August 2024

Calvale to Calliope River Transmission Line Reinforcement Project

Final Corridor Selection Report

Acknowledgement of Country

Powerlink acknowledges the Traditional Owners and their custodianship of the lands and waters of Queensland and in particular the lands on which we operate. We pay our respect to their Ancestors, Elders and knowledge holders and recognise their deep history and ongoing connection to Country.

Executive summary

This Final Corridor Selection Report (CSR) has been prepared by Queensland Electricity Transmission Corporation Limited, trading as Powerlink Queensland (Powerlink), for the proposed transmission line between the Calvale and Calliope River substations in Central Queensland to reinforce the electricity network in the Gladstone area.

The purpose of this Final CSR is to outline the engagement undertaken regarding the corridor selection process, how feedback has been considered, and how the final transmission line corridor was determined.

Powerlink has engaged Umwelt (Australia) Pty Ltd (Umwelt) to undertake technical, spatial and mapping analysis to support the preparation of both the Draft and Final CSR.

Project background

The Queensland Government has committed to unlocking renewable investment and achieving a Renewable Energy Target (RET) of 80% by 2035. In September 2022, the Queensland Government released the Queensland Energy and Jobs Plan (QEJP), identifying our global responsibilities to reduce greenhouse gas emissions. The QEJP also outlined the need for the transmission network to evolve to meet the changing electricity system.

In preparation for transitioning the electricity network to renewable energy supply, Powerlink has identified future requirements for the Gladstone transmission grid. To ensure the future security of electricity supply to the Gladstone area, the existing transmission infrastructure corridor between the Calvale and Calliope River substations needs to be strengthened with the establishment of a new 275 kilovolt (kV) double circuit transmission line.

Approach to corridor selection

In late 2022, Powerlink commenced investigations into potential corridor options to reinforce the existing Powerlink network between the existing Calvale and Calliope River Substations (the project). Through investigations, a potential corridor became clear that maximised the use of existing vacant easement widths. An opportunities and constraints assessment was undertaken to confirm that, with minimal additional easement widening, a complete 87 kilometre (km) corridor could be achieved from the Calvale Substation to the Calliope River Substation, while minimising impact to the broader community across social, environmental and economic objectives.

The proposed corridor has been split into five sections (Sections A, B, C, D and E) for the purposes of the opportunities and constraints assessment, illustrated in **Figure 1** below. The new transmission line is proposed to be co-located within vacant areas of existing Powerlink easements in Sections A, B, D, and E. There are no available vacant easements in Section C and a widening of 40 metres (m) to the existing easement is required to accommodate the proposed transmission line. Section C is approximately 16km in length and will also be co-located with existing transmission infrastructure.

As a key component of the transmission easement engagement process, Powerlink commenced discussions with landholders and key stakeholders on the project in February 2023. This engagement included local councils, Traditional Owner groups and peak bodies, to gain better insights into important community matters and what is happening in the area. These investigations also involved a strategic desktop assessment of legislative frameworks, and spatial analysis of land characteristics, environment, heritage and social constraints.

A Draft CSR was developed to comparatively assess the suitability of existing spare easements and corridor options to determine the recommended corridor within which to locate the proposed 275kV double circuit transmission line. The Draft CSR proposed the new transmission line to be co-located with existing transmission infrastructure which is deemed to have less impacts compared to creating a new easement that is not co-located with existing transmission infrastructure. Co-location has the benefit of not increasing the existing easement's footprint in Sections A, B, D and E, and also minimises the extent of vegetation clearing required, and reduces further impacts to landholders' farming operations and visual amenity.

The Draft CSR built on the outcomes of the earlier corridor analysis, by reviewing the options based on feedback received from stakeholder and landholder engagement, assessing physical land, environment and heritage values, social impacts, legislative requirements, and technical input from Powerlink in relation to network stability and constructability of transmission lines. It assessed that the existing spare Powerlink easements in Sections A, B, D and E should be suitable for the construction of the new transmission line, subject to further technical studies and approvals, and recommended a 40m easement widening to the north of Section C. An assessment of each project section is detailed in **Appendix C** of this report.

Three objectives were used to inform the approach to corridor selection:

Social

To consider the use of land and the community livelihood within and adjacent to corridor options.

Environment

To consider a balanced approach to corridor selection with the least practicable impact on environment and heritage values.

Economic

To consider construction and operational factors such as cost at a preliminary level, given the scale of the project.

The methodology for the corridor selection was developed to incorporate:

- feedback from engagement with landholders, Traditional Owner groups, the community and other stakeholders
- publicly available information including spatial data relating to environment, planning and heritage constraints
- technical information provided by Powerlink relevant to the planning and delivery of transmission line infrastructure.

On 17 June 2024, Powerlink published the Draft CSR for the project. Landholders, the community and other stakeholders were invited to provide comments on the Draft CSR by 12 July 2024.

The consultation period and feedback channels were promoted through a range of communication activities, including advertising, letters, newsletter mail-out, emails, briefings and the project web page. Multiple options were made available for people to share their feedback, including:

- In-person, through community information drop-in sessions and stakeholder meetings
- Phone calls, with landholders and other stakeholders
- Online, including a feedback form and email address.

Most feedback was provided verbally, either in-person or by phone. The stakeholder group that provided the most feedback was directly impacted landholders, through discussions with Powerlink's Landholder Relations Team.

Final corridor

All feedback received during the Draft CSR consultation period has been collated and considered by Powerlink. The main issues raised by landholders and key stakeholders included:

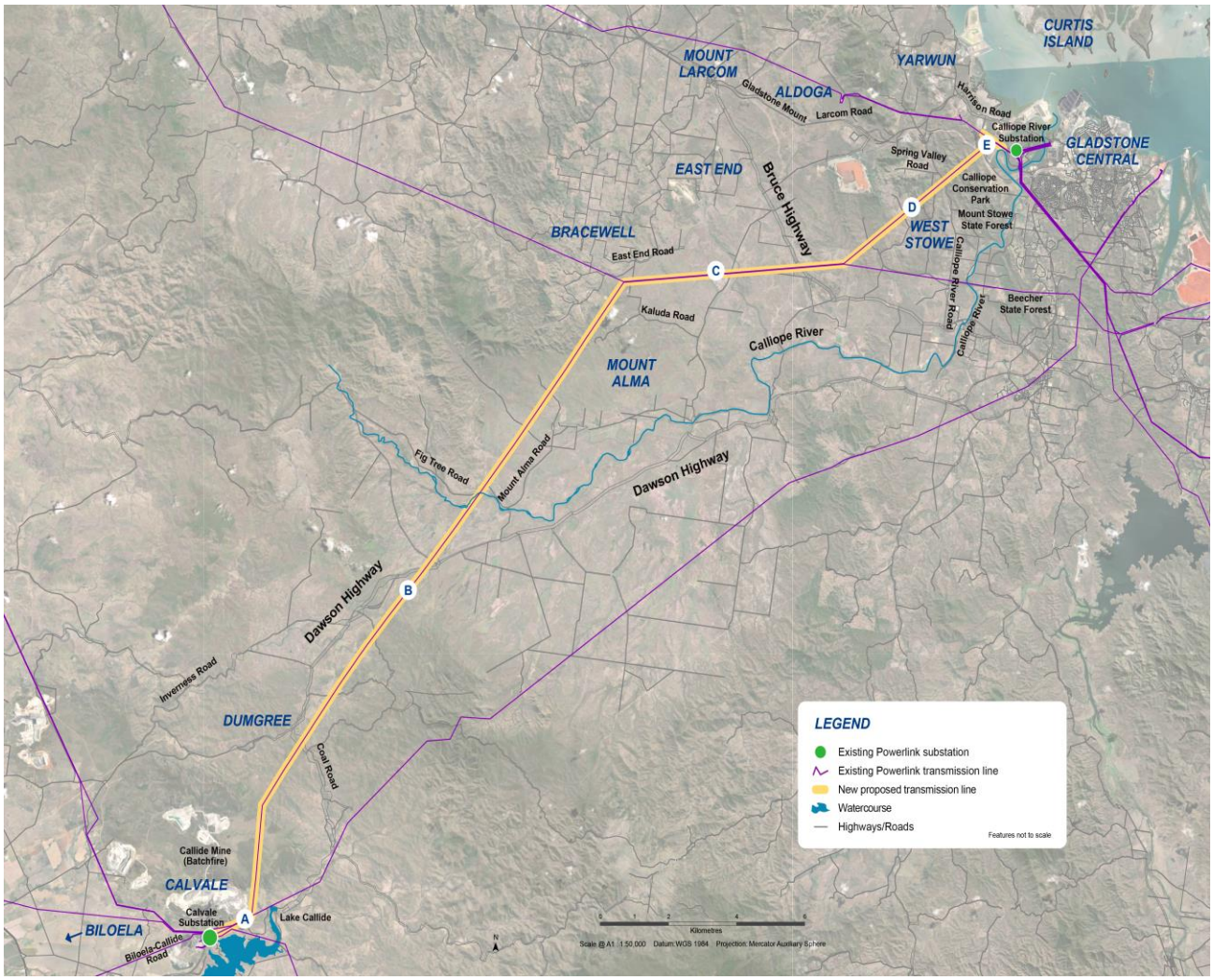
- compensation
- biosecurity matters
- commercial impacts
- visual amenity
- broader social concerns on renewable energy.

The feedback provided valuable insight into the project and will support Powerlink's ongoing engagement with landholders, community, Traditional Owners groups and stakeholders. Overall, there was no feedback that necessitated amendments to the recommended corridor in the Draft CSR. The final corridor by project section (Sections A – E) and the proposed easement widening is outlined in **Table 1** below.

Table 1 Calvale to Calliope River proposed final corridor

Section	Approximate length	Existing easement width including spare capacity	Proposed easement widening
A	3.5km	150+m	Nil
B	51.5km	110m	Nil
C	16.0km	100m	40m (north)
D	13.5km	100m	Nil
E	2.0km	140m	Nil

Figure 1: Calvale to Calliope River final corridor showing all project sections



1.0 Introduction

1.1 Project background

The Queensland Government has committed to unlocking renewable investment and achieving a Renewable Energy Target (RET) of 80% by 2035.

The Queensland Energy and Jobs Plan (QEJP) applies a whole-of-system planning approach, setting out the pathways and targets that will facilitate a low carbon economy in the future and ensure an orderly, least-cost transformation of Queensland's power system.

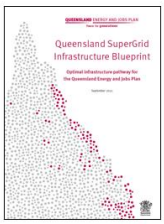
In preparing for the transition of the electricity network to increased levels of renewable energy supply, Powerlink has identified future requirements for the Gladstone transmission network. To ensure the future security of electricity supply to the Gladstone area, a new transmission line between the Calvale and Calliope River substations is required to strengthen the network.

This Final CSR has been prepared on the basis of a new 275kV double circuit transmission line connection between the existing Calvale and Calliope River substations.

Figure 2: Queensland Energy and Jobs Plan and Blueprint

Three focus areas:

- Clean Energy Economy
- Empowered households and businesses
- Secure jobs and communities



- Queensland SuperGrid Infrastructure Blueprint outlines the infrastructure to enable the decarbonisation of the existing electricity system
- Includes Renewable Energy Zones, pumped hydro energy storage and high capacity transmission

Key targets and objectives

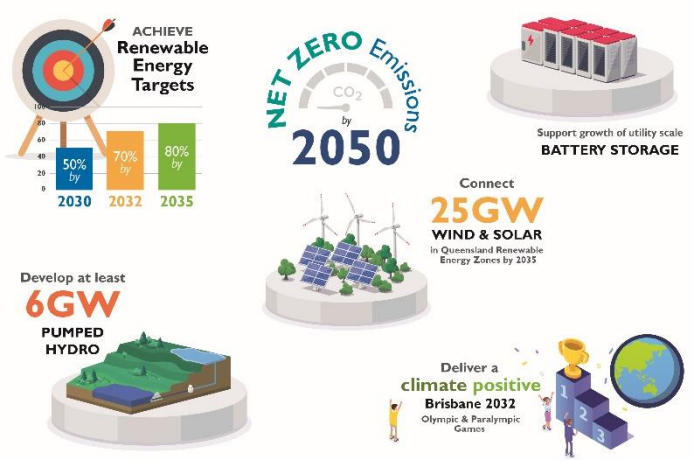
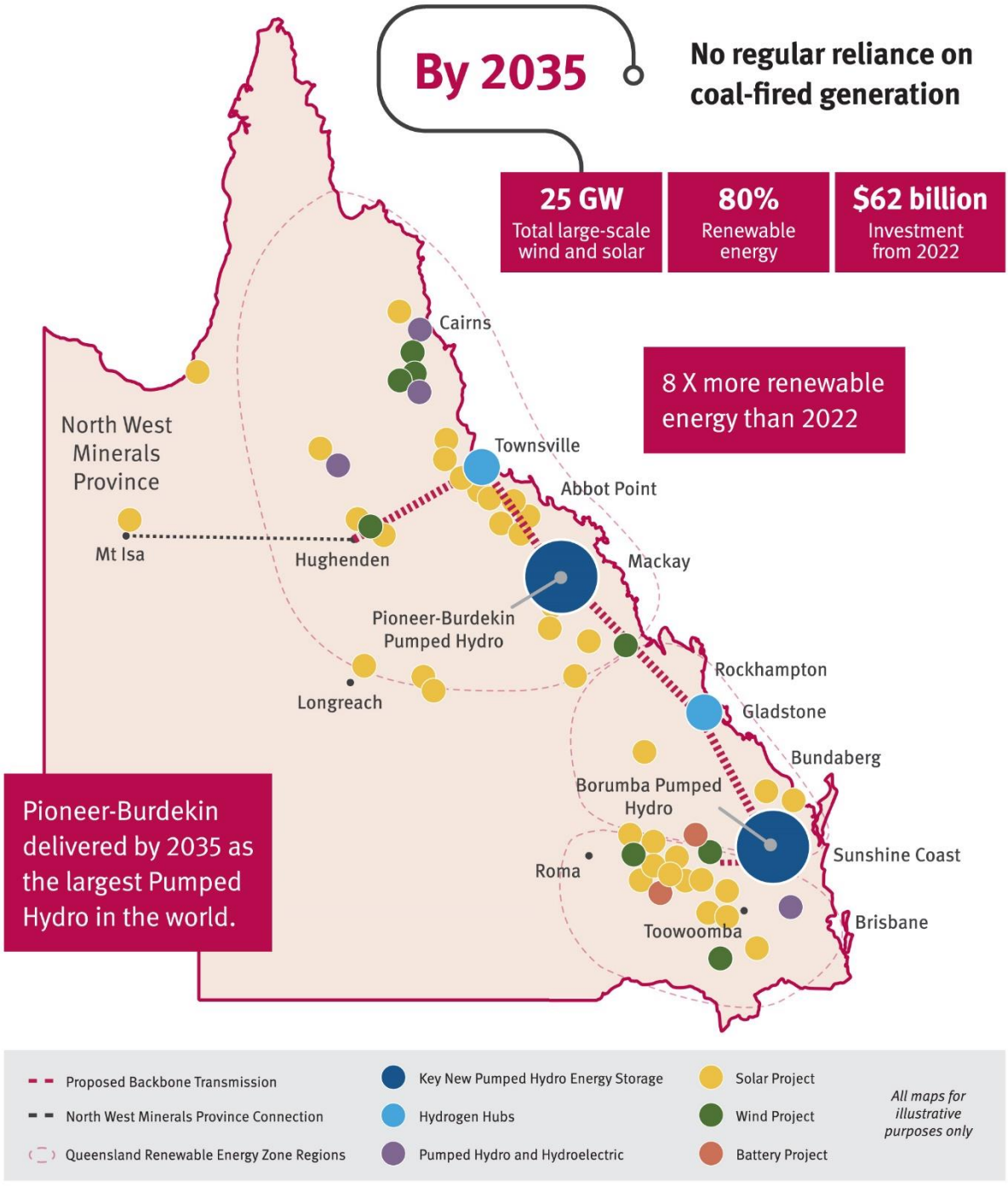


Figure 3: Queensland SuperGrid



The Queensland Government has outlined the optimal infrastructure pathway in the *Queensland SuperGrid Infrastructure Blueprint.*

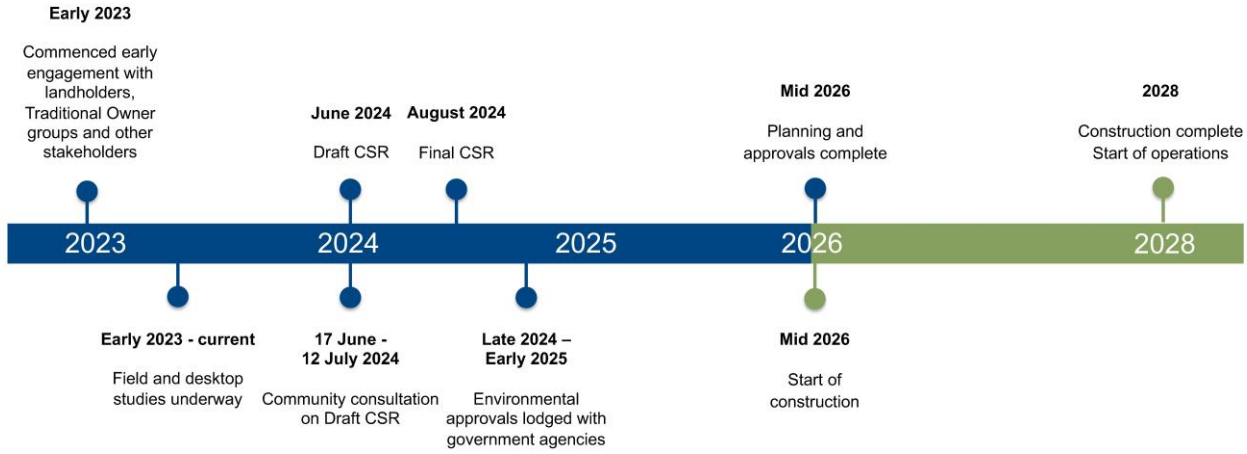
Projections informed by independent modelling and internal analysis

1.2 Purpose of this report

Powerlink has prepared this Final CSR to conclude the early engagement, corridor selection and assessment processes (involving landholders, Traditional Owner groups, the community and other stakeholders) to identify a final corridor.

Subsequent phases of the project will include further engagement with landholders, Traditional Owner groups including the Gaangalu Nation People (GNP) and the Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People (BGGGTBP), the community and other stakeholders. Detailed environmental, heritage and social assessments including targeted investigations, and the development of planning, design and construction considerations will also be undertaken. **Figure 4** outlines the timeline for project engagement.

Figure 4: Project engagement timeline



2.0 Corridor engagement and feedback

Powerlink acknowledges the time and effort undertaken by landholders, Traditional Owner groups, the community and other stakeholders who provided feedback on the Draft CSR. In addition, it is important to note that the analysis of feedback on the Draft CSR within this report forms part of Powerlink's wider commitment to genuine and meaningful engagement, which has been underway since February 2023. Further details on early engagement matters and related feedback is available in the Draft CSR and associated documents which can be viewed on the Powerlink website at powerlink.com.au/calvale-calliope.

The following sections detail the consultation undertaken for the Draft CSR and the feedback received.

2.1 Corridor engagement

Since early 2023 Powerlink has undertaken engagement with landholders, nearby landholders, Traditional Owner groups and other key stakeholders. In June 2024, Powerlink published a Draft CSR for broader consultation on the project. Information on the Draft CSR release was shared via:

- Newsletter and letter mail-outs and emails to landholders, adjacent and nearby landholders, and other stakeholders
- Phone calls to landholders
- Newspaper advertisement placements
- Online advertising campaigns
- Project webpage
- Briefings to State and local elected officials.

Landholders, the community and other stakeholders were invited to provide comments on the Draft CSR between 17 June and 12 July 2024. Throughout this consultation period, feedback was received via various methods including emails, printed and digital feedback forms, phone calls and in-person. Powerlink recorded over 70 interactions with landholders, the community and other stakeholders during the consultation period.

Four community information drop-in sessions were undertaken in early July 2024 at Biloela, Mount Larcom and Gladstone to enable face-to-face engagement. Two weeks' notice was provided ahead of the first session, to ensure appropriate advance notice for community members. These sessions were promoted via the project webpage, newspaper advertisements (digital and hardcopy editions), and in letters and emails issued at the start of the consultation period.

There was high traffic to the project web page during the consultation period, exceeding the year-to-date visitations. Through advertising, there were more than 7,000 impressions on the Gladstone Observer website, and an estimated 7,500 readers of Gladstone Today newspaper.

2.2 Corridor feedback

All interactions with landholders, stakeholders and community during the Draft CSR consultation period have been considered by this report. The stakeholder group that provided the most feedback was directly impacted landholders. Feedback received from landholders within the recommended corridor was consistent with engagement prior to the release of the Draft CSR. The main themes and issues raised by impacted landholders and other key stakeholders are outlined in **Table 2** below.

Table 2 Draft CSR consultation – Feedback and responses

Feedback	Response
Compensation • Payment amount, criteria, and eligibility to receive payments. • Potential impacts to lifestyle, amenity, and property values and future saleability.	All landholders who have easements acquired or widened over their property for a new transmission line are entitled to compensation under the *Acquisition of Land Act 1967* (ALA). Compensation under the ALA is not applicable where an existing transmission easement is utilised, as compensation has already been paid for the easement. We will work with landholders across the project to determine the application of Powerlink's SuperGrid Landholder Payment Framework, noting that the portion of any payment under this framework linked to compensation under the ALA is not applicable where an existing spare transmission easement is used. Powerlink will seek to understand any potential impacts on landholders' properties due to the new infrastructure and Powerlink's ongoing operations, and discuss next steps with landholders.
Biosecurity matters • Potential spread of weeds from using access tracks and activity within the easement. • Current weed management approach.	We understand biosecurity is a priority for landholders. We take biosecurity seriously and have processes in place to avoid spreading weeds between properties or introducing new weeds from outside the local area. For example, we take preventative measures to minimise exposure to weeds, such as: • conducting regular vehicle wash downs

	• avoiding travel through areas heavily affected by biosecurity matter • visiting clean areas first, before travelling to affected areas • staying on roads and designated access tracks in work areas • obtaining weed and seed declarations on any fill material brought onto a property. Powerlink will work with landholders to identify biosecurity risks on each property and develop appropriate management measures, including those referred to in existing biosecurity management plans. We value our long-term, working relationships with landholders, and intend to work with landholders regarding biosecurity from the planning phase through to construction, operation and maintenance.
Commercial impacts • Potential impacts on business operations and planned developments.	We recognise residents, business operators and developers may have concerns about how the new transmission line and construction works could impact their lifestyle, operations or planned development. We are committed to working with landholders, business operators and developers to manage and mitigate impacts where possible. This means understanding land use in detail and looking together at ways to minimise impact and maximise co-existence opportunities. While some activities cannot occur on, or near, an easement, many can continue as normal. For example, grazing or growing crops (less than 3.5m high) can generally occur on an easement, providing electrical safety clearance requirements are maintained. For further detail about activities that can occur an easement, please refer to powerlink.com.au/easements.
Visual amenity • Additional visual amenity impacts due to the taller height of the new transmission towers, compared to the existing towers.	Visual amenity is a key consideration in the design phase of a Powerlink project. Powerlink is committed to working with landholders and the surrounding community to understand the most appropriate location for transmission towers. Powerlink will seek to minimise and mitigate any potential impacts to landholders and community by strategically designing the line where possible, noting other social, environmental and economic factors.
Broader social concerns about renewable energy (not project specific) • Living in an area with significant renewable development activity. • Differing community sentiment regarding renewable energy.	The Calvale to Calliope River Transmission Line Reinforcement Project is required to secure the future supply of electricity to the Gladstone area, in preparation for the expected decarbonisation of major industrial loads in the Gladstone region. Powerlink will seek to keep landholders, Traditional Owner groups, key stakeholders and community informed throughout the project process including planning, construction and operational phases as relevant. **Support services available** We acknowledge there are many renewable energy projects planned for the region and landholders may be facing a time of uncertainty due to the rapidly changing landscape in the renewable energy market.

• Distribution of benefits and impacts within a community.	For landholders and community members needing support, Powerlink has a professional counselling service available (Rural Health Connect). This is an independent provider and is completely confidential with several sessions provided free of charge. For more information, please visit powerlink.com.au/support. **Powerlink Community Grants** As part of the energy transformation, we are helping deliver benefits to communities across Queensland. Our community investment program provides small grants aligning with Powerlink's values of supporting sustainable communities and economic development. Our goal is to support projects and activities aligning with resilience, safety, wellbeing, and economic outcomes, ultimately leading to positive impacts for groups and communities. The Powerlink Community Grants round opened on 22 August and will close at 1pm on 3 October 2024. Community groups, community clubs and not-for-profit organisations in Banana Shire, Gladstone Region and selected other Local Government Areas are invited to apply. Powerlink Community Grants support initiatives and activities valued at up to $5,000 located in regional Queensland. Grants are available annually, for projects commencing from January 2025. For further information, please visit powerlink.com.au/communitygrants.

All feedback received during the Draft CSR consultation period has been collated and considered by Powerlink. The feedback provides valuable insight into the project and will support Powerlink's ongoing engagement with landholders, community, Traditional Owners groups and stakeholders.

Overall, there was no feedback that necessitated amendments to the recommended corridor in the Draft CSR.

3.0 Legislative and approval requirements

To progress the project, several legislative and regulatory approvals are required. The following commentary only relates to local, State and Federal Government planning and environmental approvals required for the project.

Further detailed design and environmental assessment is required to fully ascertain the likely impact of the project and the planning and environmental approvals required. The potential approvals listed below are provided at a preliminary level and are subject to change once further refinements to the transmission line design are undertaken and actual disturbance footprints, ecological and heritage values are further understood.

- *Environment Protection and Biodiversity Conservation Act (EPBC) 1999 (Cth)* referral and potential approval for significant impact on Matters of National Environmental Significance (MNES)
- Ministerial Infrastructure Designation (MID) under the *Planning Act 2016 (Qld)*

- Clearing of protected plants listed under the *Nature Conservation Act 1992 (Qld)*
- Compliance with the duty of care provisions and other relevant provisions under the *Aboriginal Cultural Heritage Act 2003 (Qld)*
- Compliance with the general biosecurity obligations under the *Biosecurity Act 2014 (Qld)*
- Species Management Program (SMP) under the Nature Conservation (Animals) Regulation 2020 (Qld) for the tampering of active breeding places where impact cannot be avoided (Low Risk SMP required for impact to Least Concern species / High Risk SMP is required for impact to Colonial Breeders, Near Threatened, Vulnerable, Endangered and Critically Endangered species).

To counterbalance the project's impact to MNES and Matters of State Environmental Significance (MSES), land-based and financial-based offsets are likely to be required. To ascertain offset liabilities under the EPBC Act (Cth) and *Environmental Offsets Act 2014 (Qld)*, further field surveys and the following assessments will be undertaken:

- A Significant Impact Assessment (SIA) that assesses the project impacts on protected matters and identifies appropriate mitigation measures. These SIAs will be undertaken in accordance with the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) 'Significant Impact Guidelines 1.1 - Matters of National Environmental Significance'
- A SIA under the Queensland Environmental Offsets Policy Significant Residual Impact Guideline: *Nature Conservation Act 1992 (Qld)* and *Environmental Protection Act 1994 (Qld).*

Further detail on legislation potentially applicable and other obligations are provided in **Appendix D** of this report.

4.0 Conclusion and future studies

The final corridor has been identified for the Calvale to Calliope River Transmission Line Reinforcement project. The assessment used criteria and measures informed by feedback from landholders, Traditional Owner groups, the community and other stakeholders, and spatial analysis.

Engagement conducted as part of the Draft CSR process has provided valuable insights. Powerlink will continue to seek feedback and further insights from landholders, Traditional Owner groups, the community and other stakeholders moving forward. This collaborative approach will strengthen our ability to identify and integrate amicable solutions, resulting in stronger opportunities for co-existence.

Following release of the Final CSR, additional detailed technical studies and continued engagement will help to determine the final transmission line design.

4.1 Conclusion

Taking into consideration the feedback provided during the Draft CSR consultation period as well as the social, environmental and economic objectives of the project, the final corridor in:

- Sections A, B, D and E is to be located within existing vacant Powerlink easements and co-located with existing transmission infrastructure. Co-locating the project with existing Powerlink easements and transmission infrastructure is deemed less impactful compared to creating a new easement and transmission infrastructure that is not co-located. It has the benefits of minimising the extent of vegetation clearing required, and further impacts to landholders' farming operations and visual amenity.

- Section C requires a 40m easement widening which is recommended to be located on the northern side of the existing transmission infrastructure. The northern corridor option reduces the level of interaction required for crossing existing transmission infrastructure and minimises the risk of complex outages on Powerlink's transmission network.

4.2 Future studies

Further desktop and field studies are required to identify potential project impacts during construction and operational phase of the project. These investigations will also build an understanding of the project constraints, opportunities and required approvals for the final corridor. As the final transmission line is refined, the project will continue to seek to avoid and/or minimise impacts to landholders and community, as well as environment, cultural values, agriculture and cropping land values through tower siting and structural design.

4.2.1 Social

- Visual amenity – Undertake further assessment of the final corridor in relation to visual amenity and screening opportunities.
- Consultation – Continue engagement with landholders, Traditional Owner groups, the community and other stakeholders as the project progresses through detailed design, construction and operations.

4.2.2 Environmental, heritage and planning

- Ecology – Undertake further desktop studies and targeted field surveys to further understand potential impacts to existing ecological values along the corridor, appropriate mitigation measures and potential offsets required. There is potential for the final corridor to contain areas of habitat for threatened flora and fauna species or threatened ecological communities. These are detailed in **Appendix B** of this report.
- Heritage – Undertake further desktop and field investigations, in consultation with GNP and BGGGTBP Traditional Owner groups and other key stakeholders, to identify potential risks to Indigenous and Non-Indigenous heritage values.
- Planning – Undertake further investigations and consultation with regulatory authorities to ensure the relevant environmental and planning approvals are sought for the project.
- Biosecurity – Undertake further field investigations to ascertain existing biosecurity risks and mitigation measures.

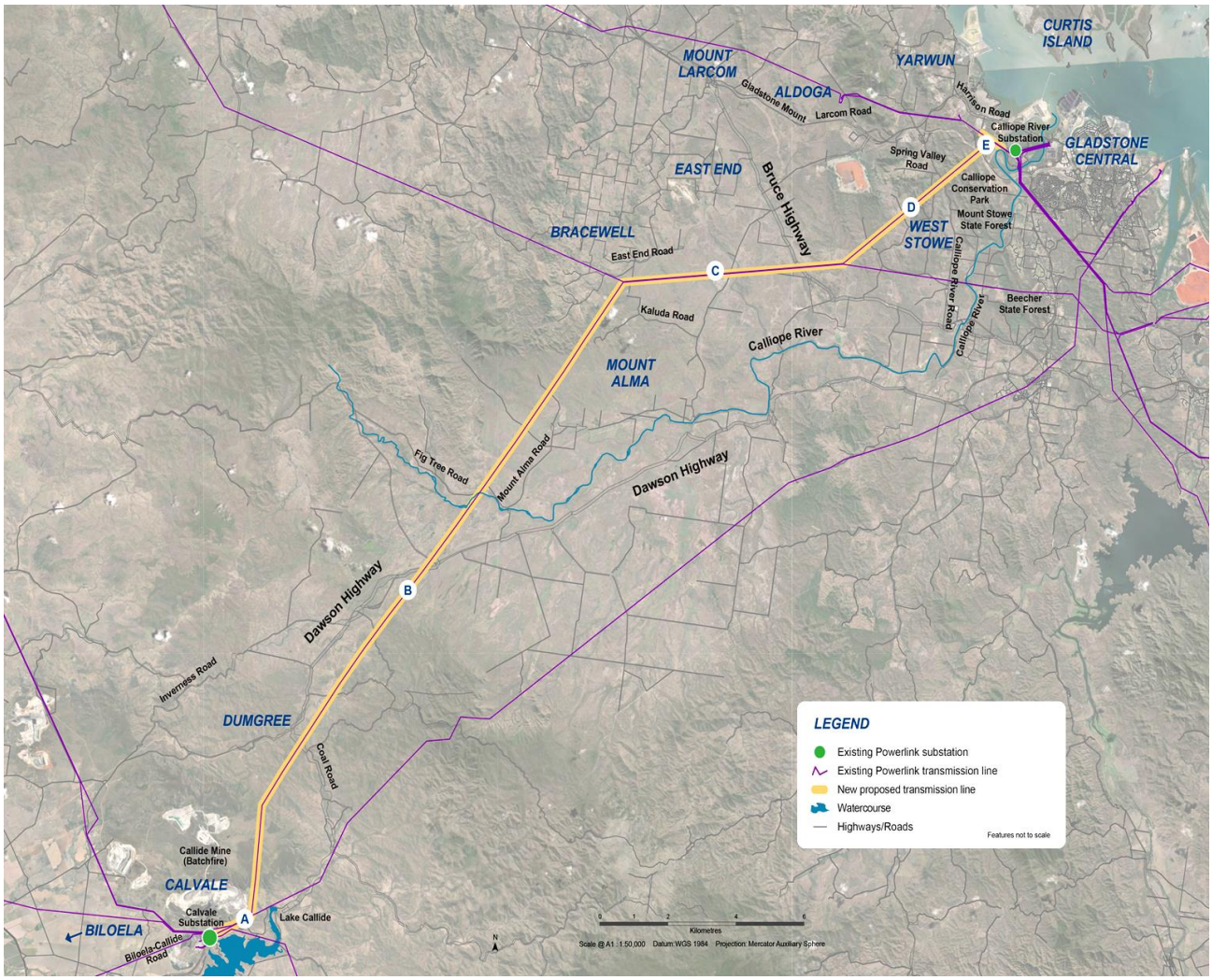
4.2.3 Economic

- Land, geology, ground conditions and soils – Based on desktop assessments, further geotechnical investigations are required to identify problematic soils and geology such as hard rock, which can pose constructability difficulties, or substantially increase project costs. Field investigations including sampling and analysis are recommended and can be combined with geotechnical investigations where appropriate.
- Flood potential – Further investigation into the potential for flooding within the corridor will be required to understand the risk to the project both during construction and operation. Waterway crossings may require a tailored design response to ensure minimal damage to vegetation and mitigate risks of damage to tower structures.

The corridor selection process has relied on data from publicly available data sources and the feedback of all engagement activities undertaken to date. Investigations will need to be undertaken and mapped at the individual lot-based/property-specific level and taken into consideration during the design of the proposed transmission line.

Appendix A

Figure 1: Calvale to Calliope River final corridor showing all project sections



Appendix B

Detailed flora and fauna information

The Protected Matters Search Tool (PMST, dated November 2022) identifies 21 threatened flora species and 11 TECs that have the potential to occur within the corridor and 10km buffer.

Table 3: Mapped REs within the corridor

RE	Common name	Vegetation Management Act class	Biodiversity status	Likelihood within corridor
11.3.2	*Eucalyptus populnea* woodland on alluvial plains	Of concern	Of concern	Sparse
11.3.4	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains	Of concern	Of concern	Sparse
11.3.6	*Eucalyptus melanophloia* woodland on alluvial plains	Least concern	Of concern	Sparse
11.3.25	*Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines	Least concern	Of concern	Sparse
11.3.26	*Eucalyptus moluccana* or *E. microcarpa* woodland to open forest on margins of alluvial plains	Least concern	No concern at present	Sparse
11.3.29	*Eucalyptus crebra*, *E. exserta*, *Melaleuca* spp. woodland on alluvial plains	Least concern	No concern at present	Sparse
11.8.3	Semi-evergreen vine thicket on Cainozoic igneous rocks	Of concern	Of concern	Dense
11.8.4	*Eucalyptus melanophloia* woodland to open woodland on Cainozoic igneous rocks	Least concern	No concern at present	Very Sparse
11.10.4	*Eucalyptus decorticans*, *Lysicarpus angustifolius* +/- *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp. woodland on coarse-grained sedimentary rocks	Least concern	No concern at present	Sparse
11.10.8	Semi-evergreen vine thicket in sheltered habitats on medium	Of concern	Of concern	Dense

RE	Common name	Vegetation Management Act class	Biodiversity status	Likelihood within corridor
	to coarse-grained sedimentary rocks			
11.10.13	*Eucalyptus* spp. and/or *Corymbia* spp. open forest on scarps and sandstone tablelands	Least concern	No concern at present	Mid-dense
11.11.3	*Corymbia citriodora*, *Eucalyptus crebra*, *E. acmenoides* open forest on old sedimentary rocks with varying degrees of metamorphism and folding. Coastal ranges	Least concern	No concern at present	Mid-dense
11.11.4	*Eucalyptus crebra* woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Least concern	No concern at present	Sparse
11.11.10	*Eucalyptus melanophloia* woodland on deformed and metamorphosed sediments and interbedded volcanics	Of concern	Of concern	Sparse
11.11.15	*Eucalyptus crebra* woodland to open woodland on deformed and metamorphosed sediments and interbedded volcanics	Least concern	No concern at present	Sparse
11.11.18	Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding	Endangered	Endangered	Dense
11.12.1	*Eucalyptus crebra* woodland on igneous rocks	Least concern	No concern at present	Sparse
11.12.2	*Eucalyptus melanophloia* woodland on igneous rocks	Least concern	No concern at present	Sparse
11.12.3	*Eucalyptus crebra*, *E. tereticornis*, *Angophora leiocarpa* woodland on igneous rocks especially granite	Least concern	Of concern	Sparse

RE	Common name	Vegetation Management Act class	Biodiversity status	Likelihood within corridor
11.12.6	*Corymbia citriodora* open forest on igneous rocks (granite)	Least concern	No concern at present	Mid-dense
11.12.17	*Eucalyptus populnea* woodland on igneous rocks	Endangered	Endangered	Sparse
12.1.2	Saltpan vegetation including grassland, herbland and sedgeland on marine clay plains	Least concern	No concern at present	Grassland
12.3.3	Mangrove shrubland to low closed forest on marine clay plains and estuaries	Least concern	No concern at present	Dense
12.3.12	*Eucalyptus latisinensis* or *E. exserta*, *Melaleuca viridiflora* var. *viridiflora* woodland on alluvial plains	Least concern	No concern at present	Sparse
12.11.6	*Corymbia citriodora* subsp. *variegata*, *Eucalyptus crebra* woodland on metamorphics +/- interbedded volcanics	Least concern	No concern at present	Sparse
12.11.17	*Eucalyptus acmenoides* or *E. portuensis* open forest on metamorphics +/- interbedded volcanics	Of concern	Of concern	Mid-dense
12.11.14	*Eucalyptus crebra*, *E. tereticornis*, *Corymbia* intermedia woodland on metamorphics +/- interbedded volcanics	Of concern	Of concern	Sparse

Table 4: Threatened Ecological Communities (TECs)

Common name	Threatened category	Likelihood within corridor
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Potentially present in Sections A & B
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Potentially present in Sections B, C, D & E
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Potentially present in Sections B, C, D & E
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Potentially present in all Sections
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Potentially present in Sections D & E
Lowland Rainforest of Subtropical Australia	Critically Endangered	Potentially present in Sections B, C, D & E
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Potentially present in all Sections
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Potentially present in all Sections
Subtropical and Temperate Coastal Saltmarsh	Endangered	Potentially present in Sections C, D & E
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Potentially present in Sections B, C, D & E
Weeping Myall Woodlands	Endangered	Potentially present in all Sections

Table 5: Conservation significant flora species records within the corridor

Scientific name	Common name	Threatened category	Likelihood within corridor
Cycas megacarpa	-	Endangered	Recorded in Section B
Dansiea elliptica	-	Near threatened	Recorded in Section D
Grevillea hockingsii	-	Endangered	Recorded in Section B
Samadera bidwilii	-	Vulnerable	Recorded in Section A

Table 6: EPBC Act listed threatened fauna within the corridor

Scientific name	Common name	Threatened category	Likelihood
Birds			
Geophaps scripta scripta	Squatter Pigeon	Vulnerable	High
Hirundapus caudacutus	White-throated Needletail	Vulnerable	Moderate
Turnix melanogaster	Black-breasted Button-quail	Vulnerable	Moderate
Rostratula australis	Australian Painted Snipe	Endangered	Moderate
Calidris canutus	Red Knot	Endangered	Moderate
Calidris ferruginea	Curlew Sandpiper	Critically Endangered	Moderate
Calidris tenuirostris	Great Knot	Critically Endangered	Moderate
Charadrius leschenaultii	Greater Sand Plover	Vulnerable	Moderate
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	Vulnerable	Moderate
Numenius madagascariensis	Eastern Curlew	Endangered	Moderate
Charadrius mongolus	Lesser Sand Plover	Endangered	Moderate
Grantiella picta	Painted Honeyeater	Vulnerable	Moderate

Scientific name	Common name	Threatened category	Likelihood
Marsupials			
Petauroides volans	Greater Glider (southern and central)	Endangered	High
Petaurus australis australis	Yellow-bellied Glider (southern subspecies)	Endangered	High
Phascolarctos cinereus	Koala	Endangered	High
Mammals			
Pteropus poliocephalus	Grey-Headed Flying Fox	-	High
Xeromys myoides	Watermouse	Vulnerable	High
Macroderma gigas	Ghost Bat	Endangered	Moderate
Reptiles			
Elseya albagula	Southern Snapping Turtle	Endangered	High
Delma torquata	Adorned Delma	Vulnerable	Moderate
Egernia rugosa	Yakka Skink	Vulnerable	Moderate
Furina dunmalli	Dunmall's Snake	Vulnerable	Moderate

Appendix C

Key considerations

Section A: Existing spare easement suitability

Consideration	Assessment
Social	
Tenure	The proposed transmission corridor intends to utilise the existing easement for Powerlink's Calvale Substation site and associated transmission infrastructure. There is a small area, where the proposed transmission corridor intersects the easement for Coal Road. In addition, multiple land parcels are likely owned by single operating entities and therefore the number of landholders or operating entities affected by the new transmission line would be less than the total number of parcels traversed.
Land use	The proposed transmission corridor is mostly located within land use for conservation and natural environments. Small areas of strategic cropping land are also mapped to the south of Section A. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to existing land uses and strategic cropping land will be an edge effect only where the existing easement is modified.
Resource interests	The proposed transmission corridor intersects Exploration Permit Coal (EPC) 1807, Mineral Development Licence (MDL) 3032 and Nominated Area – Coal.
Transport and traffic	The proposed transmission corridor intersects the Biloela-Callide Road (State-controlled), Cocups Road, Coal Road, Ian McAuley Way and Pelican Point Road. Due to co-location with the existing transmission infrastructure, existing road crossings are proposed to be utilised. There is also potential to utilise existing access tracks, though some may need upgrading. Stock routes are also present in the existing easement, however these are identified as minor and unused.
Existing residential housing	Houses in proximity to Section A are mainly located near Lake Callide. The closest dwellings are located within 600m of the proposed transmission corridor. The new transmission line will be co-located with existing infrastructure which minimises social impacts associated with proximity to housing.
Heritage	The proposed transmission corridor may traverse areas where cultural heritage values are known to occur, particularly around the land surrounding Callide Creek and Coal Road. Cultural heritage values may also be associated with Lake Callide. The presence of unknown cultural heritage places and artefacts will need to be investigated in future studies. If cultural heritage sites are identified within the corridor, they will need to be managed through discussions and, if necessary, agreements with the relevant Aboriginal parties. No European sites are mapped that impact the proposed transmission corridor.

Consideration	Assessment
Visual amenity	The proposed transmission corridor will be temporarily visible to traffic where it crosses public roads. The proposed transmission corridor is located in relatively remote rural areas and avoids most residential properties. Visual impacts of the new transmission line would be greatest in the flat landscapes around Lake Callide. Due to co-location with the existing transmission infrastructure, the additional visual amenity impacts are minimised to the extent of the height differences of the towers.
Environment	
Flora	Remnant vegetation (identified as no concern at present biodiversity status) is mapped in clusters surrounding the Coal Road. The proposed transmission corridor intersects mapped essential habitat and high-risk areas for protected plants. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to vegetation may be some additional clearing in a few places, with edge effect impacts remaining largely unchanged. To minimise the environmental impact, there may be opportunity for the new transmission line to span over vegetation where it occurs in small clusters along the alignment.
Fauna	There are a number of threatened wildlife observation records relating to MNES and MSES identified within the proposed transmission corridor. Both Least Concern and Threatened fauna species could be potentially impacted through the loss of habitat resulting from vegetation clearing needed for the transmission line structures and access tracks. Given that fauna species are mobile and move throughout their habitat, the potential extent of impact to fauna species cannot be accurately determined by desktop searches alone. Presence of protected fauna species within clearing sites will be investigated through ecological surveys.
Protected areas	The existing easement does not intersect any protected areas.
Economic	
Topography	The existing easement ranges in elevation from 213m AHD to 317m AHD, with key topographic features including Lake Callide.
Geology and soils	The existing easement is subject to vertosol and chromosol soil types, which are considered more susceptible to erosion due to their dispersive nature. Although transmission towers can be constructed on any ground, geology and soil conditions can lead to constructability issues due to erosion, dispersion and acidity which may affect the structural integrity of the new transmission line, as well as rocky underlying soils and geological units which may cause constructability complexities. The ground conditions will need to be studied in future geotechnical investigations to establish the appropriate design strategies.
Hydrology	The main waterway crossings include Callide Creek. The proposed transmission corridor also crosses several other unmapped water features under the *Water Act 2000*. The new transmission line may be sited to span across the width of these waterways. Access roads which cross the waterways may require upgrades.

Section B: Existing spare easement suitability

Consideration	Assessment
Social	
Tenure	The proposed transmission corridor intends to utilise the existing easement for Powerlink's transmission infrastructure.
Land use	The proposed transmission corridor is mostly located within land use for grazing native vegetation, with areas of conservation of natural environments, production forestry and plantation forestry. Small areas of strategic cropping land are mapped at the centre of Section B. The corridor also traverses the Callide Infrastructure Corridor State Development Area. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to existing land uses and strategic cropping land will be an edge effect only where the existing easement is modified.
Resource interest	The proposed transmission corridor intersects a number of resource interests, including Petroleum Pipeline Licence (PPL) 154, PPL 166 and PPL 163.
Utilities	The proposed transmission corridor follows the existing easement for Powerlink's transmission infrastructure. Minimal impacts to utilities are anticipated, as the new transmission line is proposed to be co-located with existing structures (i.e. towers). Pipeline infrastructure is located within the proposed transmission corridor.
Transport and traffic	The proposed transmission corridor intersects the Dawson Highway (State-controlled), Coal Road, Blacks Road, Thompsons Road and Fig Tree Road. The Moura System Railway also traverses Section B. Due to co-location with the existing transmission infrastructure, existing road crossings are proposed to be utilised. There is also potential to utilise existing access tracks. Stock rocks are also present in the existing easement, however these are identified as minor and unused.
Existing residential housing	Houses in proximity to Section B are mainly located near Dawson Highway. The closest dwellings are located within 650m of the proposed transmission corridor. The new transmission line will be co-located with existing infrastructure which minimises social impacts associated with proximity to housing.
Heritage	The proposed transmission corridor may traverse areas where cultural heritage values are known to occur, particularly around the land surrounding Blacks Road. Cultural heritage values may also be associated with Calliope River. The presence of unknown cultural heritage places and artefacts will need to be investigated in future studies. If cultural heritage sites are identified within the corridor, they will need to be managed through discussions and, if necessary, agreements with the relevant Aboriginal parties. No European sites are identified that impact the proposed transmission corridor.

Consideration	Assessment
Visual amenity	The proposed transmission corridor will be temporarily visible to traffic for a short amount of time where it crosses public roads. The corridor is located in relatively remote rural areas and can avoid most residential properties. Visual impacts of transmission infrastructure would be greatest in the flat landscapes around Dawson Highway. Section B is also subject to the proposed Callide Infrastructure Corridor. Due to co-location with the existing transmission infrastructure, the additional visual amenity impacts are minimised to the extent of the height differences of the towers.
Environmental	
Flora	Remnant vegetation (identified as No Concern at present and Of Concern biodiversity status) is mapped in large clusters surrounding the southern portion of the corridor. The proposed transmission corridor intersects mapped essential habitat and high-risk areas for protected plants. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to vegetation may consist of additional clearing in a few places, with edge effect impacts remaining largely unchanged. To minimise the environmental impact, there may be opportunity for the new transmission line to span over vegetation where it occurs in small clusters along the alignment.
Fauna	There are a number of threatened wildlife observation records relating to MNES and MSES identified within the proposed transmission corridor. Both Least Concern and Threatened fauna species could be potentially impacted through the loss of habitat resulting from vegetation clearing needed for the transmission line structures and access tracks. Given that fauna species are mobile and move throughout their habitat, the potential extent of impact to fauna species cannot be accurately determined by desktop searches alone. Presence of protected fauna species within clearing sites will be investigated through ecological surveys.
Protected areas	The existing easement contains two protected areas, including Callide Timber Reserve and Calliope Range State Forest.
Economic	
Topography	The existing easement ranges in elevation from 63m AHD to 565m AHD, with key topographic features including Callide Timber Reserve, Calliope Range State Forest and Calliope River.
Geology and soils	The existing easement is subject to a range of soil types including vertosols, chromosols, rudosols, kandosols, kurosols and dermosols. Vertosols are considered more susceptible to erosion due to their dispersive nature. Although transmission towers can be constructed on any ground, geology and soil conditions can lead to constructability issues due to erosion, dispersion and acidity which may affect the structural integrity of the transmission line infrastructure as well as rocky underlying soils and geological units which may cause constructability complexities. The ground conditions will need to be studied in future geotechnical investigations to establish the appropriate design strategies.

Consideration	Assessment
Hydrology	The main waterway crossings include Calliope River. The proposed transmission corridor also crosses several other unmapped water features under the *Water Act 2000*. The new transmission line may be sited to span across the width of these waterways. Existing access tracks across waterways may require upgrades.

Section C: Corridor widening to the north

Consideration	Assessment
Social	
Tenure	The proposed transmission corridor would utilise land predominantly identified as Freehold and a small area of Lands Lease.
Land use	The proposed transmission corridor will impact a total of 14 land parcels. No new landholders will be impacted. Multiple land parcels are owned by single operating entities and therefore the number of landholders or operating entities affected by the new transmission line would be less than the total number of parcels traversed. The proposed transmission corridor is located entirely within land used for grazing. Given the proposed transmission corridor is intended to be co-located with the existing easement, the impact to existing land uses will be minimised and not undermine the existing grazing activities. A portion of the proposed transmission corridor is located within the Callide Infrastructure Corridor and Gladstone State Development Area.
Resource interests	The proposed transmission corridor intersects Exploration Permit Mineral (EPM) 28042, EPM 2028, PPL 154, PPL 166, PPL 163 and PPL 30.
Transport and traffic	The proposed transmission corridor intersects the Bruce Highway, Kaluda Road and Mount Alma Road. Due to co-location with the existing transmission infrastructure, existing road crossings and access tracks are proposed to be utilised, leading to potential savings in construction cost and reduced land use impacts.
Existing residential housing	The closest dwelling is located approximately 400m from the proposed corridor option. The new transmission line will be co-located with existing infrastructure which minimises social impacts associated with proximity to housing.
Heritage	The proposed transmission corridor may traverse areas where cultural heritage values are known to occur. The presence of unknown cultural heritage places and artefacts will need to be investigated in future studies. If cultural heritage sites are identified within the corridor, they will need to be managed through discussions and, if necessary, agreements with the relevant Aboriginal parties. No European sites are mapped that impact the proposed transmission corridor.

Consideration	Assessment
Visual amenity	The proposed transmission corridor will be visible to traffic for a short amount of time where it crosses public roads. The proposed transmission corridor is located in relatively remote rural areas and can avoid residential properties by at least 350m. Visual impacts of the new transmission line would be greatest in the flat landscapes around Larcom Creek. Due to co-location with the existing transmission infrastructure, the additional visual amenity impacts are minimised to the extent of the height differences of the towers.
Environmental	
Flora	Remnant vegetation (identified as no concern at present and Of Concern biodiversity status) is mapped in clusters surrounding Kaluda Road, Larcom Creek and Mt Alma Road. The proposed transmission corridor intersects mapped essential habitat. Given the proposed transmission corridor is intended to be co-located with the existing easement, the impact to vegetation may include some additional clearing in a few places, with edge effect impacts remaining largely unchanged. To minimise the environmental impact, there may be opportunity for the new transmission line to span over vegetation where it occurs in small clusters along the alignment.
Fauna	There are a number of threatened wildlife observation records relating to MNES and MSES identified within the proposed transmission corridor. Both least concern and threatened fauna species could be potentially impacted through the loss of habitat resulting from vegetation clearing needed for the transmission line structures and access tracks. Given that fauna species are mobile and move throughout their habitat, the potential extent of impact to fauna species cannot be accurately determined by desktop searches alone. Presence of protected fauna species within clearing sites will need to be investigated in future ecological investigations.
Protected areas	The existing easement does not intersect any protected areas.
Economic	
Topography	The existing easement ranges in elevation from 23m to 115m AHD, with key topographic features including Larcom Creek.
Geology and soils	The existing easement is subject to dermosol and chromosol soil types, which are considered more susceptible to erosion due to their dispersive nature. Although transmission towers can be constructed on any ground, geology and soil conditions can lead to constructability issues due to erosion, dispersion and acidity which may affect the structural integrity of the new transmission line, as well as rocky underlying soils and geological units which may cause constructability complexities. The ground conditions will need to be studied in future geotechnical investigations to establish the appropriate design strategies.

Consideration	Assessment
Hydrology	The main waterway crossings include Larcom Creek. The proposed transmission corridor also crosses drainage features and unmapped water features under the *Water Act 2000*. The new transmission line may be sited to span across the width of these waterways; however, most are subject to floodplains. Therefore, waterway crossings may require a tailored design response to ensure minimal damage to riparian vegetation and mitigate risks of erosion to transmission towers.

Section D: Existing spare easement suitability

Consideration	Assessment
Social	
Tenure	The proposed transmission corridor intends to utilise the existing easement for Powerlink's transmission infrastructure.
Land use	The proposed transmission corridor is mostly located within land use for grazing, with areas of production native forests, conservation and natural environments and transport/communication. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to existing land uses and strategic cropping land will be an edge effect within the existing easement. The proposed transmission corridor is located within the Callide Infrastructure Corridor State Development Area.
Resource interest	The proposed transmission corridor does not intersect resource interests.
Transport and traffic	The proposed transmission corridor intersects the Calliope River Road, Boyles Road, Malahoff Road, Mt Miller Road and Reid Road. Due to co-location with the existing transmission infrastructure, existing road crossings are proposed to be utilised. There is also potential to utilise existing access tracks. Gladstone Airport is located 6km south-east of the corridor.
Existing residential housing	Houses in proximity to Section D are mainly located near Mount Stow State Forest and Calliope Conservation Park. The closest dwellings are located within 250m of the proposed transmission corridor. The new transmission line will be co-located with existing infrastructure which minimises social impacts associated with proximity to housing.
Cultural heritage	Cultural heritage values may be associated with Calliope Conservation Park. The presence of unknown cultural heritage places and artefacts will need to be investigated in future studies. If cultural heritage sites are identified within the proposed transmission corridor, they will need to be managed through discussions and, if necessary, agreements with the relevant Aboriginal parties. No European sites are mapped that impact the proposed transmission corridor.

Consideration	Assessment
Visual amenity	The proposed transmission corridor will be temporarily visible to traffic for a short amount of time where it crosses public roads. The corridor is located in relatively remote rural areas. Visual impacts of transmission infrastructure would be greatest in the flat landscapes around Calliope River Road. Due to co-location with the existing transmission infrastructure, the additional visual amenity impacts are minimised to the extent of the height differences of the towers.
Environmental	
Flora	Remnant vegetation (identified as No Concern at present, Of Concern and Endangered biodiversity status) is mapped in large clusters throughout the entire corridor. The proposed transmission corridor intersects mapped essential habitat and high-risk areas for protected plants. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to vegetation may consist of additional clearing in a few places, with edge effect impacts remaining largely unchanged. To minimise the environmental impact, there may be opportunity for the new transmission line to span over vegetation where it occurs in small clusters along the alignment.
Fauna	There are a number of threatened wildlife observation records relating to MNES and MSES identified within the proposed transmission corridor. Both Least Concern and Threatened fauna species could be potentially impacted through the loss of habitat resulting from vegetation clearing needed for the transmission line structures and access tracks. Given that fauna species are mobile and move throughout their habitat, the potential extent of impact to fauna species cannot be accurately determined by desktop searches alone. Presence of protected fauna species within clearing sites will be investigated through ecological surveys.
Protected areas	The existing easement contains two protected areas, including Mount Stowe State Forest and Calliope Conservation Park.
Economic	
Topography	The existing easement ranges in elevation from 16m AHD to 200m AHD, with key topographic features including Mount Stowe State Forest and Calliope Conservation Park.
Geology and soils	The existing easement is subject to a range of soil types including chromosols, kandosols, dermosols and hydrosols. Although transmission towers can be constructed on any ground, geology and soil conditions can lead to constructability issues due to erosion, dispersion and acidity which may affect the structural integrity of the transmission line infrastructure as well as rocky underlying soils and geological units which may cause constructability complexities. The ground conditions will need to be studied in future geotechnical investigations to establish the appropriate design strategies.

Consideration	Assessment
Hydrology	The proposed transmission corridor does not cross any major watercourses, although it does cross several drainage features and unmapped watercourses under the *Water Act 2000*. The new transmission line may be sited to span across the width of these waterways. Existing access tracks across waterways may require upgrades.

Section E: Existing spare easement suitability

Consideration	Assessment
Social	
Tenure	The proposed transmission corridor intends to utilise the existing easement for Powerlink's Calliope River Substation site and associated transmission infrastructure.
Land use	The proposed transmission corridor is mostly located within land use for conservation and natural environments. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to existing land uses and strategic cropping land will be an edge effect only mostly within the existing easement. The proposed transmission corridor is identified as a Priority Living Area and also located within the Gladstone State Development Area.
Resource interest	The proposed transmission corridor does not intersect resource interests.
Transport and traffic	The proposed transmission corridor intersects the Esplanade. Due to co-location with the existing transmission infrastructure, existing road crossings are proposed to be utilised. Stock routes are also present in the existing easement, however these are identified as minor and unused. Gladstone Airport is located 1km south-east of the corridor. The Calliope River Substation site and surrounding area falls within mapping associated with the matter of State interest for Strategic Airports and Aviation Facilities. Under the Gladstone Regional Planning Scheme, Section E is also located within the Obstacle Limitation Surface on the Airport Environs Overlay Map. Accordingly, development must not cause a permanent or temporary physical or transient obstruction to the safe movement of aircraft within the airport's operational airspace. Minimal impacts to the airport's operational airspace are anticipated, as the new transmission line is proposed to be co-located with existing structures (i.e. towers).
Existing residential housing	Despite being located in a Priority Living Area, there are no houses in proximity to the proposed transmission corridor. The closest dwellings are located across Calliope River and 1.5km south within the residential area of Clinton. The new transmission line will be co-located with existing infrastructure which minimises social impacts associated with proximity to housing.
Cultural heritage	Cultural heritage values may be associated with Calliope River. The presence of unknown cultural heritage places and artefacts will need to be investigated in future studies. If cultural heritage sites are identified within the proposed transmission corridor, they will need to be managed through discussions and, if necessary, agreements with the relevant Aboriginal parties. No European sites are mapped that impact the proposed transmission corridor. All of Section E is mapped under the National Heritage List – Great Barrier Reef World Heritage Area. While Section E is located within the World Heritage List/National Heritage List Great Barrier Reef, the landward extent includes Calliope River Island and up to the low water mark of the mainland.

Consideration	Assessment
Visual amenity	The proposed transmission corridor will be temporarily visible to traffic for a short amount of time where it crosses public roads. The corridor is located in relatively remote natural area. Visual impacts of transmission infrastructure would be greatest in the flat landscapes around Calliope River. Due to co-location with the existing transmission infrastructure, the additional visual amenity impacts are minimised to the extent of the height differences of the towers.
Environmental	
Flora	Remnant vegetation (identified as endangered and no concern at present biodiversity status) is mapped in clusters surrounding Calliope River Substation. The proposed transmission corridor intersects mapped essential habitat. Given the proposed transmission corridor is intended to utilise the existing easement, the impact to vegetation may be some additional clearing in a few places, with edge effect impacts remaining largely unchanged. To minimise the environmental impact, there may be opportunity for the new transmission line to span over vegetation where it occurs in small clusters along the alignment.
Fauna	There are a number of threatened wildlife observation records relating to MNES and MSES identified within the proposed transmission corridor. Both Least Concern and Threatened fauna species could be potentially impacted through the loss of habitat resulting from vegetation clearing needed for the transmission line structures and access tracks. Given that fauna species are mobile and move throughout their habitat, the potential extent of impact to fauna species cannot be accurately determined by desktop searches alone. Presence of protected fauna species within clearing sites will be investigated through ecological surveys.
Protected areas	The existing easement does not intersect any protected areas.
Economic	
Topography	The existing easement ranges in elevation from 2m to 30m AHD, with key topographic features including Calliope River and the inlet to Gladstone Harbour.
Geology and soils	The existing easement is subject to hydrosol, sodosol and tenosol soil types, which are considered more susceptible to erosion due to their dispersive nature. Section E is located within a low-lying area and acid sulfate soils are a high probability of occurrence. Although transmission towers can be constructed on any ground, geology and soil conditions can lead to constructability issues due to erosion, dispersion and acidity which may affect the structural integrity of the new transmission line, as well as rocky underlying soils and geological units which may cause constructability complexities. The ground conditions will need to be studied in future geotechnical investigations to establish the appropriate design strategies.

Consideration	Assessment
Hydrology	The main waterway crossings include Calliope River. The proposed transmission corridor also crosses several drainage features and unmapped water features under the *Water Act 2000*. The new transmission line may be sited to span across the width of these waterways; however, most are subject to floodplains. Therefore, waterway crossings may require a tailored design response to ensure minimal damage to riparian vegetation and mitigate risks of erosion to transmission towers.

Appendix D

Summary of legislative considerations

Legislation	Summary
Commonwealth legislation	
Environment Protection and Biodiversity Conservation Act 1999	The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the centrepiece of Commonwealth environmental laws. Broadly, it protects and regulates impacts on the following Matters of National Environmental Significance (MNES): • The world heritage values of a declared world heritage property • The national heritage values of a declared national heritage place • The ecological character of a declared Ramsar wetland (wetlands of international importance) • Listed threatened species and ecological communities • Listed migratory species • Nuclear actions (including uranium mining) • Commonwealth marine areas • The Great Barrier Reef Marine Park • A water resource, in relation to coal seam gas development and large coal mining development. Actions that have, will have, or are likely to have a significant impact on MNES and actions by the Commonwealth, or involving Commonwealth land are called controlled actions and require approval under the EPBC Act. The process of assessing and approving a controlled action under the EPBC Act potentially involves three stages, including referral, assessment and approval. At the first stage a person refers a proposed action for determination of whether it is a controlled action. If the proposed action is determined to involve a controlled action it is then assessed in accordance with the EPBC Act before the Minister (or delegate of the Minister) determines whether it can proceed and any conditions that should apply.
Native Title Act 1993	The *Native Title Act 1993 (*NT Act) establishes a national framework for the protection and recognition of Native Title, including by conferring on Indigenous people who hold (or claim to hold) Native Title rights and interests in respect of any land or waters, the right to be consulted with and in some cases to participate in decisions about activities proposed to be undertaken. Whilst Native Title has been extinguished (refused recognition) over freehold land, Native Title interests and rights may still exist over a number of tenures including reserves, State Forest and National Parks, land that is or has been subject to lease, waters that are not privately owned, as well as unallocated state land. The NT Act prescribes the statutory process to allow parties to reach agreement about the use of land or waters where Native Title may continue to exist and for state governments and territories to grant interests over that land to both Native Title claimants and non-Native Title parties.

State legislation	
Aboriginal Cultural Heritage Act 2003	The purpose of the *Aboriginal Cultural Heritage Act 2003* (ACH Act) is to provide effective recognition, protection and conservation of Aboriginal and Torres Strait Islander cultural heritage. The ACH Act protects all indigenous cultural heritage in Queensland, whether or not it has been recorded in a database. The ACH Act requires anyone who carries out a land use activity to exercise a duty of care to take all reasonable and practical measures to avoid harming Aboriginal and Torres Strait Islander cultural heritage. Failure to comply with the duty of care is an offence, including unlawfully harming, excavating, relocating, taking away and possessing indigenous cultural heritage.
Biosecurity Act 2014	The *Biosecurity Act 2014* (Biosecurity Act) provides a biosecurity system framework which aims to minimise biosecurity risk and facilitate responses to biosecurity impacts, to ensure the safety and quality of agricultural inputs and to align the state's management of biosecurity risk and other requirements for plant and animal responses to biosecurity risk with federal and international obligations. The Act also aims to manage emerging endemic and exotic pests and diseases as well as the transfer of diseases between humans and animals and contaminants in carriers. Under the Act, a general biosecurity obligation is placed on all persons to undertake all reasonable and practicable measures to prevent or minimise biosecurity risk. Additionally, the movement of biosecurity matter must comply with movement restrictions associated with each relevant biosecurity zone, and biosecurity instrument permits are required for the movement of biosecurity matter which cannot comply with movement restrictions.
Environmental Offsets Act 2014	The purpose of the *Environmental Offsets Act 2014* (EO Act) is to counterbalance the significant residual impacts of particular activities on prescribed environmental matters through the use of environmental offsets. Prescribed environmental matters are described under the EO Act as a: • Matter of National Environmental Significance (MNES) • Matter of State Environmental Significance (MSES) • Matter of Local Environmental Significance (MLES). An environmental offset may be required as a condition of development approval, where following consideration of avoidance and mitigation measures, a prescribed activity is likely to result in a significant residual impact on a prescribed environmental matter. Once the administering authority has decided that a prescribed activity is required to provide an offset, the environmental offset is required to be delivered in accordance with the EO Act, the *Environmental Offsets Regulation 2014* (EO Regulation) and the Queensland Environmental Offsets Policy. The desktop assessment has identified that MNES and MSES are potentially present within the corridor, however this will need to be confirmed during future phases of the project through field surveys. To avoid duplication between jurisdictions, state and local governments can only impose an offset condition in relation to a prescribed activity if the same, or substantially the same impact, or substantially the same matter has not been subject to assessment under the EPBC Act.

	It is important to note that advice from Queensland Treasury is that the EO Act does not apply to the designation of premises for development of infrastructure, however the designation decision can still apply compensatory measures/requirements akin to an offset.
Electricity Act 1994	The *Electricity Act 1994* (Electricity Act) sets out the requirements that all electricity industry participants are required to promote a safe, efficient and reliable supply and use of electricity. The Act also requires that the supply of electricity is undertaken in an environmentally sound manner. Under Section 31(b) of the Electricity Act, a transmission entity is required to properly consider the environmental effects of its activities under the transmission authority. Powerlink will be required to implement project specific Environmental Management Plans (EMPs) to comply with requirements of the Electricity Act. The EMPs will be implemented through the construction, operation and maintenance stages of the project.
Electrical Safety Act 2002	The *Electrical Safety Act 2002* (Electrical Safety Act) seeks to prevent through regulation, the death, injury and destruction that can be caused by electricity. Accordingly, the purpose of the Electrical Safety Act is to establish a legislative framework for: • preventing persons from being killed or injured by electricity • preventing property from being destroyed or damaged by electricity.
Environmental Protection Act 1994	The purpose of the *Environmental Protection Act 1994* (EP Act) is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The EP Act regulates activities that will or may have the potential to cause environmental harm and prescribes several mechanisms to ensure that objectives are met. The two primary environmental duties that apply to everyone in Queensland are: • general environmental duty – a person must not carry out any activity that causes, or is likely to cause environmental harm, unless all reasonable and practicable measures to prevent or minimise the harm have been taken. Environmental harm is defined in Section 14 of the EP Act as any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value and includes environmental nuisance • duty to notify of environmental harm – a person must inform the administering authority and landowner or occupier when an incident has occurred that may have caused or threatens serious or material environmental harm that is not authorised. The EP Act also provides the power to administering authorities to order the actions to be taken to improve environmental performance, conduct audits and environmental evaluations of activities, approve environmental management programs and impose penalties or prosecute persons for non- compliance with the requirements of the EP Act. The EP Act is supported by the following subordinate legislation: • *Environmental Protection Regulation 2019 (EP Regulation)* • *Environmental Protection (Air) Policy 2019 (EPP (Air))*

	• *Environmental Protection (Noise) Policy 2019 (EPP (Noise))* • *Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (EPP (Water and Wetland Biodiversity)).* The EP Act also describes Environmentally Relevant Activities (ERAs) for which an Environmental Authority (EA) is required. Some significant construction activities can trigger the requirement for an ERA.
Fisheries Act 1994	The *Fisheries Act 1994* (Fisheries Act) provides for the use, conservation and enhancement of fisheries resources and fish habitats in Queensland. The Department of Agriculture and Fisheries (DAF) is responsible for development assessment under the Fisheries Act in combination with the Planning Act, along with the conservation and management of fish habitats in Queensland. A development under the Fisheries Act can be either an accepted development or assessable development for, relevantly, works involving the construction or raising of waterway barrier works. An accepted development must comply with all the requirements within the relevant accepted development requirements. If the development does not comply, it is assessable development, and a development application must be lodged. The corridor contains waterways for waterway barrier works. If proposed works by Powerlink traverse mapped waterways, this may require waterway barrier works and therefore trigger a requirement to obtain a development permit for operational works, that is constructing or raising waterway barrier works, unless the works are designed to comply with accepted development requirements under the Fisheries Act.
Forestry Act 1959	The *Forestry Act 1959* (Forestry Act) provides for forest reservations, the management, silvicultural treatment and protection of State Forests, and the sale and disposal of forest products and quarry material, the property of the Crown on State Forests, timber reserves and on other lands; and for other purposes. The Forestry Act is administered primarily by the DAF. State Forests are managed by the Department of Environment and Science (DES) and Queensland Parks and Wildlife Service (QPWS). Areas of State Forest may require revocation to facilitate the provision of infrastructure. This process is regulated under the *Forestry Act 1959* and where the future intent of the revoked area is for a particular purpose other than a tourist purpose or use as a public road, a regulation to revoke all or part of an area may only be made where the Legislative Assembly has passed a resolution requesting the Governor in Council to make the revocation. An application to revoke an area of State Forest should only be undertaken as a last resort where no alternative options are available. Revocation of state land will only be considered when it can be demonstrated that it is in the interests of the specific tenure or where there is a net forest production benefit outcome to the QPWS managed area as an outcome. Purposes relevant to the project which may be considered by the State for revocation include: • where there is a mutual benefit to the state and applicant

	• to enable essential public infrastructure works to be undertaken to support delivery of a specific government commitment.
Nature Conservation Act 1992	The purpose of the *Nature Conservation Act 1992* (NC Act) is the conservation of nature while allowing for the involvement of landholders and Indigenous people in the management of protected areas in which they have an interest under Aboriginal tradition or Island custom. A framework is created under the NC Act for the dedication, declaration and management of protected areas, protection of wildlife and its habitat. The clearing regulatory requirements and the list of critically endangered, endangered, vulnerable or near threatened plants are contained in the *Nature Conservation (Plants) Regulation 2020*. The corridor potentially contains protected plants and protected areas, however this will require confirmation during further ecological surveys during the next phase of the project. The clearing of native flora species and native fauna habitat protected under the NC Act. It is recommended that detailed ecological field surveys are undertaken to confirm the requirements of the NC Act, which may include protected plants permits.
Planning Act 2016	The *Planning Act 2016* (Planning Act) establishes a framework and overarching policy for land use planning and development assessment in Queensland. The purpose of the Planning Act is to provide an efficient, effective, transparent, integrated, coordinated and accountable system of land use planning and development assessment to facilitate the achievement of ecological sustainability. The Planning Act and *Planning Regulation 2017* (Planning Regulation) describes the type of development, the level of assessment required for particular development, responsible entity for assessing development, assessment benchmarks, as well as the process for making, assessing and deciding development applications. The Planning Act and Planning Regulation also prescribe the assessment and approval process for the designation of premises for development of infrastructure (an 'infrastructure designation') prescribed within the Planning Regulation. Infrastructure Designation is a Ministerial approval pathway, which is commonly used to facilitate electricity distribution and transmission infrastructure. Where an Infrastructure Designation is obtained, assessable development in relation to the infrastructure is deemed accepted development under the Planning Act, excluding building works under the *Building Act 1975.* This means that when an infrastructure designation is in effect, the development does not require any further development approvals for development normally assessable under the Planning Act, apart from building works. In practice, an infrastructure designation assessment will address the applicable State interests and constraints ordinarily made assessable under the Planning Act (i.e., vegetation clearing, waterway barrier works, etc).
Queensland Heritage Act 1992	The objective of the *Queensland Heritage Act 1992* is to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations. The *Queensland Heritage Act 1992* is administered by DES and the Queensland Heritage Council to identify and protect places that have special heritage values to the community and future generations. The *Queensland Heritage Act 1992* conserves and protects Queensland Heritage Places by:

	• establishing heritage registers • regulating development that may impact on registered places • establishing a process for reporting discoveries of objects that may be of cultural heritage significance. Section 89 of the *Queensland Heritage Act 1992* requires a person to notify DES of an archaeological artefact that is an important source of information about an aspect of Queensland history.
State Planning Policy	The State Planning Policy (SPP) identifies matters of State interest requiring protection and enhancement. The SPP is at the top of the planning hierarchy in Queensland and is the overarching policy for all other regional and local planning instruments. The SPP States that the SPP applies to the extent relevant, when designating premises for infrastructure under the Planning Act and development applications.
Stock Route Management Act 2002	The *Stock Route Management Act 2002* (Stock Route Management Act) provides a framework for management of Queensland's stock routes. Local government authorities are responsible for the day-to-day administration and management of stock routes. The Queensland Stock Route Network Management Strategy has been prepared under the Stock Route Management Act. The strategy is a tool to link legislative principles with decision making, to ensure a consistent approach.
Transport Infrastructure Act 1994	The overall objective of the *Transport Infrastructure Act 1994* (Transport Infrastructure Act) is to provide a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure. The Act is administered by the Department of Transport and Main Roads (DTMR). Under section 50 of the Act, the ancillary works and encroachments within State-controlled roads can only be undertaken with the written permission of DTMR. Under section 33 of the Transport Infrastructure Act, written approval is required from the DTMR to carry out road works on a State-controlled Road (SCR) or interfere with a SCR or its operation. This may include where road works to a Council Road interferes with a SCR or its operations. Under section 62 of the Transport Infrastructure Act, written approval is required from DTMR to locate a permitted access on a SCR. A decision of access approval may include conditions or restrictions on the location or use of the permitted road access, type or number of vehicles to use the permitted road access location. Under the *Transport Infrastructure (Rail) Regulation 2006* permission from the railway manager (Queensland Rail) is required to take over dimensional road loads across Queensland Rail infrastructure (e.g. rail level crossings and rail bridges).
Vegetation Management Act 1999	The *Vegetation Management Act 1999* (VM Act) regulates and manages the process and impacts of native vegetation clearing. The objectives of the VM Act include conservation of remnant regional ecosystems, prevention of the loss of biodiversity, maintenance of ecological processes, and conservation of vegetation in areas of high nature conservation value or lands vulnerable to land degradation. The corridor contains areas of regulated vegetation under the VM Act, classified as Category A (declared), Category B (remnant), Category C (high value regrowth) and

	Category R (watercourse regrowth). Areas of Category X (non-remnant) vegetation also exist throughout the corridor. The regional ecosystems (REs) present across the corridor include Endangered, Of Concern and Least Concern vegetation communities. Clearing of any relevant remnant or regulated regrowth vegetation constitutes operational work under schedule 10 of the *Planning Regulation 2017*, which will require development approval unless a vegetation clearing code or exemption applies. Under Section 22A of the VM Act, an application for operational work, including applications where Department of Resources (DoR) is a concurrence agency, cannot be accepted as properly made unless the Chief Executive is satisfied that the development is for a relevant purpose. Exemptions exist for electricity infrastructure where associated with an infrastructure designation. Any infrastructure designation or development application will need to demonstrate that Powerlink has sought to reduce the impacts of vegetation clearing through the hierarchy of avoid, minimise and mitigate. Where a significant residual impact remains, an offset, or compensatory measures may be required.

Water Act 2000	*The Water Act 2000* (Water Act) provides a framework to deliver sustainable water planning, allocation, management and supply processes to provide for the improved security of water resources in Queensland. The Water Act is supported by the *Water Regulation 2016* and various water resource plans for the defined geographic regions. The Water Act provides a framework for relevant:
	
	• The sustainable management of Queensland's water resources and quarry material by establishing a system for the:
	  ○ Planning, allocation and use of water
	  ○ Allocation of quarry material and riverine protection
	• The sustainable and secure supply and demand management for the south-east Queensland region and other designated regions.
	
	Under the Water Act, water licences or permits are required to take water and to interfere with the flow of water on, under or adjoining land, including interfering with water in aquifers (if determined necessary).

Matters of State Environmental Significance	Matters of State Environmental Significance (MSES) are a component of the biodiversity state interest that is defined under the SPP and Environmental Offsets Regulation 2014. MSES includes certain environmental values that are protected under Queensland legislation. MSES are defined as: • Protected areas (including all classes of protected areas except coordinated conservation areas) under the *Nature Conservation Act 1992* • Marine parks and land within a 'marine National Park', 'Conservation Park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* • Areas within declared fish habitat areas that are management A areas or management B areas under the *Fisheries Regulation 2008*

	• Threatened wildlife under the Nature Conservation Act 1992 and Special Least Concern (SLC) animals under the *Nature Conservation (Wildlife) Regulation 2006*
	• Regulated vegetation under the *Vegetation Management Act 1999* that is:
	  ○ Category B areas on the regulated vegetation management map, that are 'Endangered' or 'Of Concern' regional ecosystems
	  ○ Category C areas on the regulated vegetation management map that are 'Endangered' or 'Of Concern' regional ecosystems
	  ○ Category R areas on the regulated vegetation management map
	• Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map
	• Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map
	• Strategic Environmental Areas under the *Regional Planning Interests Act 2014*
	• Wetlands in a wetland protection area of wetlands of high ecological significance shown on the map of Queensland Wetland Environmental Values under the *Environment Protection Regulation 2019*
	• Wetlands and watercourses in high ecological value waters defined in the *Environmental Protection (Water) Policy 2009*, schedule 2
	• Legally secured offset areas.

Regional Plans	• The corridor is subject to the Central Queensland Regional Plan 2013.
Central Queensland Regional Plan 2013	Central Queensland Regional Plan 2013 is a state planning instrument providing a framework to manage growth, change, land use and development in Central Queensland. The purpose of the plan is to identify the state's interests in land use planning for the region. Specifically, the plan identifies: • regional outcomes for the region • regional policies for achieving the regional outcomes • the state's intent for the future spatial structure of the region, including Priority Agricultural Areas (PAA), Priority Living Areas (PLA) and priority outcomes for infrastructure. The plan's regional policies address the emerging regional issues of land use competition between the agricultural and resources sectors, and the need to protect areas required for the growth of towns. The plan also discusses other state interests relevant to land use planning in the region, including housing and liveable communities, economic growth, environment and heritage, and hazards and safety

	The new transmission line would be consistent with the aim of the Central Queensland Regional Plan 2013 (CQRP) to promote renewable energy generation, in order to provide reliable energy which supports growth in an economically and ecologically sustainable manner. The CQRP states that development in regional landscapes needs to be responsibly planned to complement, protect, and enhance landscape values, including areas of significant biodiversity value, rural production, scenic amenity, and landscape heritage. The corridor assessment process has aimed to minimise impacts upon land uses by investigating opportunities for collocation with existing infrastructure.
State Government Supported Infrastructure Koala Conservation Policy July 2017 (SGSIKCP)	This policy (SGSIKCP) is to ensure that state activities not regulated through planning schemes or in accordance with the koala assessment benchmarks in Schedule 11 of the *Planning Regulation 2017 meet* the same requirements as the *Planning Regulation 2017*, to ensure equitable treatment of state and non-State infrastructure projects. The corridor is not located within the area covered by the SGSIKCP.
Local planning schemes	The corridor is mostly zoned as 'Rural' under the Gladstone Regional Council Planning Scheme 2017 (Gladstone Planning Scheme) and the Banana Shire Planning Scheme 2021 (Banana Planning Scheme). The land use intent for 'Rural' is similar under each planning scheme, recognising a range of land uses, including agriculture, and the need to protect the rural character/amenity of the region. Parts of Section A are within the Community Facilities Zone under the Banana Planning Scheme and parts of Section D and E are identified within the Special Purpose Zone, Environmental Management Zone, Conservation Zone and Open Space Zone under the Gladstone Planning Scheme. The granting of an Infrastructure Designation means the construction, operation and maintenance of a transmission line will be accepted development under the *Planning Act 2016* and will not require an approval under the relevant planning schemes. Nonetheless, regard must still be given to the requirements of the planning schemes relating to the land subject to the designation. Through a preliminary assessment of the planning schemes, the new transmission corridor would generally be consistent with the intended outcomes sought by the planning scheme.
Local Laws	The *Local Government Act 2020* (Local Government Act) allows for councils to create laws for matters that the Council has function or power under the Local Government Act to undertake and to regulate specific matters within their Local Government Area (LGA). While the Planning Scheme is exempt where an Infrastructure Designation has been enacted, local laws imposed by each local government authority will still apply and may trigger approvals for certain activities.

Appendix E

Acronyms in Final CSR

ACH Act	*Aboriginal Cultural Heritage Act 2003*
AHD	Australian Height Datum
CQRP	Central Queensland Regional Plan 2013
Cth	Commonwealth
CSR	Corridor Selection Report
DAF	Department of Agriculture and Fisheries
DES	Department of Environment and Science
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoR	Department of Resources
DTMR	Department of Transport and Main Roads
EA	Environmental Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EP Act	*Environmental Protection Act 1994*
EPC	Exploration Permit Coal
EPM	Exploration Permit Mineral
EO Act	*Environmental Offsets Act 2014*
EO Regulation	Environmental Offsets Regulation 2014
ERA	Environmental Relevant Activities
km	Kilometre
kV	Kilovolt
LGA	Local Government Area
LRA	Landholder Relations Advisor
MLES	Matter of Local Environmental Significance

MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
m	Metre
MID	Ministerial Infrastructure Designation
MDL	Mineral Development Licence
NC Act	*Nature Conservation Act 1992*
NT Act	*Native Title Act 1993*
PAA	Priority Agricultural Areas
PLA	Priority Living Areas
PPL	Petroleum Pipeline Licence
PMST	Protected Matters Search Tool
QEJP	Queensland Energy and Jobs Plan
Qld	Queensland
QPWS	Queensland Parks and Wildlife Service
REs	Regional Ecosystems
RET	Renewable Energy Target
SCR	State Controlled Road
SGSIKCP	State Government Supported Infrastructure Koala Conservation Policy July 2017
SIA	Significant Impact Assessment
SMP	Species Management Plan
SLC	Special Least Concern
SPP	State Planning Policy
TECs	Threatened Ecological Communities
VM Act	Vegetation Management Act 1999

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