailed sandpiper (Calidris acuminata) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

The red-necked stint (Calidris ruficollis), common greenshank (Tringa nebularia), common sandpiper (Actitis hypoleucos) and sharp-tailed sandpiper (Calidris acuminata) are considered potential occurrences within the Project Area due to the presence of suitable habitat and records in the wider area. The glossy ibis is known to occur at one location (Murray's lagoon) within the Project Area. Watercourses field-validated to be suitable as well as all farm dams are conservatively assumed to provide potential habitat to all migratory wetland birds. Habitat is considered marginal due to the very small size of the farm dams and the moderate to high cattle activity at most water sources across the area. Potential habitat is considered suitable for foraging and dispersal only due to the inland location of the Project Area, which is outside of known breeding areas of all five species.

Based on the species large distribution and migration patterns, only a small number of dispersing vagrant individuals are expected to utilise potential habitat of the Project Area at any time.

Up to 16.835 ha of potential foraging and dispersal habitat may be directly impacted via vegetation clearing. Water extraction activities may occur at some farm dam locations during construction, however this is likely to occur during the dry season when the species is likely to have migrated from the Study Area. No substantial or permanent impacts on the farm dam hydrology will occur and therefore the continuation of current habitat quality and extent is anticipated. The Project will not create a barrier that may hinder access to farm dam habitat. Indirect impacts such as increased erosion, sedimentation and contamination will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164).

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Migratory species

Caspian tern (Hydroprogne caspia)

Impact

A risk assessment for the Caspian tern (Hydroprogne caspia) was completed in Att C – MNES Report (Section 9.1, Table 18, pg 170).

The Caspian tern is considered a potential occurrence within the Project Area due to the presence of suitable habitat and one WildNet record within 20 km. Although this species is primarily coastal it is known to travel inland via creeks and rivers. As such, potential habitat within the Project Area is restricted to higher order watercourses (stream order 6 and above) that are likely to have open areas of water suitable for foraging and dispersal.

Based on the species large distribution and preference for coastal habitats only a small number of dispersing vagrant individuals are expected to utilise potential habitat of the Project Area at any time.

Up to 4.549 ha of potential foraging and dispersal habitat may be cleared for the Project. No substantial or permanent impacts on the hydrology of watercourses that intersect the Project Area will occur and therefore the continuation of current habitat quality and extent is anticipated. The Project will not create a barrier that may hinder access to potential habitat. Indirect impacts such as increased erosion, sedimentation and contamination will be managed via the general mitigation and management measures outlined in Att C – MNES Report (Section 8.3.1, pg 164). Other indirect impacts such increased dust, light and noise will be temporary and localised.

2.5.2 Do you consider this impact to be significant?

☐ Yes ☑ No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

☐ Yes ☑ No

2.7 Is the proposed action likely to be taken on or near Commonwealth land?

☐ Yes ☑ No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

☐ Yes ☑ No

2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?

☐ Yes ☑ No

2.10 Is the proposed action a nuclear action?

☐ Yes ☑ No

2.11 Is the proposed action to be taken by a Commonwealth agency?

☐ Yes ☑ No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?

☐ Yes ☑ No

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?

☐ Yes ☑ No

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Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

The following information is a summary of Att C – MNES Report.

Flora - Findings of the field surveys completed for the Project confirmed that the Project Area is dominated by remnant vegetation comprising sixteen broad vegetation communities, as follows: Closed to open forest of Corymbia intermedia and Eucalyptus tereticornis on coastal ranges (Regional Ecosystems (REs) 7.8.7, 7.8.18 and 7.12.29); Open woodland dominated by Eucalyptus crebra on basalt plains (REs 9.8.1 & 9.8.4); Eucalyptus microneura woodland on rolling metamorphic hills (RE 9.11.23b); Open forests and woodlands of Eucalyptus crebra and Eucalyptus sp. on granitic and metamorphic ranges (REs 9.11.2a, 9.11.16, 9.11.15a, 9.12.1a, 9.12.10, 9.12.12 & 9.12.16); Eucalyptus moluccana woodland on igneous rocks (RE 9.12.26); Eucalyptus camaldulensis, Casuarina cunninghamiana and Melaleuca sp. riparian open forest on alluvium (RE 9.3.1); Eucalyptus leptophleba open woodland on alluvium (RE 9.3.3 & 9.3.3a); Eucalyptus platyphylla or Eucalyptus crebra woodlands on floodplains (REs 9.3.6a, 9.3.16 & 9.3.22a); Eucalyptus brownii woodland on alluvium (RE 9.3.5); Eucalyptus melanophloia or Eucalyptus shirleyi low open woodland on hills and ranges (RE 9.11.1a); Eucalyptus crebra woodland on colluvial plains (RE 9.5.3); Eucalyptus microneura open forest to woodland on alluvium (RE 9.3.20); Eucalyptus persistens open forest to woodland on hills and ranges (REs 9.5.11, 9.7.1, 9.11.5 & 9.12.32); Melaleuca spp., Eucalyptus camaldulensis and Casuarina cunninghamiana riparian open forest (RE 9.3.13); • Acacia shirleyi low open forest on laterite (RE 9.7.2); • Tussock grassland dominated by Dichanthium spp. on undulating downs or clay plains (REs 9.3.25 & 9.8.13).

Small areas of historically cleared areas dominated by a mixture of native and exotic grasses also occur within the Project Area, associated with the existing powerline easement and access tracks. In these areas, individual Corymbia sp. and Eucalyptus sp. trees occur sporadically. A total of 281 flora species from 57 families were recorded. The dominant plant families recorded were Poaceae (45 species), followed by Fabaceae (32 species), Myrtaceae (32 species) and Mimosaceae (24 species). No flora species listed under the EPBC Act were recorded. Exotic flora species accounted for 13% of the species recorded. Four of these species are listed Category 3 matters under the Biosecurity Act: Parthenium hysterophorus (parthenium) (also listed as a WoNS), Lantana camara (lantana) (also listed as a WoNS), Cryptostegia grandiflora (rubber vine) (also listed as a WoNS) and Argyreia nervosa (Elephant creeper). The desktop assessment identified 14 threatened flora and 1 threatened ecological community as potentially present within the Project Area. Of these 15 MNES values, the likelihood of occurrence assessment completed identified two as potential occurrences based on the presence of suitable habitat and / or nearby records: Dichanthium setosum (blue grass) and Tephrosia leveillei.

Fauna - Eight dominant habitat types were identified within the Project Area: • Open Eucalyptus woodland on alluvium or sand plains; • Open Eucalyptus, Casuarina and Melaleuca riparian woodland; • Native grassland; • Low open forest of Acacia shirleyi and Eucalyptus persistens on laterite; • Open woodland of Eucalyptus and Corymbia on basalt; • Woodland of Eucalyptus and Corymbia on metamorphic hills; • Eucalyptus and Corymbia woodland on igneous hills and/or granite; • Cleared areas; • Farm dams.

Fauna habitat within the Project Area was generally of moderate to high quality. Area's directly adjacent to the existing powerline especially however have been subject to disturbance from weeds, pests, erosion and other edge effects. However, microhabitat features are present within each of the habitat types, which provides habitat opportunities for several species including threatened species. Potential animal breeding places were recorded throughout the Project Area including small, medium and hollows recorded in a diversity of tree species primarily including Eucalyptus tereticornis, E. platyphylla, E. persistens, Corymbia sp. and stags. Large fallen logs and rocky outcrops with large boulders were also recorded. A total of 163 fauna species were recorded during the field surveys comprising 115 bird, 35 mammal, 9 reptile, 2 amphibian and 2 fish species. Seven introduced fauna species were recorded: European rabbit, feral cat, feral pig, chital deer, wild dog/dingo, cane toad and helmeted guineafowl. Three threatened fauna species were recorded: squatter pigeon (southern), greater glider and Sharman's rock wallaby. The desktop assessment identified 32 threatened fauna as potentially present within the Project Area. Of these 32 MNES values, 3 were recorded (see above), and an additional 12 were considered potential or likely occurrences based on the presence of suitable habitat and / or nearby records.

3.2 Describe the hydrology relevant to the project area (including water flows)

The Project crosses the Gilbert River Basin before crossing into the Burdekin River Basin approximately 70 km along the Project from its western end. The Project involves 31 crossings of a third order (or higher) stream with only five of these in the Gilbert Basin and the remaining 26 crossings in the Burdekin River Basin. All watercourses crossed by the Project are ephemeral and generally cease to flow shortly after the cessation of rainfall. The Burdekin River represents the largest catchment area crossed by the Project and flows in the upper Burdekin can persist several months following the wet season. However flows generally cease in the dry season in this section of the river as well.

The entire area traversed by the Project has a low density of registered groundwater bores as outlined in the Queensland Registered Bore database. There are 76 registered groundwater bores within 10 km of the Project. The majority (60) of these bores are installed to less than 50 m depth below ground level. There are no registered bores within 10 km of the Project between chainage 120 km and 170 km. Standing water level information is provided for 23 of 76 bores along the Project.

The average standing water level of all 23 bores within 10 km of the Project is approximately 11 m below the top of the bore. The maximum standing water level is approximately 28 m below the top of the bore (Bulgeri Formation) and the smallest standing water level is approximately 4 m below the top of the bore (McKinnon's Creek Formation).

3.3 Describe the soil and vegetation characteristics relevant to the project area

A description of soil orders relevant to the Project is provided below. Vertosols: are the most common soil in Queensland. These soils display shrink-swell features and are known as cracking clay soils. Chromosols: are texture-contrast soils. Chromosols are not very acidic. Sodosols: are texture-contrast soils with extremely low permeable subsoils due to the concentration of sodium. This soil type often has a low-nutrient status and is highly vulnerable to erosion and dryland salinity when vegetation is removed. Tenosols: are poorly developed but widespread and can be shallow and stony. These soils generally have a low fertility and low water-holding capacity. Kandosols: Kandosols are red, yellow and grey massive earths. They generally have a sandy to loamy-surface soil, grading to porous sandy-clay subsoils with low fertility and poor water-holding capacity.

Acid sulfate soils (ASS) can form in parts of inland Queensland where there are appropriate conditions. This is reflected where the Project is mapped as having a "high probability" of containing ASS; where the Project crosses the Copperfield River and East Creek, near Kidston, and the Burdekin River near Greenvale. Further investigations will be undertaken to determine the presence of ASS in these locations during detailed design.

As the elevation of the Project varies from 400 m to 800 m AHD it is unlikely for ASS to be present within the remainder of the Project. This is consistent with ASRIS mapping which identifies the remainder of the Project as being mapped as "no known occurrence" and "low probability" of containing ASS. The eastern (Mount Fox) extent of the Project is predominantly mapped as "low probability" with section of "no known occurrence". The western (Kidston) extent of the Project is predominately mapped as having "no known occurrence" with minor sections of "low probability" of containing ASS.

Vegetation included Eucalypt woodlands, open forests, grasslands and cleared areas as described above.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

The Project is not expected to impact any outstanding natural features.

The following natural features and values are relevant to the wider area:

- Mount Claro – (approximately 1 km to the south of the alignment)
- Girrigun National Park – (approximately 400 m north of the alignment)
- Mount Fox Crater – (approximately 750 m north of the alignment)
- Newcastle Range – The Oaks Nature Refuge – (approximately 2.4 km north of the alignment)
- Liefway Nature Refuge - (approximately 2.5 km to the east of the alignment).

3.5 Describe the status of native vegetation relevant to the project area

The majority of the Project area comprises remnant vegetation. Field surveys and desktop assessments confirmed the presence of 32 REs. The majority (87%) of these REs are listed as Least concern under the Vegetation Management Act 1999 (VM Act) and 13% are listed as Of concern. No REs listed as Endangered under the VM Act were recorded.

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

The topography along the proposed transmission line ranges from flat low lying land to steep crossings of multiple ranges and mountains, including part of the Pelican Range (70 km west of Mount Fox) and the Great Dividing Range (100 km west of Mount Fox).

3.7 Describe the current condition of the environment relevant to the project area

The Project Area is predominantly rural land characterised by woodlands and some grasslands used largely for agricultural development including cattle grazing. Large tracts of relatively undisturbed vegetation occur within the local area and connect to the Project Area. The Project Area is predominately centred on the existing Ergon electricity infrastructure in the region, namely sections of the Ross to Kidston 132 kV transmission line and the Greenvale 66 kV sub-transmission line. The alignment is immediately north of the existing Ergon lines. A 36 km stretch of the Project Area that occurs roughly between Greenvale and Conjuboy does not contain any existing electricity infrastructure.

The field surveys recorded 38 introduced flora species, accounting for 13% of the species observed. Four of these species are listed as Category 3 restricted invasive plants/biosecurity matter under the Biosecurity Act 2014, including:

- Parthenium hysterophorus (parthenium); also listed as a WoNS.
- Lantana camara (lantana); also listed as a WoNS.
- Cryptostegia grandiflora (rubber vine); also listed as a WoNS.
- Argyreia nervosa (Elephant creeper).

The field surveys recorded seven introduced fauna species, five of which are restricted under the Biosecurity Act 2014:

- European rabbit (Oryctolagus cuniculus) – Listed as a category 3, 4, 5, 6 restricted matter under the Biosecurity Act

2014.

- Feral cat (Felis catus) - Listed as a category 3, 4, 6 restricted matter under the Biosecurity Act 2014.
- Feral pig (Sus scrofa) – Listed as a category 3, 4, 6 restricted matter under the Biosecurity Act 2014.
- Chital deer (Axis axis) – Listed as a category 3, 4, 6 restricted matter under the Biosecurity Act 2014.
- Wild dog/dingo (Canis lupus) – Listed as a category 3, 4, 6 restricted matter under the Biosecurity Act 2014.
- Cane toad (Rhinella marina).
- Helmeted guineafowl (Numida meleagris).

Other introduced fauna likely to occur within the Project Area include:

- European fox (Vulpes vulpes).
- Black rat (Rattus rattus).
- House mouse (Mus musculus).

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

There are no registered historical heritage places within or directly adjacent to the Project area, and so no impacts are anticipated to known non-indigenous cultural heritage values. There is some potential for the Project to impact unidentified historical heritage places. Any such unidentified places are most likely to relate to the pastoral or mining history of the region. This includes five abandoned mines that are thought to be within 500 m of the Project, as well as other, potentially undocumented mine workings or early pastoral complexes.

Archaeological potential is thought to be highest around the former mine workings and present-day camp site on 'Kilclooney', and on the Copperfield leases south of Kidston. Powerlink Queensland have sought to minimise impact on the Kilclooney site by locating the Project on the southern side of Ergon 66kV line. However, the potential for heritage impact on the Copperfield leases and the requirement for any mitigation has yet to be established. It is recommended that a site inspection be undertaken in this area to identify any mining heritage places, and to recommend management measures if required.

Residual risk across the remainder of the Project will be mitigated by the following general construction phase environmental management measures, including cultural heritage inductions and unexpected find procedures.

3.9 Describe any Indigenous heritage values relevant to the project area

A search of the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) database identified recorded Aboriginal cultural heritage in the vicinity of the Project. None of the identified sites are located within the Project.

A search of the DATSIP database identifies three Aboriginal Parties whose Native Title determinations / claims are intersected by the Project, including: Gugu Badhum People #3, Ewamian People #2, and Ewamian People #3.

Powerlink intends to meet its duty of care under the Aboriginal Cultural Heritage Act 2003 and has negotiated Cultural Heritage Management Agreements with each of the relevant Aboriginal Parties, and has met with each of the groups. Detailed surveys of the Project are currently underway.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area

The Project traverses 22 properties and numerous untitled roads and watercourses. Section 1.7 describes the lot on plans subject to the Project. Land tenure traversed by the Project is predominantly leasehold which is held by the State of Queensland and leased for specific purposes (grazing, agriculture, telecommunications etc.) for a specified period. There are also scattered freehold lots throughout the Project.

3.11 Describe any existing or any proposed uses relevant to the project area

The Project traverses three Local Government Areas (LGAs), with individualised Local Planning Instruments. Land use intent for rural areas area similar across the three LGAs and includes the maintenance of rural character and amenity.

The existing rural character of the area traversed by the Project for the proposed transmission line is generally typified by rural properties, with large lot sizes, one or two dwellings with supporting agricultural operational buildings, sheds or structures. Existing built infrastructure includes a number of gravel roads and existing Ergon powerlines including Single Wire Earth Return (SWER), 66 kV and 132 kV. The rural character is also supported by dense vegetated areas, and natural features such as waterways, valleys and ridgelines. Co-location of the proposed transmission line with existing electrical infrastructure for large sections of the alignment minimises impacts on the character and amenity of the rural area.

The dominant land use within the Project area is agricultural land, characterised by pastoral or grazing properties for livestock production (predominantly beef cattle), including some areas of Class A and Class B agricultural land. The Project traverses five 'open' stock routes, all classified as minor and unused. In most instances where the Project traverses Class A or B agricultural land and stock routes, the proposed transmission line has been co-located with existing Ergon Energy 66 kV and 132 kV lines. Between Greenvale and Conjuboy, the Project is not co-located with any Ergon lines and Powerlink Queensland has worked closely with affected landholders to determine an alignment which manages property impacts.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 4

Measures to avoid or reduce impacts

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

Powerlink has implemented the hierarchy of management principles in the planning for and development of the Project. These principles and the order in which they have been applied is as follows. (1) Avoid: locating activities to avoid direct and indirect impacts on MNES. (2) Minimise: minimising direct and indirect impacts where they cannot be completely avoided. (3) Mitigate: implementing mitigation and management measures to reduce direct, indirect and cumulative impacts. (4) Remediate and rehabilitate actively remediate and rehabilitate impacted areas to promote long-term recovery. (5) Offset (where necessary) - provide suitable offsets for activities that result in significant residual impacts to MNES even with the implementation of the above principles.

Using the principles above, Powerlink have gone through an extensive impact minimisation process to achieve approximately 50% reduction in direct impacts to MNES habitat. Key actions have included the following.

1. Review of preliminary design to increase ground clearance where possible and hence reducing the amount of vegetation required to be cleared for the safe operation of the transmission line (i.e. required to maintain electrical clearances). This included adjustments in tower placements along the alignment (utilising topography); addition of towers along the alignment in locations to minimise span lengths; and raising of tower heights.

2. Following this optimisation of the preliminary design to minimise the clearing impact along the alignment, review transmission line design in relation to existing vegetation on the alignment (LiDAR) to determine how much vegetation is required to be removed to construct, operate and maintain the transmission line. The following clearing areas are used (a) Full Width Clearing – where vegetation is required to be removed across the easement corridor (60 metres wide); (b) Draw Wire Path Clearing – where vegetation is required to be removed in the centre of the corridor (21 metres wide); and (c) Tower pad sites – require a 30 x 30 metre pad to be cleared.

Sections 8.1 and 8.2 of the MNES Report in Att C – MNES Report, describe how impacts on MNES will be avoided and minimised for the Project and Section 8.3 in Att C – MNES Report describes mitigation measures.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

Species-specific mitigation measures, in addition to the general mitigation measures (detailed in Section 8.3 of Att C – MNES Report), are recommended to reduce and/or avoid impacts to potentially occurring and known MNES values. These are detailed below with the target MNES shown in brackets:

- Any populations should be identified, and the extent mapped during pre-clearance surveys. Confirmation of population avoidance should be completed during final scouting. The siting of infrastructure should avoid areas of known occurrence as a priority (Dichanthium setosum and Tephrosia leveillei)
- Clearing works should maintain a sufficient vegetation buffer where possible around identified locations of threatened flora to maintain suitable micro-climatic conditions (Dichanthium setosum and Tephrosia leveillei).
- Pre-clearance surveys by a spotter-catcher will be undertaken in mapped habitat areas and near water sources to ensure any potential nests are located and their location demarcated. A sufficient buffer distance will be implemented until the nests have been vacated (Black-throated finch (southern))
- Large boulders that must be removed for construction of the Project should be reinstated or relocated to adjacent areas of potential Sharman' rock wallaby habitat where possible (Sharman's rock wallaby).
- To minimise disturbance to foraging individuals, all project activities should aim to cease at least one hour prior to dusk in areas of potential Sharman's rock wallaby habitat (Sharman's rock wallaby).
- Clearing must be carried out in a way that ensures any koala present have time to move out of the clearing site without human intervention (Koala).
- Retain tall trees that contain potential raptor nests (even if abandoned), especially where located along watercourses where possible (Red goshawk and grey falcon).
- Surveys conducted prior to vegetation clearing commencing should include an inspection of the abandoned mine site that occurs within 70 m of the Project Area. If any roosting bats are present these areas should be monitored; no works should occur within the vicinity until the site has been vacated (Ghost bat).
- Any open excavations will be checked for trapped fauna in the morning and at the end of the day by a spotter catcher. Trench ladders, ramps, sticks, ropes and moist hessian sacks at regular intervals (or similar) will be utilised where trenches or excavations are anticipated to remain open for extended periods (Ground-dwelling MNES fauna)
- All hollow-bearing trees will be inspected by a fauna spotter-catcher prior to clearing to identify any denning or nesting individuals (Greater glider and masked owl)
- Large hollow logs that must be removed from areas of potential northern quoll habitat should be retained and relocated to adjacent or nearby areas of suitable northern quoll habitat (Northern quoll).
- Where pits, voids or trenches are required, include appropriate cover to prevent extended water retention in these spaces and/or subsequent breeding opportunities for cane toads (Northern quoll and ghost bat)
- Large hollow logs that must be removed from areas of potential yakka skink habitat should be retained and relocated to adjacent or nearby areas of suitable yakka skink habitat.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

- Survey works conducted prior to clearing will include colony searches in areas of potential yakka skink habitat.
- Prior to construction works commencing, the spotter catcher will confirm the presence of any migratory birds that may be disturbed by the activity. Water extraction will be conducted at an alternative location within the Project Area should an Australian painted snipe or migratory wetland bird be identified utilising the habitat.
- Water extraction activities will be strictly controlled and monitored in liaison with the landholder to ensure no waterbodies are reduced to unusually low levels. Per waterbody, a single access point will be utilised for water extraction to minimise areas of disturbance and allow potentially occurring individuals to avoid the same area during construction. Existing access points to dams will be used preferentially over the creation of new ones (Australian painted snipe and wetland migratory birds).

A significant impact is anticipated for eight MNES values that occur within the Project Area. The desired environmental outcome is to minimise as much as feasible, the Project's impact to areas of habitat critical to any MNES. This has been done through considered design and siting of the Project Area, footprint optimisation and the maintenance of habitat values and function within the wider Study Area. With the implementation of the above mitigation measures, impacts are expected to be significant but not serious or irreversible.

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Section 5

Conclusion on the likelihood of significant impacts

5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- ☐ World Heritage properties
- ☐ National Heritage places
- ☐ Wetlands of international importance (declared Ramsar wetlands)
- ☑ Listed threatened species or any threatened ecological community
- ☐ Listed migratory species
- ☐ Marine environment outside Commonwealth marine areas
- ☐ Protection of the environment from actions involving Commonwealth land
- ☐ Great Barrier Reef Marine Park
- ☐ A water resource, in relation to coal seam gas development and large coal mining development
- ☐ Protection of the environment from nuclear actions
- ☐ Protection of the environment from Commonwealth actions
- ☐ Commonwealth Heritage places overseas
- ☐ Commonwealth marine areas

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action

The Project is not located within the following, therefore no significant impact will occur - World Heritage properties (2.1); National Heritage places (2.2); Wetlands of international importance (declared Ramsar wetlands) (2.3); Marine environment outside Commonwealth marine areas (2.6); Protection of the environment from actions involving Commonwealth land (2.7); Great Barrier Reef Marine Park (2.8). The Project does not relate to the following - A water resource, in relation to coal seam gas development and large coal mining development (2.9); Protection of the environment from nuclear actions (2.10); or Protection of the environment from Commonwealth actions (2.11).

Commonwealth Heritage places overseas (2.12)

Commonwealth marine areas (2.13)

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Section 6

Environmental record of the person proposing to take the action

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail

Yes. Powerlink Queensland is committed to the protection of the environment and management of adverse environmental impacts as a result of Powerlink Queensland activities. Every Powerlink Queensland individual is responsible and accountable for environmental management, and Powerlink Queensland's leaders are active role models of this commitment.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application

None

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

☑ Yes ☐ No

6.3.1 If the person taking the action is a corporation, provide details of the corporation's environmental policy and planning framework

Powerlink's Health, Safety and Environment Policy (Att D – Environment Policy) outlines the commitment to delivering environmental outcomes for everyone, everywhere and everyday by the following.

- Setting objectives and targets to monitor performance aimed at the elimination or minimisation of work- related injury, illness, and environmental harm.
- Systematically identifying, assessing, and managing as far as reasonably practicable the health and safety risks and environmental impacts which may arise from our activities.
- Ensuring health, safety and environmental responsibilities are clearly defined and individuals are accountable for performance within their scope of responsibility.
- Consulting and communicating with employees and other stakeholders on relevant health, safety and environmental matters.
- Ensuring the planning, design, construction, operation and maintenance of the network assets is safe, including electrically safe.
- Applying a continuous improvement framework to the development, implementation and review of standards, procedures and supporting documentation which complies with health, safety and environmental statutory obligations; is fit for purpose; drives improved health and safety performance, protection of the environment and prevention of pollution.
- Providing the necessary resources to meet these commitments.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

☑ Yes ☐ No

6.4.1 EPBC Act No and/or Name of Proposal

2011/5801: Paynes Road, Ebenezer - Construction of a Linesman Training Facility.
2010/5615: Springdale to Blackwall Transmission Line Project.
2010/5346: 275/132kVTransmission Line Replacement Project.
2009/5229: Construction of Calliope River 275kV and 132kV Bulk Supply Substation.
2009/4840: 275 kV Double-Circuit Transmission Line - Woolooga Substation and New Substation.
2008/4479: Larapinta to Algester Transmission Line and Larapinta Substation.
2008/4390: 275kV Transmission Line from Ross Substation to Strathmore Substation.
2007/3230: Spring Gully to Braemar High Voltage Transmission Line Development.
2006/3145: Innisfail to Edmonton Replacement High Voltage Transmission Line.
2006/2997: Nebo to Strathmore 275kV Transmission Line.
2006/2896: Broadsound-Nebo 275 kV Double Circuit Transmission Line.
2006/2820: Middle Ridge to Greenbank Construction and Operation 275/330kV Transmission Line.
2006/2626: Townsville South to East Power Line and Substation.
2004/1850: Kogan - Braemar Transmission Line.
2003/1229: Gladstone to Larcom Creek 275kV Transmission Line
2003/1164: TradeCoast to Belmont Transmission Line
2003/1103: Millmerran - Middle Ridge Transmission Line
2002/795: Broadsound to Lilyvale/QLD/275kV Transmission Line
2001/460: Stanwell to Broadsound Transmission Line Construction

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

2001/221: 275kV and 132 kV Transmission Line from Ross Substation to Townsville South Substation.

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Section 7

Information sources

Reference source

Not applicable

Reliability

Not applicable

Uncertainties

Not applicable

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Section 8

Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes ☑ No

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 9

Person proposing the action

9.1.1 Is the person proposing the action an organisation or business?

☑ Yes ☐ No

Organisation

Organisation name (as registered for ABN/ACN)	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Business name	POWERLINK QUEENSLAND
ABN	82078849233
ACN	
Business address	33 Harold St, Virginia, 4014, QLD, Australia
Postal address	
Main Phone number	0738602157
Fax	
Primary email address	kbaker@powerlink.com.au
Secondary email address	

9.1.2 I qualify for exemption from fees under Regulation 5.23(1)(ii) of the EPBC Regulations because I am:

☐ Small business
☑ Not applicable

9.1.2.2 I would like to apply for a waiver of full or partial fees under Regulation 5.21A of the EPBC Regulations

☐ Yes ☑ No

9.1.3 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name	Kurt
Last name	Baker
Job title	Property Project Manager
Phone	0447759283
Mobile	
Fax	
Email	kbaker@powerlink.com.au
Primary address	33 Harold St, Virginia, 4014, QLD, Australia
Address	

Declaration: Person proposing the action (To be signed by the person at 9.1.3)

I, Powerlink Queensland c/- Kurt Baker **, 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.**

Signature: ..... Date: 27/09/2021

I, _____, the person proposing the action, consent to the designation of _____ as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:.....Date: .....

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Proposed designated proponent

9.2.1 Is the proposed designated proponent an organisation or business?

☑ Yes ☐ No

Organisation

Organisation name (as registered for ABN/ACN)	QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED
Business name	POWERLINK QUEENSLAND
ABN	82078849233
ACN	
Business address	33 Harold St, Virginia, 4014, QLD, Australia
Postal address	
Main Phone number	0447759283
Fax	
Primary email address	kbaker@powerlink.com.au
Secondary email address	

9.2.2 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name	Kurt
Last name	Baker
Job title	Property Project Manager
Phone	0447759283
Mobile	
Fax	
Email	kbaker@powerlink.com.au
Primary address	33 Harold St, Virginia, 4014, QLD, Australia
Address	

Declaration: Proposed Designated Proponent

I, Powerlink Queensland c/- Kurt Baker **,the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.**

Signature: ..... **Date:** 27/09/2021

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Referring party (person preparing the information)

9.3.1 Is the referring party an organisation or a business?

☑ Yes ☐ No

Organisation

Organisation name (as registered for ABN/ACN)	AECOM AUSTRALIA PTY LTD
Business name	
ABN	20093846925
ACN	
Business address	7-13 Tomlins St, South Townsville, 4811, QLD, Australia
Postal address	
Main Phone number	+61422267490
Fax	
Primary email address	colette.hayes@aecom.com
Secondary email address	

9.3.2 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name	Colette
Last name	Hayes
Job title	Senior Planner
Phone	0422267490
Mobile	
Fax	
Email	colette.hayes@aecom.com
Primary address	7-13 Tomlins St, South Townsville, 4810, QLD, Australia
Address	

Declaration: Referring party (person preparing the information)

I, Colette Hayes (AECOM) **, 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.**

Signature: Hayes, Colette Digitally signed by Hayes, Colette DN: cn=Hayes, Colette, ou=AUTSV1, email=Colette.Hayes@aecom.com Reason: Approved Date: 2021.09.22 09:51:49 +10'00' **Date:** 22/09/2021

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Appendix A

Attachment

Document Type	File Name
action_area_images	FINAL_ProjectArea.shp
action_area_images	Att A - Detailed Project Description Rev0.pdf
public_consultation_reports	Att B - Powerlink Stakeholder Engagement Framework.pdf
supporting_tech_reports	Att C - MNES Report.pdf
corp_env_policy_docs	Att D - Environment Policy.pdf

Appendix B

Coordinates

Area 1
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Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

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