

5 LAND USE AND INFRASTRUCTURE

5.1 INTRODUCTION

This chapter responds to submissions received on the Queensland Curtis LNG (QCLNG) project draft environmental impact statement (EIS) relating to land use and infrastructure for the Pipeline Component.

Where changes to the project description, as detailed in *Volume 2, Chapters 8 and 12*, have affected land use and infrastructure, these impacts and mitigation measures are described.

5.2 RESPONSES TO SUBMISSIONS

Submissions and responses relating to land use and infrastructure for the pipelines are summarised in *Table 4.5.1*.

Table 4.5.1 Responses to submissions on the draft EIS

Issue raised	QCLNG Response	Relevant submission(s)
The supplementary EIS should commit to identifying the commercial timber and its management on state lands in consultation with Department of Environment and Resource Management (DERM) Forest Products at least 18 months before construction to allow time for salvaging.	See <i>Section 5.2.1</i> .	32
The values of the stock route network and the Project's possible effect on them should be assessed in detail and appropriate mitigation measures provided.	See <i>Section 5.2.3</i> .	32
This section should include conclusions about Queensland Rail standards for pipeline crossings.	See <i>Section 5.2.4.1</i> .	32

5.2.1 Millable Timber

Most areas mapped as remnant vegetation contain flora species that may have commercial timber value, as listed in *Table 4.5.2*. The majority of remnant vegetation areas where clearing may occur are fragmented and isolated, limiting the commercial viability of accessing and transporting extractable timber. There are, however, several contiguous linear strips of vegetation whose clearance may be commercially viable, such as in Braemar, Kumbarilla, Vickery, Daandine and Weranga state forests.

Preliminary discussions have been held with Department of Environment and Resource Management (DERM) Forest Products regarding the location of

infrastructure and areas where clearing may occur. No attempt has been made to calculate potential volumes of commercial timber or the viability of harvest.

As final details of clearing areas are developed, further discussions will be held with relevant regional groups within DERM Forest Products, including the Manager, Western Forest Management Area (FMA) and Manager, Cypress FMA. The Project schedule is unlikely to allow for negotiation or retrieval of commercial timber with DERM at least 18 months before construction begins.

Table 4.5.2 Species with potential commercial timber value

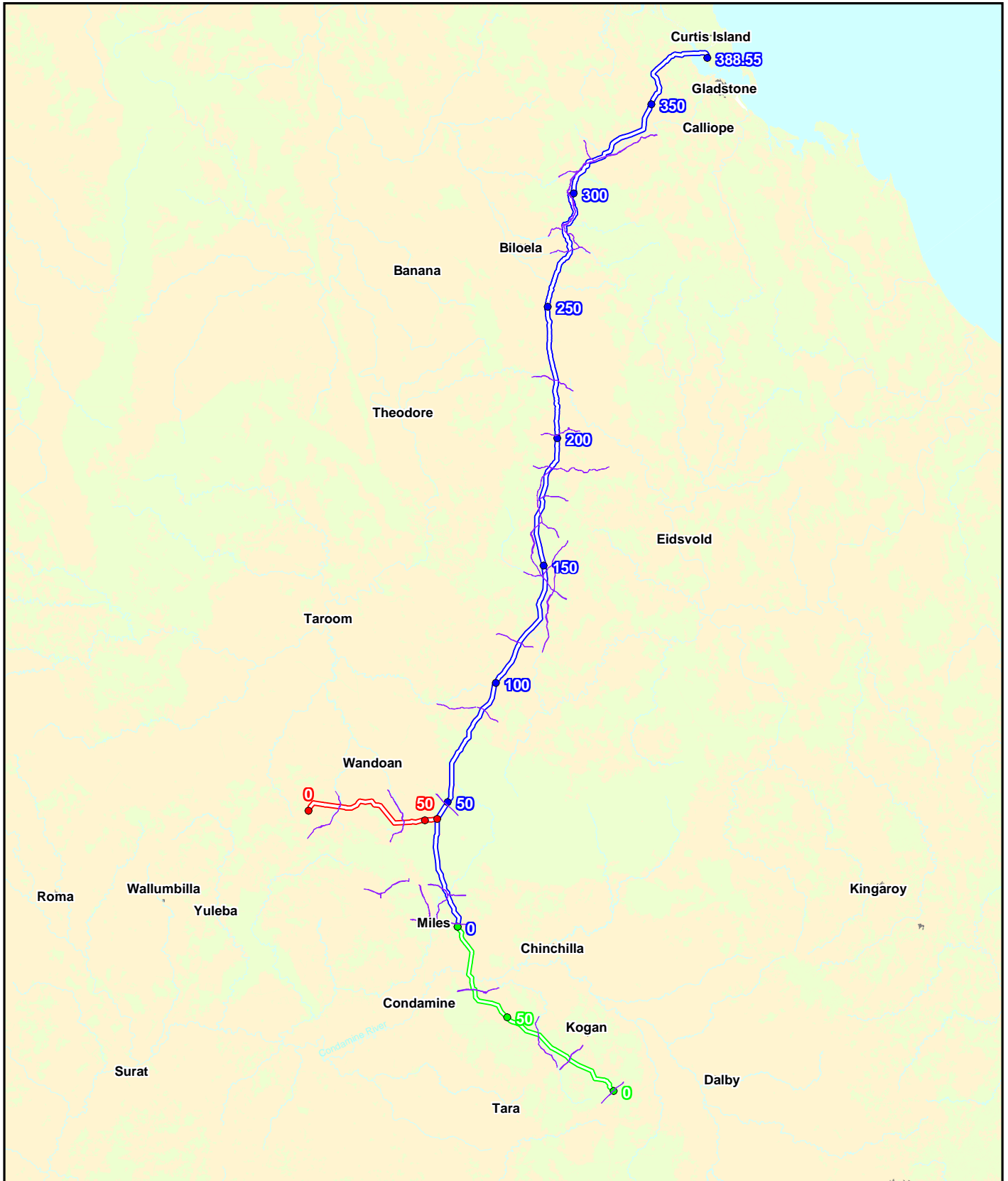
<i>Acacia harpophylla</i>	<i>Eucalyptus melanophloia</i>
<i>Angophora leiocarpa</i>	<i>Eucalyptus moluccana</i>
<i>Callitris glaucophylla</i>	<i>Eucalyptus orgadophila</i>
<i>Casuarina cristate</i>	<i>Eucalyptus pilligaensis</i>
<i>Corymbia citriodora</i>	<i>Eucalyptus populenea</i>
<i>Corymbia tessellaris</i>	<i>Eucalyptus tereticornis</i>
<i>Eucalyptus carnaldulensis</i>	<i>Lophosetmon suaveolens</i>
<i>Eucalyptus crebra</i>	<i>Melaleuca bracteata</i>
<i>Eucalyptus exserta</i>	

5.2.2 Quarries

The Project will affect no existing quarries on state land.

5.2.3 Stock Routes

Stock routes are regulated under Section 9 of the *Land Protection (Pest and Stock Route Management) Regulation 2003 (Qld)*. They can exist on various land tenures, including roads, reserves, pastoral leases and unallocated state land. Major stock routes are generally associated with roads. Stock routes and reserves located in the study areas are shown in *Figure 4.5.1*.



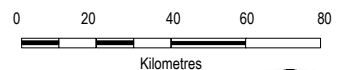
Legend:



- Export Pipeline & Kilometre Point
- Upstream Infrastructure Corridor & Kilometre Point
- Woleebee Creek Route & Kilometre Point
- Stock Routes

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Projection UTM MGA Zone 56 Datum GDA 94



 A BG Group business	Project Queensland Curtis LNG Project			Title Stock Routes
	Client QGC - A BG Group business			
 Environmental Resources Management Australia Pty Ltd	Drawn	Unidel	sEIS Volume ⁴ Figure S4.5.1	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
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	Date	10.12.09	Revision Supplementary	

Discussions have been held with DERM Rockhampton Region regarding potential impacts on reserves and watering points. Ongoing discussions will be held to develop mitigation measures as potential impacts on reserves and watering points become more defined.

Previous discussions with the DERM Stock Route Management Unit indicated there is no formal statutory approvals process for the assessment of potential impacts (temporary or permanent) of a Project on designated stock routes. Discussions will be held with the DERM Stock Route Management Unit and relevant local government authorities to ensure mitigation measures are developed so any temporary impacts are adequately managed. Where there are likely to be permanent impacts, such as restrictions in the width of stock routes, realignments or widening will be negotiated. Discussions will also include proposed vegetation rehabilitation methods and monitoring procedures.

5.2.4 ***Impacts***

5.2.4.1 ***Rail lines***

The pipelines will intersect five rail lines:

- Western rail line, intersected by the Export Pipeline and water Collection Header
- Wandoan branch rail line, intersected by the water Collection Header and the Woleebee Creek section of the gas Collection Header
- Moura short line, intersected by the Export Pipeline
- North Coast line, intersected by the Export Pipeline
- East End Mine branch line, intersected by the Export Pipeline.

A data file of the pipeline route will be provided to the relevant agencies to assist in their analysis of the pipeline impacts.

The depth of pipe under any rail crossing will be a minimum of 2 m under the full width of the rail reserve and trench-less techniques will be used. Any construction access pits will be outside the rail reserve.

5.3 CHANGES TO PROJECT DESCRIPTION

5.3.1 Description of Environmental Values

5.3.1.1 Land tenure

The Woleebee Creek gas Collection Header route traverses predominantly freehold lots. Only four leasehold lots have been identified along the route (see *Figure 4.5.2*). The alignment may be subject to variation during the finalisation process. The proposed route has been selected to avoid mining leases or mining lease applications.

Individual access and entry protocols will be agreed and documented for all landholders.

5.3.1.2 Land use

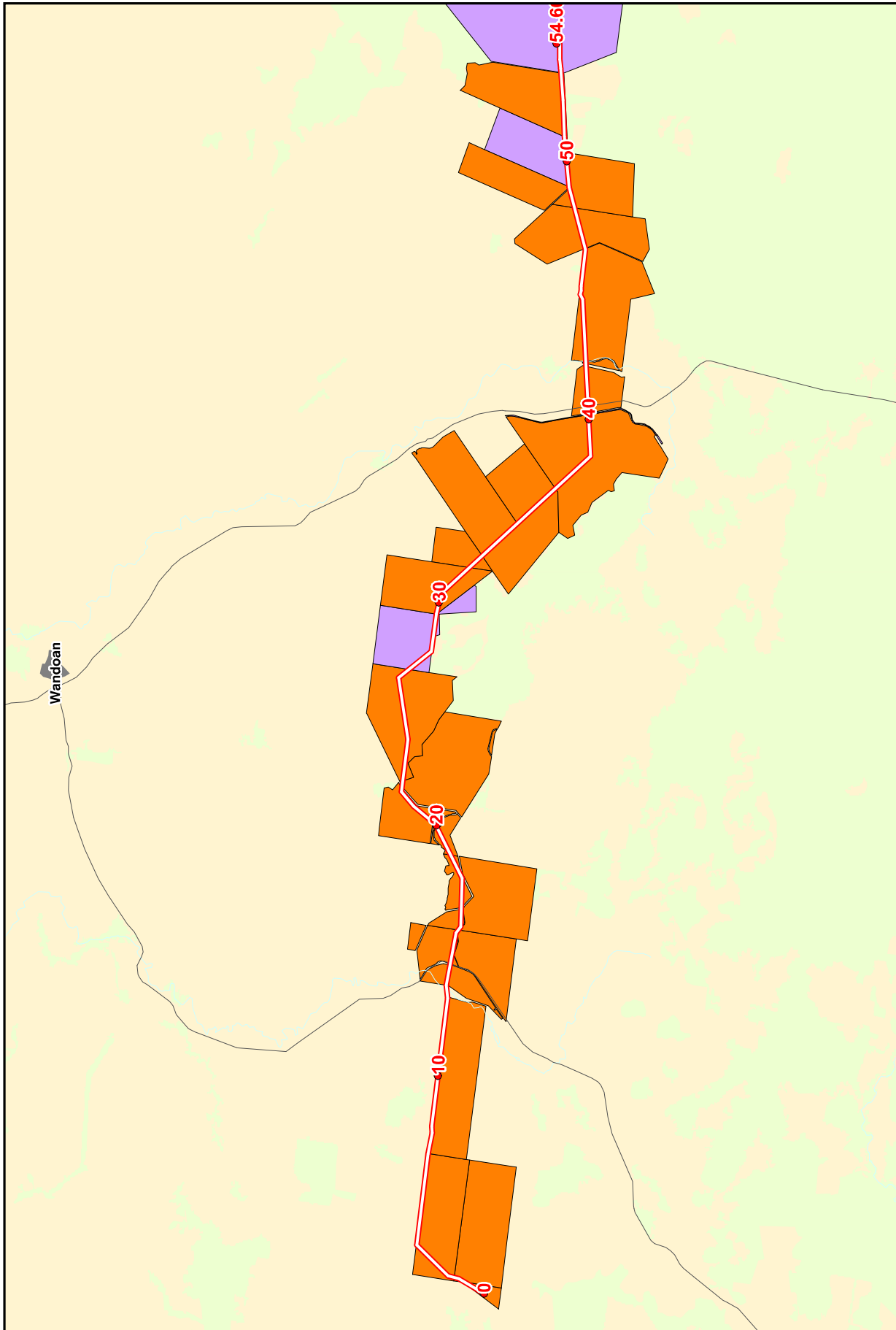
Satellite imagery, topographic maps and database searches have been used to identify the land uses, local authorities, townships, industrial areas, infrastructure and topography that will be traversed or have the potential to influence the route of the Woleebee Creek gas Collection Header.

The proposed route of the Woleebee Creek pipeline lies within the Western Downs Regional Council local government area (LGA). A description of the general land use in this LGA was provided in *Volume 4, Chapter 5* of the draft EIS under Dalby Regional Council, which has been renamed Western Downs Regional Council. Land use along the route of the Woleebee Creek gas Collection Header is shown in *Figure 4.5.3*. The area is predominantly cropping land with some mining tenures (see *Section 5.3.1.4*).

5.3.1.3 Native title

Native title claimant areas associated with the Woleebee Creek gas Collection Header route are shown in *Figure 4.5.4*.

The proposed route lies within the lands of the Mandandanji people, with whom negotiations have begun. These negotiations have been extended to encompass the route of the Woleebee Creek gas Collection Header.



Legend:



- Woleebee Creek Route
- Roads
- Free Hold Land
- Lease Hold Land

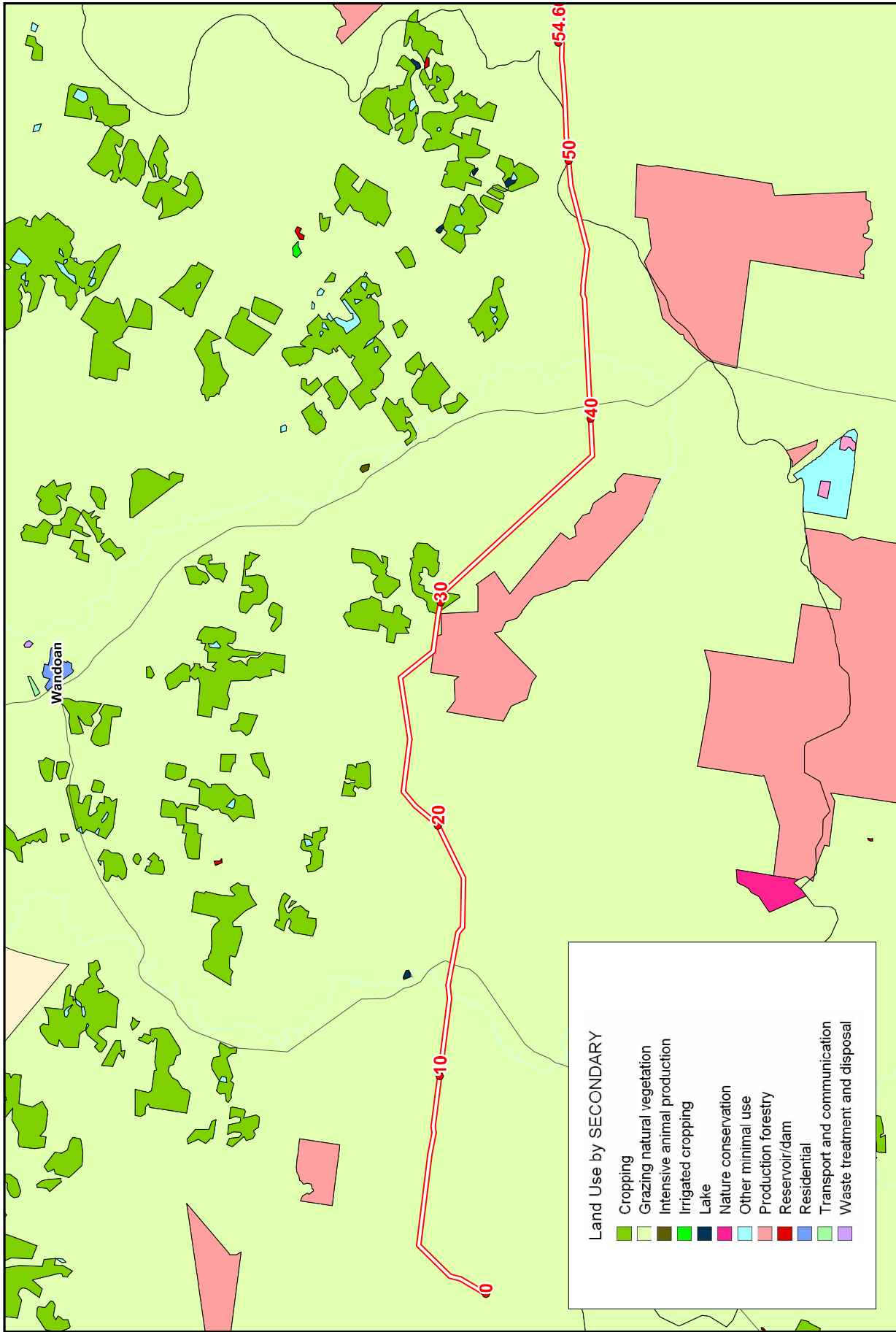
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Projection UTM MGA Zone 56
 Datum GDA94

0 3 6 9
 Kilometres

N

 A BG Group business	Project Queensland Curtis LNG Project		Title Woleebee Creek Land Tenure
	Client QGC - A BG Group business		
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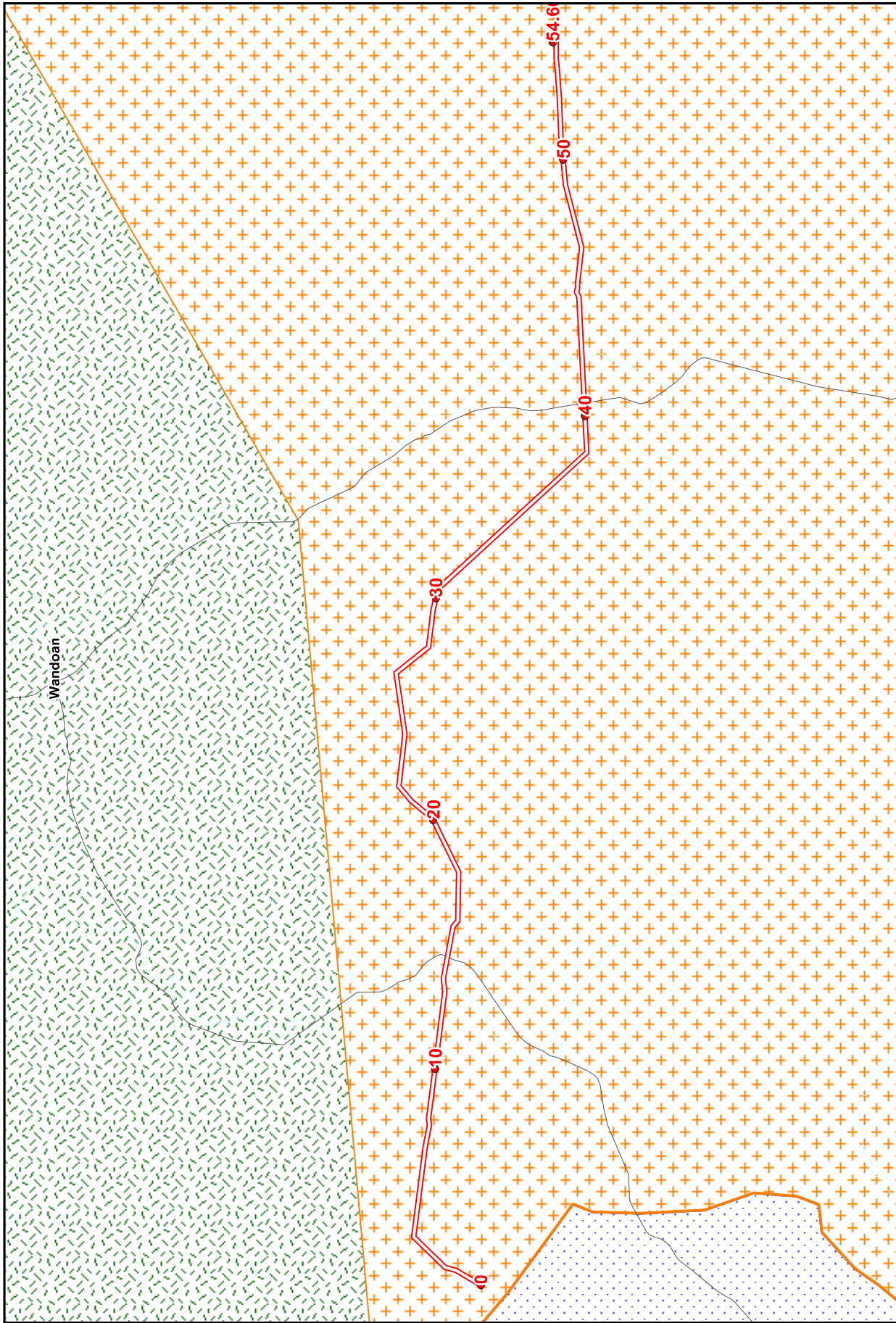
Projection UTM MGA Zone 56
 Datum GDA94
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 Kilometres
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Land Use by SECONDARY

- Cropping
- Grazing natural vegetation
- Intensive animal production
- Irrigated cropping
- Lake
- Nature conservation
- Other minimal use
- Production forestry
- Reservoir/dam
- Residential
- Transport and communication
- Waste treatment and disposal

Legend:
 Woleebee Creek Route
 Roads

 A BG Group business	Project Queensland Curtis LNG Project		Title Woleebee Creek Land Use Map
	Client QGC - A BG Group business		
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0 3 6 9
Kilometres

Legend:

- Woleebee Creek Route
- Roads
- Iman #2
- BCJWY
- Mandandanji



Project **Queensland Curtis LNG Project**

Client **QGC - A BG Group business**

Title **Woleebee Creek Native Title Claims**



Drawn Unidel **sEIS Volume 4 Figure S4.5.4**

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5.3.1.4 *Economic mineralisation and extractive resources*

A number of mining, petroleum and mineral exploration permits, leases or claims apply on the Woleebee Creek gas Collection Header route (see *Figure 4.5.5* and *Figure 4.5.6*). Many of the mining leases are still in the application and assessment stages. Land covered by mining permits, claims and leases is subject to the provisions of the *Minerals Resources Act (MR Act) 1989 (Qld)*. QGC has considered the MR Act in determining the proposed alignment of the Pipeline Component and consulted mining and exploration companies to determine the preferred route and accommodate current and future needs of the mining and extractive resource sector.

5.3.1.5 *Infrastructure*

The location of various types of infrastructure such as roads and railways near the proposed Woleebee gas Collection Header route are shown in *Figure 4.5.7*. The key roads intersected are the Jackson-Wandoan Road and the Leichhardt Highway. The route also intersects the Wandoan branch rail line.

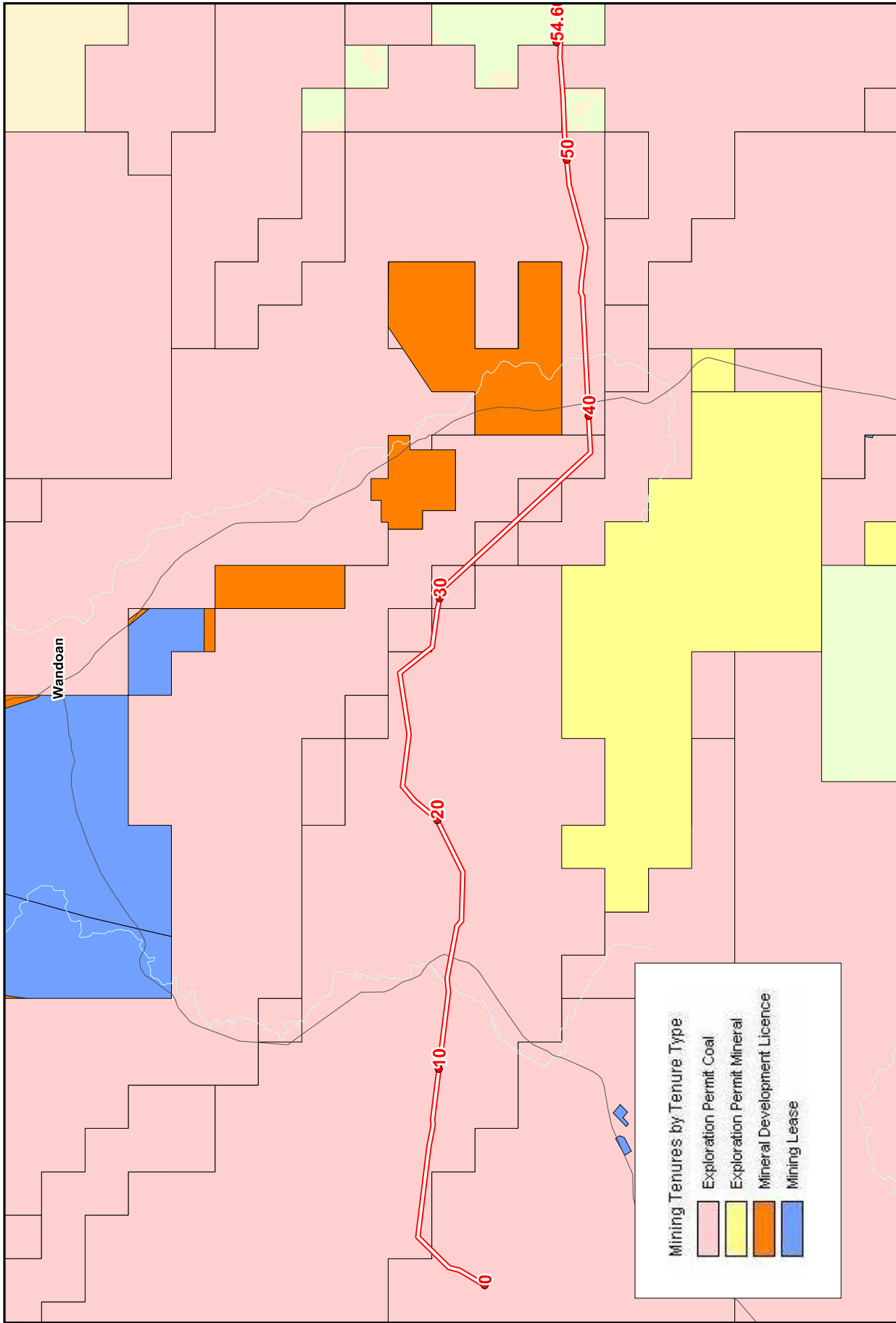
The depth of burial under road and rail lines is covered in *Volume 2, Chapter 12*. Such crossings will meet the requirements of the Department of Transport and Main Roads. The depth of burial will apply to the full width of the road or rail reserve. Crossings of the Leichhardt Highway and the Wandoan branch rail line will utilise trench-less techniques. Any construction access pits will be located outside the rail reserve.



5.3.1.6 *Residential and recreational areas*

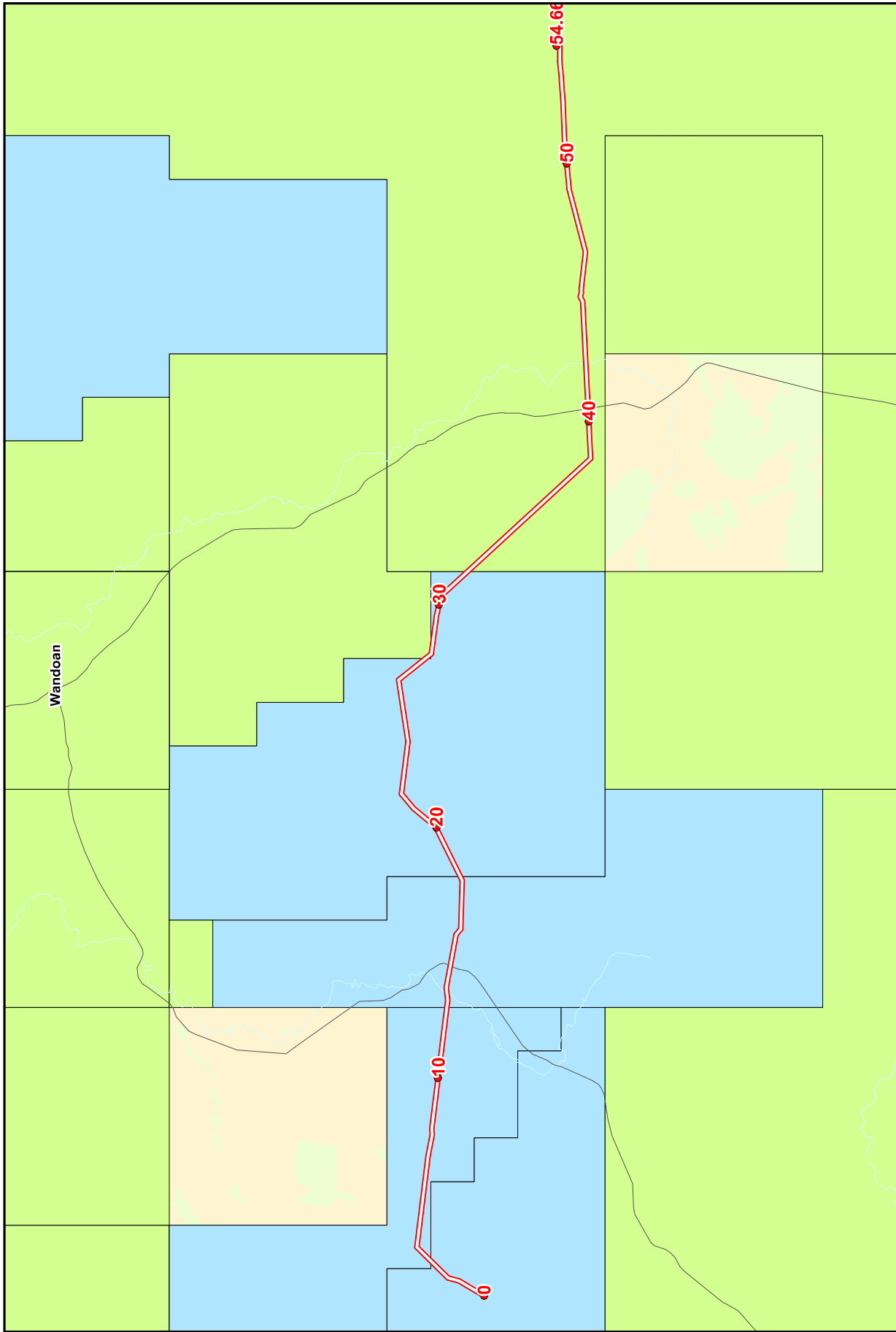
The Woleebee Creek pipeline route has been planned to largely avoid residential areas. The key residential and recreational areas along the route are associated with the townships shown in *Figure 4.5.8*. No designated recreational areas lie within the corridor of the Woleebee Creek gas Collection Header.

5.3.2 ***Potential Impacts and Mitigation Methods***

The Woleebee Creek gas Collection Header route is intended to avoid affecting existing land use and infrastructure. The proposed route does not create additional impacts or require additional mitigation measures over those proposed in the draft EIS.



 A BG Group business	Project Queensland Curtis LNG Project		Title Woleebee Creek Mining Tenures
	Client QGC - A BG Group business		
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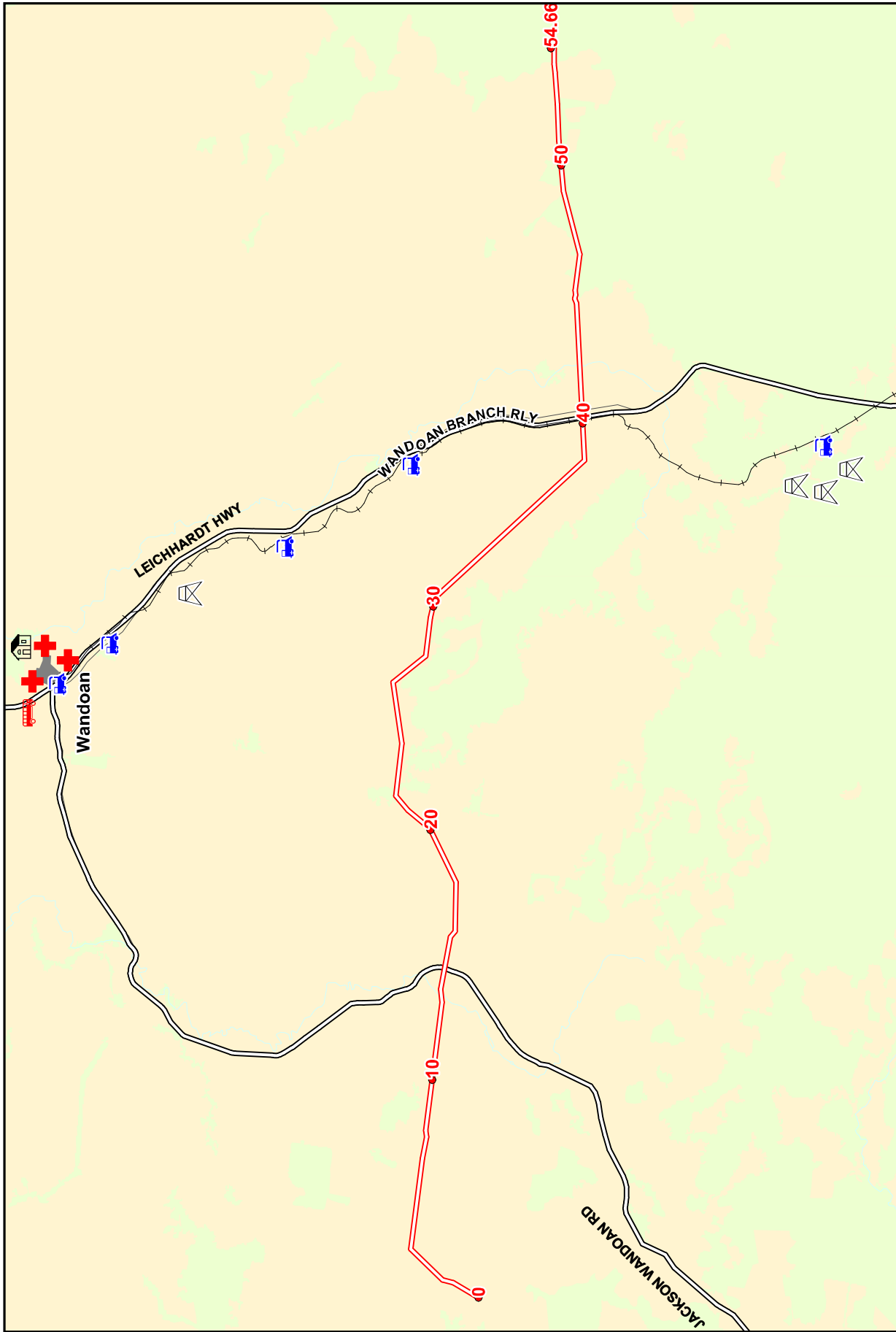
- Woleebee Creek Route
- Roads
- Exploration Permit Petroleum
- Petroleum Lease

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 Datum GDA94

0 3 6 9
 Kilometres

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 A BG Group business	Project Queensland Curtis LNG Project		Title Woleebee Creek Petroleum Tenures
	Client QGC - A BG Group business		
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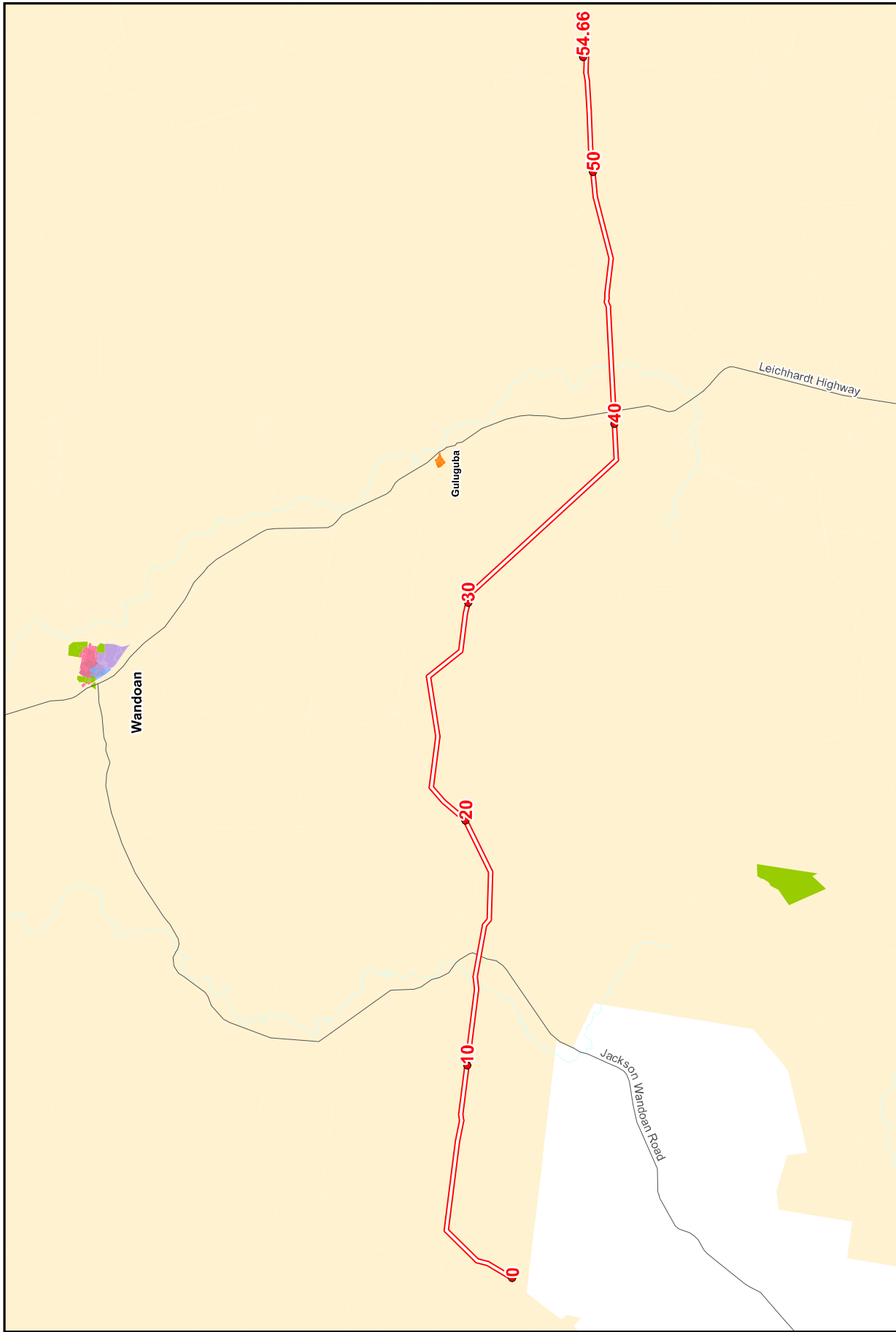
- Woleebee Creek Route
- Railways
- Roads
- Railway Stations
- Mine/Quarry
- Hospital/Ambulance Station
- Police Station
- Fire Brigade

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0 3 6 9
 Kilometres

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<p>QUEENSLAND CURTIS LNG A BG Group business</p>	Project Queensland Curtis LNG Project		Title Woleebee Creek Infrastructure Map
	Client QGC - A BG Group business		
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Legend:

- Woleebee Creek Route
- Roads
- Industrial
- Urban
- Commercial
- Open Space and Recreation
- Small Town
- Rural

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Projection UTM MGA Zone 56
Datum GDA94

0 3 6 9
Kilometres

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<p>QUEENSLAND CURTIS LNG A BG Group business</p>	Project Queensland Curtis LNG Project		Title Woleebee Creek residential and recreational areas.
	Client QGC - A BG Group business		
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