

CHAPTER

01

INLAND
RAIL 

Introduction

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT

**ARTC**

The Australian Government is delivering
Inland Rail through the Australian
Rail Track Corporation (ARTC), in
partnership with the private sector.

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1. Introduction

1.1 Overview

The Australian Government has committed to delivering the Inland Rail Program (referred to as Inland Rail), an interstate freight rail corridor between Melbourne and Brisbane, via central-west New South Wales (NSW) and Toowoomba in Queensland (QLD). Inland Rail is a significant piece of national transport infrastructure that will enhance Australia's existing rail network and serve the interstate freight market.

The Inland Rail route, which is approximately 1,700 kilometres (km) long, will involve:

- ▶ Using the existing interstate rail corridor through Victoria (VIC) and southern NSW
- ▶ Upgrading approximately 400 km of existing corridor, mainly in western NSW
- ▶ Providing approximately 600 km of new corridor in northern NSW and South East QLD.

Inland Rail has been divided into 13 projects. The wider Inland Rail Program is discussed further in Chapter 2: Project Rationale.

Further information on the Inland Rail Program can be found at inlandrail.com.au.

The justification, service offering, and benefits of the Inland Rail Program are discussed in Chapter 2: Project Rationale.

1.2 Proponent

ARTC was created after the Australian and State governments agreed in 1997 to form a 'one stop shop' for all operators seeking to access the national interstate rail network.

Since its formation, ARTC has focused on infrastructure investment and the modernisation of the rail network. This has extended to building and upgrading existing track to allow for the capacity that the market requires.

Today, ARTC plays a critical role in the transport supply chain and in the overall economic development of Australia. The ARTC network supports industries and businesses that are vital to the nation's economy by facilitating the movement of a range of commodities including general freight, coal, iron ore, other bulk minerals and agricultural products.

Across the network, ARTC is responsible for:

- ▶ Selling access to train operators
- ▶ Developing new business
- ▶ Capital investment in the network
- ▶ Managing the network
- ▶ Infrastructure maintenance.

As the operator and manager of Australia's national rail freight network, ARTC has successfully delivered more than \$5 billion in capital upgrades to the national rail freight network. Having emerged from this period of significant investment and network growth, ARTC has now been tasked with developing a program to deliver Inland Rail under the guidance of the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC).¹

ARTC have incurred two penalties in NSW relating to minor environmental incidents including:

- ▶ NSW Environmental Protection Authority Penalty Notice to ARTC dated 29 May 2012 for discharge of sediment-laden water at Allandale (Maitland to Minimbah Third Track Project) = \$1,500
- ▶ NSW Environmental Protection Authority Penalty Notice to Transport Express Joint Venture (operating under ARTC Environment Protection Licence) dated 5 March 2012 for sediment and erosion control issues at Sawtell = \$1,500.

ARTC have not incurred any other environmental prosecutions within the last 10 years.

ARTC also previously entered a Voluntary Enforceable Undertaking with the Commonwealth Department of the Environment and Energy (DotEE) (now Department of Agriculture, Water and the Environment (DAWE)) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2011.

Contact details for the Inland Rail Program are as follows:

Inland Rail
Australian Rail Track Corporation
ABN: 75 081 455 754
Level 16, 180 Ann Street
Brisbane QLD 4000

GPO Box 2462
Brisbane QLD 4001

Telephone: 1800 732 761

Further information on ARTC can be found at: artc.com.au.

ARTC operates under an Environment Policy and a Safety Policy. Furthermore, ARTC has developed the Inland Rail Environment and Sustainability Policy, which establishes aims and objectives for environment, social performance, stakeholder engagement and economic outcomes for communities. Copies of these policies are provided in Appendix F: Corporate Policies.

Details of the experience and qualifications of consultants and subconsultants engaged by ARTC to complete the draft Environmental Impact Statement (EIS) are provided in Appendix D: Study Team.

1. Department and Minister titles current at the time of writing.

1.3 The Project

ARTC proposes to construct and operate the Calvert to Kagaru (also referred to as the Project) section of the Inland Rail Program. This section consists of approximately 53 km of single-track, dual-gauge greenfield railway with four crossing loops. It will initially be constructed for 1,800 metre (m) long double-stacked trains and designed so that the future extension of some crossing loops to accommodate 3,600 m trains is not precluded.

The Project is one of the 'missing links' within the Inland Rail Program.

The Project design responds to key environmental features and has been developed in line with engineering constraints to produce a feasible rail design. The rail design is based on minimising environmental and social impacts, minimising disturbance to existing infrastructure and meeting engineering design criteria.

The estimated capital expenditure for the Project is approximately \$648 million². This is due to significant infrastructure elements including bridge structures and earthworks required along the undulating topography and the requirement for a tunnel for the Teviot Range crossing.

The objectives of the Project are to:

- ▶ Provide rail infrastructure that meets the Inland Rail Program specifications, to enable trains using the Inland Rail corridor to travel between Calvert and Kagaru, connecting with other sections of Inland Rail to the north and south
- ▶ Minimise the potential for adverse environmental and social impacts.

The objectives of the Inland Rail Program as a whole are to:

- ▶ Provide a rail link between Melbourne and Brisbane that is interoperable with train operations to Perth, Adelaide and other locations on the standard-gauge rail network. This will serve future rail freight demand and stimulate growth for inter-capital and bulk rail freight
- ▶ Deliver an increase in productivity that will benefit consumers through lower freight transport costs
- ▶ Provide a step-change improvement in rail service quality in the Melbourne to Brisbane corridor and deliver a freight rail service that is competitive with road
- ▶ Improve safety, alleviate congestion and reduce environmental impacts by moving freight from road to rail
- ▶ Bypass bottlenecks within the existing metropolitan rail networks and free up train paths for other services along the coastal routes

2. The EIS includes an estimated capital cost profile of approximately \$648 million, consistent with the *Inland Rail Programme Business Case* (ARTC, 2015a) and is an estimate of direct construction costs—including, but not limited to: delivering environmental and heritage commitments; fencing and earthworks; tunnels and tunnel services; formation and roadworks; structures; track works (loops and crossings); delivery works (incidentals and utilities); and supply of track, sleepers and turnouts.

The Project is expected to represent an investment of up to \$1.2 billion—this figure includes both direct construction costs and indirect costs. Indirect costs include items such as: design services, Contractor overhead and margins, contingency, and escalation.

The total investment figure also includes ARTC Program costs such as project management, train control systems, property requirements and insurances.

The total investment figure makes provision for expected Project contingency and risk.

Further detail on the economic impact assessment is located in Chapter 17: Economics and Appendix S: Economic Impact Assessment Technical Report.

- ▶ Act as an enabler for regional economic developments along the Inland Rail corridor.

Further information on the Project is provided in Chapter 6: Project Description.

1.3.1 Location

The Project is located within the Ipswich City Council (ICC), Logan City Council (LCC) and Scenic Rim Regional Council (SRRC) local government areas (LGAs) in South East QLD. The location of the Project and its regional context is shown in Figure 1.1.

The Project will generally be located within the existing Southern Freight Rail Corridor (SFRC), which was protected in November 2010 as future railway land under Section 242(1) of the *Transport Infrastructure Act 1994* (Qld) (TI Act).

The Project provides a link between the adjacent Inland Rail projects of:

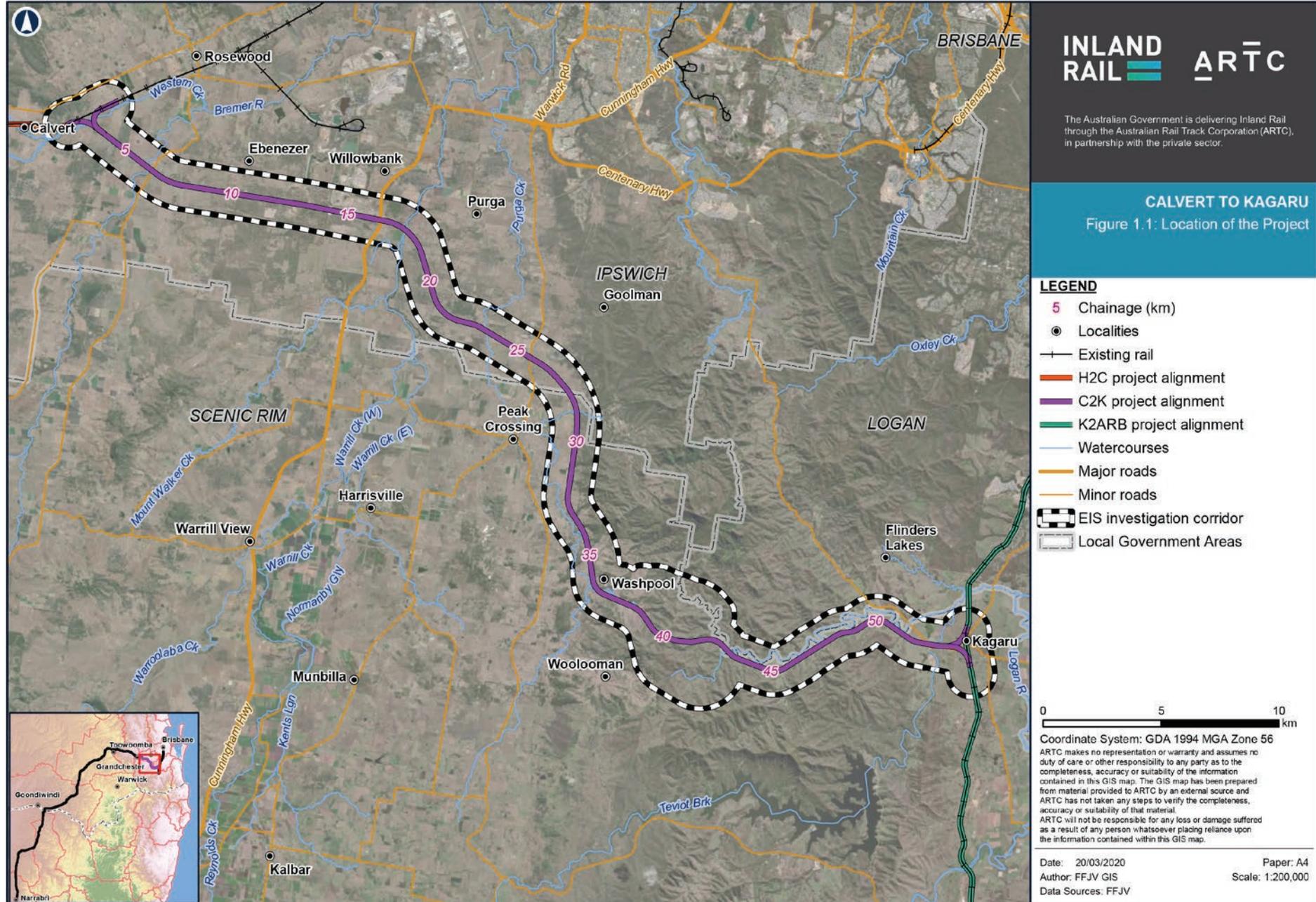
- ▶ Helidon to Calvert (H2C) project in the north-west, where it connects to the Queensland Rail (QR) West Moreton System near Calvert
- ▶ Kagaru to Acacia Ridge and Bromelton (K2ARB) project to the south-east where it connects to the existing operational Sydney to Brisbane interstate railway line at Kagaru.

The EIS investigation corridor shown in Figure 1.1 was defined in the *Southern Freight Rail Corridor Study* (AECOM, 2010a). The aim of the study was to identify a future route for a freight rail corridor connecting the western rail line near Calvert to the interstate railway north of Beaudesert. The area of investigation encompassed a 55 km long and 2 km wide corridor of interest that was based on previous preliminary studies undertaken in 2005 by Maunsell Australia, which looked at potential routes at a broad level. Both of these studies are discussed further in Chapter 2: Project Rationale.

Due to constraints in some areas, these investigations were extended beyond the original corridor of interest. For example:

- ▶ Through Ebenezer the corridor was realigned for 12 km to minimise clearing of koala bushland habitat
- ▶ In the eastern end of the corridor near Kagaru, the mountainous Teviot Range region and the floodplain areas near Washpool Road were subject to multi-criteria analyses (MCA) that considered alternative alignments and, therefore, the investigation areas are significantly wider in these locations.

The MCA and comparative cost estimates that were undertaken as part of the EIS and design development processes are discussed further in Chapter 2: Project Rationale.



Based on the investigation corridor and the proposed alignment, study areas have been defined for each of the environmental aspects assessed in Chapter 8 through to Chapter 21, for example surface water, flora and fauna and air quality. These study areas are specific to the environmental aspect being assessed and are therefore defined based on the nature of the environmental aspect and the scale, type and duration of project elements that may impact on that value. Study area descriptions for each of the environmental aspects investigated are included in the methodology sections of Chapters 8 to Chapter 21.

1.3.2 Key features

The Project consists of the key permanent and temporary features listed in Table 1.1.

The disturbance footprint has been established to encompass all permanent infrastructure required for the Project. Permanent features include the new rail track, tunnel, bridges, drainage structures, level crossings, road realignments, crossing loops and turnouts, fencing and signage.

The disturbance footprint also includes land required on a temporary basis to enable construction of the Project, including for construction laydown areas, temporary erosion control structures and movement of construction traffic parallel to the rail alignment.

Further information about the location and description of the Project is detailed in Chapter 6: Project Description and Figure 6.4.

TABLE 1.1: KEY FEATURES OF THE PROJECT

Aspect	Description
Permanent features	
Rail corridor	▶ Establishment of approximately 53 km of new single-track, dual-gauge railway within a new rail corridor.
Tunnel	▶ Construction of an approximately 1,015 m long tunnel through the Teviot Range.
Crossing loops and turnouts	▶ Crossing loops are places on a single-line track where trains in opposing directions can pass each other. Four crossing loops will be constructed as part of the Project, each a minimum of 2,200 m in length. ▶ Turnouts allow the train to be guided from one section of track to another. Turnouts that tie in to the West Moreton System and the existing operational Sydney to Brisbane interstate railway line at the Project boundaries are included as part of the Project.
Bridges	▶ Bridges to accommodate topographical variation, crossings of waterways or other infrastructure such as roads.
Drainage	▶ Reinforced concrete pipe culverts and reinforced concrete box culverts. Scour protection measures will generally be installed around culverts to avoid erosion.
Rail crossings	▶ Rail crossings including level crossings, grade separations/rail or road overbridges, occupational/private crossings and fauna crossing structures.
Ancillary works	▶ The construction of associated rail infrastructure including maintenance sidings and signalling infrastructure to support the Advanced Train Management Systems (ATMS). ▶ Ancillary works include level crossings, signalling and communications, signage and fencing, drainage works, and installation or modification of services and utilities within the rail corridor.
Environmental treatments	▶ Fauna fencing and crossings.
Construction features	
Land	▶ The land required for the Project comprises a rail corridor with a minimum width of 40 m. Wider sections of corridor are required to accommodate earthworks, drainage structures, rail infrastructure, access tracks and fencing. ▶ The corridor will extend to a maximum width of 340 m in the undulating terrain between the eastern end of the tunnel and the Undullah Road crossing. The corridor is generally wider through this area due to large earthwork cut and fill sections, and the allowance for a tunnel access road to the eastern portal, as well as drainage structures, rail infrastructure, access tracks and fencing. ▶ Although ARTC are applying for approval to build infrastructure to accommodate trains up to 1,800 m in length, infrastructure will be designed such that the future extension of some crossing loops to accommodate 3,600 m trains is not precluded. ARTC intend to acquire the land for the future 3,600 m crossing loop extension with the initial land acquisition; however, the approval for the construction of future 3,600 m crossing loops will be subject to a separate approval process in the future. This assessment is based on 1,800 m train lengths.

Aspect	Description
Land (continued)	<ul style="list-style-type: none"> ▶ Temporary tracks will be used to access construction sites. Where required, temporary tracks will be retained to serve as rail maintenance access roads (RMAR) during Project operations. ▶ Land requirements for construction will include temporary workspace, site offices and laydown facilities. ▶ Laydown areas will be located approximately every 5 km (avoiding 1% Annual Exceedance Probability (AEP) floodplains where possible). Larger sites will be located approximately every 20 km. ▶ Approximately 2,500 square metres (m²) of laydown areas to support bridge construction will be provided. ▶ Additional laydown areas will also be required for flash-butt welding and rail assembly with a minimum area of 1,000 m x 200 m.
Embankments and cuttings	▶ Embankments and cuttings will be required along the length of the alignment.
Material sourcing	▶ Use of established quarries for construction materials.

1.3.3 Timing and operation

Construction is planned to commence in late 2021; however, a number of factors could potentially impact the Project and delay the start of construction to 2022. The Project will be operational when all 13 sections of the broader Inland Rail Program are complete. The Project will be managed and maintained by the proponent; however, train services will be delivered by a variety of operators.

When Inland Rail starts operation, it is anticipated that the Project will be used by an average of 33 train services per day, increasing up to 47 train services per day in 2040.

1.4 The Environmental Impact Statement process

The Project was declared a 'coordinated project for which an EIS is required' by the Coordinator-General on the 16 June 2017 under Section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWO Act). The Terms of Reference (ToR) for the Project sets out the matters that the proponent must address in the EIS (refer Appendix A: Terms of Reference). The Coordinator-General evaluates the Project's environmental impacts based on the information provided in the EIS and from submissions received during the public notification process. This declaration initiates the statutory environmental impact assessment procedure detailed in Part 4 of the SDPWO Act, which requires a proponent to prepare an EIS for the Project.

On 21 June 2017, the Australian Government Minister for the Environment determined the Inland Rail Project, Calvert to Kagaru—Queensland is a 'controlled action' under the EPBC Act (reference number EPBC 2017/7944).

The SDPWO Act EIS process has been accredited under the bilateral agreement for the assessment of the Project under Section 45 of the EPBC Act. The EIS must state the controlling provision for the Project and

describe the particular aspects of the environment that led to the controlled action decision.

The controlling provisions are threatened species and communities (refer Appendix K: Matters of National Environmental Significance Technical Report for further detail).

The key benefits of ARTC gaining a coordinated project declaration are:

- ▶ To provide the public with the opportunity to comment and provide input into the ToR for the EIS and, following its development, on the draft EIS
- ▶ To have an independent and transparent social, economic and environmental evaluation of the Project undertaken by the Coordinator-General
- ▶ To provide the opportunity for an efficient assessment of EPBC Act matters in accordance with the QLD and Australian governments' EPBC Act bilateral assessment agreement.

For all relevant matters, the EIS identifies and describes the environmental values that must be protected as specified in Section 9 of the *Environmental Protection Act 1994* (Qld) (EP Act), the Environmental Protection Regulation 2019 (Qld), environmental protection policies, water resource plans, *State Planning Policy*, relevant guidelines and the EPBC Act.

Chapter 3: Project Approvals summarises the key Commonwealth and State legislation, and local government plans and policies and how they relate to approvals necessary for the planning, construction, operation and decommissioning phases of the Project. Chapter 3: Project Approvals also tables the potential post-EIS approvals, providing the triggers for each approval, the relevant administering authority and whether potential exemptions are available to the Project and ARTC. Approval and permit requirements may vary depending on the final design and construction methodology, and future changes in statutory requirements prior to the Project's implementation.

1.5 Objectives of the Environmental Impact Statement

The objectives of the EIS are to:

- ▶ Provide information to stakeholders and the public on the need for the Project, alternatives to it and proposed construction methods
- ▶ Document the potential impacts to the natural, social and economic environment
- ▶ Describe the expected benefits and opportunities associated with the Project
- ▶ Demonstrate how adverse impacts can be avoided, mitigated and managed, or where offsets for significant residual impacts are required
- ▶ Present a Draft Outline Environmental Management Plan to demonstrate practical implementation of construction environmental management measures
- ▶ Present sufficient information to support post-EIS approvals.

1.6 Structure of the Environmental Impact Statement

This EIS supports an application for approval of the Project under Section 26(1)(a) of the SDPWO Act. It addresses the ToR for an environmental impact statement: Inland Rail—Calvert to Kagaru Project December 2017 (refer Appendix B: Terms of Reference Compliance Table). The Project is also a controlled action under the EPBC Act and requires approval from the Australian Government Minister for the Environment.

The EIS comprises:

- ▶ Chapters describing the EIS process, the Project, identified environmental, social or economic aspects, environmental values, potential impacts and mitigation measures (refer Table 1.2 for EIS chapter structure)
- ▶ Appendices supporting the chapters, including the ToR, management plans and specialist technical reports on identified environmental, social and economic aspects (refer Table 1.3 for EIS appendix structure).

TABLE 1.2: ENVIRONMENTAL IMPACT STATEMENT CHAPTER STRUCTURE

Chapter	Title
0	Executive Summary
1	Introduction
2	Project Rationale
3	Project Approvals
4	Assessment Methodology
5	Stakeholder Engagement
6	Project Description
7	Sustainability
8	Land Use and Tenure
9	Land Resources
10	Landscape and Visual Amenity
11	Flora and Fauna
12	Air Quality
13	Surface Water and Hydrology
14	Groundwater
15	Noise and Vibration
16	Social
17	Economics
18	Cultural Heritage
19	Traffic, Transport and Access
20	Hazard and Risk
21	Waste and Resource Management
22	Cumulative Impacts
23	Draft Outline Environmental Management Plan
24	Conclusion
25	Glossary and Abbreviations
26	References

TABLE 1.3: ENVIRONMENTAL IMPACT STATEMENT APPENDIX STRUCTURE

Chapter	Title
A	Terms of Reference
B	Terms of Reference Compliance Table
C	Consultation Report
D	Study Team
E	Proponent Commitments
F	Corporate Policies
G	Impacted Properties
H	EMR Searches and Laboratory Certificates
I	Landscape and Visual Impact Assessment Technical Report
J	Terrestrial and Aquatic Ecology Technical Report
K	Matters of National Environmental Significance Technical Report
L	Air Quality Technical Report
M	Surface Water Quality Technical Report
N	Hydrology and Flooding Technical Report
O	Groundwater Technical Report
P	Non-operational Noise and Vibration Technical Report
Q	Operational Railway Noise and Vibration Technical Report
R	Social Impact Assessment Technical Report
S	Economic Impact Assessment Technical Report
T	Non-Indigenous Heritage Technical Report
U	Traffic Impact Assessment Technical Report
V	Spoil Management Strategy

1.7 Submissions on the EIS

Any person, group or organisation can make a submission about the Project’s EIS to the Office of the Coordinator-General during the public notification period. Any properly made submissions must be accepted by the Coordinator-General and considered in evaluating the EIS.

Under the SDPWO Act, a ‘properly made’ submission must:

- ▶ Be made in writing
- ▶ Be received on or before the last day of the submission period
- ▶ Be signed by each person who makes the submission

- ▶ State the name and address of each person who makes the submission
- ▶ State the grounds of the submission and the facts and circumstances relied on in support of those grounds.

A person wishing to make a submission about the EIS should also:

- ▶ Clearly state the matter(s) of concern or interest and list points to help with clarity
- ▶ Reference the relevant section(s) of the EIS
- ▶ Ensure the submission is legible.

Submissions that do not meet the necessary requirements listed under the SDPWO Act may not be accepted by the Coordinator-General. However, the Coordinator-General may also accept and consider submissions that are not properly made.

Any submissions regarding this EIS should be addressed to:

The Coordinator-General
C/- EIS Project Manager—
Inland Rail, Calvert to Kagaru
Coordinated Project Delivery
Office of the Coordinator-General
PO Box 15517
CITY EAST QLD 4002

Submissions can also be made electronically at the following email address:

inlandrailc2k@coordinatorgeneral.qld.gov.au

Electronic submissions are still required to meet the properly made requirements of the SDPWO Act.

For further enquiries, please contact
Telephone: 13 QGOV (13 74 68)

At the end of the public notification period, the Coordinator-General considers all properly made submissions to determine whether the proponent is required to prepare additional information to address issues raised during the notification period. Public notification of any additional information provided is at the Coordinator-General’s discretion. Properly made submissions on the EIS (and additional information) are part of the material that must be given consideration in the Coordinator-General’s assessment of the Project, including recommendations and conclusions about environmental impacts and mitigation strategies.

Any submitter of a properly made submission in response to the EIS will have submitter appeal rights in relation to any subsequent ‘impact assessable’ development application under the *Planning Act 2016* (Qld).