

Chapter 24

Infrastructure

24.0 Infrastructure

24.1 Existing Environment

24.1.1 Road networks

The Draft Alignment crosses a number State-controlled roads (managed by the Department of Transport and Main Roads) (Table 24-1) and local government roads (managed by Hinchinbrook Shire Council, Charters Tower Regional Council and Etheridge Shire Council) (Table 24-2) (Figure 18-1, Chapter 18 Traffic and Transport).

Table 24-1 State-controlled Roads within the Project area

State-Controlled Road Number	State-Controlled Road Name	Description
98C	Gregory Developmental Road (State-controlled road)	Two lane partly-sealed
99B	Kennedy Developmental Road (State-controlled road)	Two lane sealed

Table 24-2 Local Roads within the Project area

Road Name	Description
Unnamed Road	Undeveloped road reserve
Kallanda Road	Unsealed, no designated road reserve
Kangaroo Hills Road	Unsealed
Lava Plains Mount Fox Road	Unsealed
Gadara Road	Unsealed
Craiglee Road (crosses five times)	Unsealed
Greenvale Valley Road	Formed, unsealed
Rycon Road	Formed, unsealed
Gilberton Road	Formed, unsealed

Powerlink Queensland will seek approval under the *Electricity Act 1994* from the relevant road authority prior to constructing the transmission line over the road.

24.1.2 Rail network

There is no operational rail infrastructure corridor affected by the Draft Alignment. Where the Draft Alignment passes Greenvale, a decommissioned railway exists to the south of the alignment. The railway was decommissioned in 1993, and the tracks were removed in the mid-2000s; however the lease and some infrastructure still exists.

24.1.3 Airports and air strips

The Draft Alignment does not intersect with existing air transport infrastructure. The nearest aerodromes are situated at Greenvale and Kidston. Small private landing strips are located within the vicinity of the Project.

24.1.4 Electricity infrastructure

Existing electricity infrastructure within the area includes an Ergon 66 kV sub-transmission line that runs 90 km west from Mount Fox to Greenvale and another Ergon 132 kV transmission line that runs from Ross to Kidston. Co-location with this existing infrastructure is achieved between Mount Fox and Greenvale, and from the vicinity of Conjoboy to Kidston.

24.1.5 Water and sewer infrastructure

The Project area has limited access to reticulated water and sewer. The local population mainly relies on the use of bores and private dams for water supply and septic systems for sewer.

The draft alignment crosses the Copperfield Dam pipeline which provides water from the Copperfield Dam to the old Kidston Mine site. The pipeline is PVC/poly 450 mm pipe, and is laid above ground in vicinity of the proposed transmission line. It is understood the pipeline is being relocated to occupy a road reserve, however the transmission line will still traverse the pipeline in its final location.

One registered groundwater bore was identified within the Project area (Registered Number: 148011). The water use from this bore is not known.

24.1.6 Private infrastructure

As the draft alignment traverses through a number of agricultural properties, there is the potential for unmapped private infrastructure to be present. Private infrastructure may include access tracks, dams and landing strips.

The westernmost extent of the Draft Alignment contains the Kidston Renewable Energy Hub. The 50 megawatt (MW) Kidston Solar Project (Stage One) has completed construction. The 250 MW Kidston Pumped Storage Hydro Project has received development approval from Etheridge Shire Council and is securing an Engineering, Procurement and Construction contract for the development. The 270 MW Kidston Solar Project (Stage Two) has received development approval from Etheridge Shire Council and is proceeding to construction in 2019.

24.2 Potential Impacts

During construction, the road network may be impacted through an increase in traffic associated with light vehicle movements, equipment haulage, and machinery movements. The Project may also require additional access points from the existing road network. Minimal access is anticipated during the operational phase and will be limited to maintenance requirements. Potential impacts associated with the road network are addressed in Chapter 18 Transport and Traffic.

The Draft Alignment is sufficiently removed from the Greenvale and Kidston aerodromes and no impacts are anticipated on this infrastructure. However private airstrips along the alignment will be considered during design to minimise impacts.

The structure foundations of the transmission line will be located to ensure that there are no physical impacts to the Copperfield Dam pipeline, and no interruption to the water supply.

No impacts will occur to Ergon Energy infrastructure from construction and operation of the Project. The proposed transmission line is co-located with Ergon's lines, and will be separated by a minimum 40m to allow for safe and efficient construction and operation of the electrical infrastructure.

No relocation of existing infrastructure is required to facilitate the Project.

24.3 Mitigation and Management Measures

Construction and operation of the project will be managed in accordance with Powerlink's Standard Environmental Controls, provided in Appendix I Environmental Management Plans. The following additional mitigation measures are proposed to minimise potential impacts to the limited infrastructure in close proximity to the Draft Alignment.

- Prior to construction a Traffic Management Plan will be prepared to minimise potential impacts. Refer to Chapter 18 Transport and Traffic for further details.
- Access to the site during construction and operation will be undertaken in accordance with Powerlink's Land Access Protocol. This Protocol identifies Powerlink Queensland's standards and commitments when accessing and using land.
- The Project will be designed to ensure sufficient separation distance between the proposed and existing transmission/sub transmission lines.

- Powerlink Queensland will assess the potential for induced charge in proximal conductive objects, and propose mitigation measures for any objects in or near the easement that may be affected. Refer to Chapter 21 Electric and Magnetic Fields.
- The Project will be designed to ensure sufficient separation distance between the Project and the Copperfield Dam pipeline or the groundwater bore.
- The Project will be designed to consider the requirements of private infrastructure within the Project area. This may include the installation of visual marker balls on the transmission line near landing airstrips, where deemed necessary for safety.