



Stockinbingal to Parkes Lachlan River Bridge Modification

Review of Environmental Factors

ACKNOWLEDGEMENT OF COUNTRY

Inland Rail acknowledges the Traditional Custodians of the land on which we work and pay our respect to their Elders past, present and emerging.

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Front cover and back cover: LACHLAN RIVER BRIDGE

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Lachlan River snakes through the town of Forbes

Stockinbingal to Parkes key elements



enhancing sites along the 170.3km of existing rail corridor



1 new crossing loop



clearance and safety works at Milvale and Quandialla Water Tanks 4 sites requiring track slews or structure modification along the alignment



increasing vertical clearances on 2 bridges





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Lachlan River Bridge Modification site



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Summary of findings

The enhancement works along the Stockinbingal to Parkes corridor is split into four Review of Environmental Factors (REF) packages. The REF on Lachlan River Bridge Modification is now available for public review.

Inland Rail – Stockinbingal to Parkes Project

The Inland Rail Program is divided into 13 individual projects spanning 1,700 kilometres connecting Melbourne and Brisbane via central-west New South Wales (NSW).

The Program will deliver a resilient rail service in the Melbourne to Brisbane corridor to ensure a freight rail service that is competitive with road. The Stockinbingal to Parkes section is an enhancement project of Inland Rail. It is 170.3 kilometres of existing rail corridor in regional NSW. Enhancement works are needed within the rail corridor between Stockinbingal and Parkes to accommodate double-stacked freight trains up to 1,800 metres long and 6.5 metres high.

These enhancement works have been split into four Review of Environmental Factors (REF) packages:



horizontal clearances at Milvale (clearance work), Bribbaree (track realignment), Quandialla (clearance work), Caragabal and Wirrinya (track realignment) and Forbes Station (clearance works and track realignment)



 clearance works at Lachlan River Bridge



track lowering at Wyndham Avenue bridge



 a new crossing loop at Daroobalgie.

Enhancing the existing rail infrastructure as proposed will achieve the clearances required for Inland Rail and minimise environmental and community impacts by maximising the existing rail corridor.

Track realignments, also known as track slews, are where tracks will be moved sideways to provide clearances between tracks.

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Purpose of this 'Summary of findings'

A Review of Environmental Factors (REF) has been prepared to describe the proposed Lachlan River Bridge Modification and is now available for public comment.

A REF is undertaken to meet the requirements of Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). ARTC may self-approve and undertake the activity in accordance with the REF.

The REF includes:

- > a description of the Proposal
- summarises the community and stakeholder consultation undertaken, as well as proposed future consultation
- assesses the Proposal's likely impacts on the environment
- identifies management and mitigation measures to reduce the likely impacts during construction and subsequent operation of the Proposal.

The REF is conducted in accordance with ARTC's *Code* of *Practice for Environmental Impact Assessment of Development Proposals in NSW* and is a thorough and comprehensive document that takes into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of the Proposal.



Have your say

ARTC has chosen to place the Review of Environmental Factors for the Stockinbingal to Parkes Lachlan River Bridge Modification on public exhibition to seek feedback on the Proposal, possible environmental effects and the intended management measures.

The public review and comment period is from **3 to 24 February 2022.** During this time you can submit a response to ARTC online or by post.

You can view the REF on the Inland Rail website **inlandrail.com.au** or request a USB copy to be posted to you.

Submissions regarding this REF should be addressed to:

S2P Public Exhibition Submission Inland Rail, GPO Box 2462 BRISBANE QLD 4001

Submissions can also be made electronically by emailing inlandrailnsw@artc.com.au. Please include "S2P Public Exhibition Submission" as the subject line.

Properly made submissions must be in writing, signed by the writer(s), with the name and address of each writer clearly stated. Please note, electronic submissions are still required to meet the properly made requirements.

For further enquiries, please call ARTC Inland Rail **1800 732 761.**

ARTC help is available

If you're unable to access the REF or supporting documents, please contact ARTC Inland Rail on **1800 732 761.**

If you need help with reading, or if English is your second language, please call **13 14 50.** This free service will help you read this document and other relevant Proposal information.



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Introduction

The Australian Government has committed to delivering Inland Rail, a significant piece of national transport infrastructure that will enhance Australia's existing rail network and serve the interstate freight market.



The Lachlan River Bridge Modification Proposal

The Proposal is a modification of the Lachlan River Bridge in Forbes, NSW to provide the clearance required for double-stacked freight trains.

Spanning the Lachlan River, the existing rail bridge dates back to 1918 and underwent upgrades in 1996. The height of the truss structure does not provide sufficient vertical clearance for double-stacked freight trains and sections of the handrail encroach on horizontal clearance.

The proposed modification involves removing metal sections from along the top of the structure and installing new angled frames to maintain structural integrity.

The Proposal is a critical component of Inland Rail, which is needed to respond to the growth in demand for freight transport, as well as minimise environmental and community impacts by maximising use of the existing rail corridor.

The location

The Lachlan River Bridge is located south of the Forbes township, about two kilometres south-east of Forbes Station.



Want to know more? See:

Chapter 1: Introduction

The Proponent

Australian Rail Track Corporation (ARTC) has a 10-year program to deliver Inland Rail by 2027.

ARTC is an Australian Government owned statutory corporation that manages more than 8,500 kilometres of rail network across five states.

As the operator and manager of Australia's national rail freight network, ARTC is responsible for selling access to the rail network, capital investment, and developing new business.

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Project timeline

Pre-construction and early works on the Stockinbingal to Parkes Project are scheduled to commence in 2022. The Lachlan River Bridge modification works are scheduled to start and finish in 2024.



*Timeframes are indicative and are subject to change



The Lachlan River Bridge will be modified

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Proposal description

ARTC is seeking to modify the Lachlan River Bridge in Forbes, NSW to provide the clearance required for double-stacked freight trains.

Proposed design

Lachlan River Bridge modification works include:

ELEMENTS	WORKS DESCRIPTION
Bridgeworks	Installation of frames and strengthening of the bridge is required to ensure the structural integrity of the bridge is not compromised due to removal of existing sections of the truss structure.
Utilities	Supports on the existing water main attached to the bridge would be modified if required, in consultation with Forbes Shire Council.

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Want to know more? See:

Chapter 2: Proposal description



3D image of Lachlan River Bridge modification

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Site establishment and access

Set up ARTC rail site protection requirements, installation of site fencing and temporary signage for restricted site access and compound sites, establishing environmental controls, undertaking vegetation clearing for the site, establishing a crane pad and laydown area. For safety, an exclusion zone will be established in the Lachlan River.



Bridge works

Installing scaffolding and temporary bracing, drilling, removing lead-based paint, removing metal sections, installation of new sections and frames, removing temporary bracing, patch painting.



Demobilisation and rehabilitation

Removal of crane pad, decommissioning of site compounds, rehabilitating disturbed areas. Introduct

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Construction

Construction of the Proposal will include a range of activities and is expected to last for about 12 weeks, to commence in early 2024.

Equipment

In addition to light vehicles, survey equipment and hand tools, typical construction plant and equipment to be used include:

- hi-rail elevated work platform
- hi-rail crane truck
- mobile crane
- grinder
- vacuum sheathed drills
- self-contained abrasive blasting unit
- temporary access scaffolding
- rattle guns
- > grader
- roller
- welding equipment
- small excavator
- drilling equipment
- > painting equipment.

Construction hours

The construction program, where practicable, will be based on standard hours for general construction activities:

Monday to Friday – 7.00am to 6.00pm

Saturday – 8.00am to 1.00pm

No work on Sundays or public holidays.

Most work will occur during nine to 16-hour rail track possessions, up to five times per week. Track possessions will include some periods of work outside of standard hours depending on train timetables.

A track possession is a period when trains are suspended allowing for safe rail construction or maintenance work. Work outside of standard hours will only be undertaken with ARTC approval and the local community will be consulted.

Workforce

Workforce on site for the Proposal is estimated to peak at 15.

Site access and compounds

A crane pad, temporary compounds and material laydown areas have been identified north of the Lachlan River Bridge.

Site access is proposed from Bathurst Street and Lower Bathurst Street with some light vehicle access from Wandary Lane to the south. The site compounds will be used for safe storage of material and equipment.

No land will be permanently acquired for the Proposal.

Operations

Operational activities will include:

- continued use of the railway for freight purposes with double-stacked trains
- operation and maintenance of safety systems
- signalling
- > general track and infrastructure maintenance.

Once Inland Rail is operational, about 12 train services per day are estimated. This is likely to increase to an average of 18 trains per day in 2039. Annual freight tonnages will increase in parallel, from approximately 15 million tonnes per year in 2027 to 20 million tonnes per year in 2039.

Standard ARTC maintenance activities will be undertaken during operations. These activities will occur on a scheduled basis or in response to unplanned requirements (e.g. maintenance following adverse weather events).

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Program rationale

Program rationale

Inland Rail is expected to boost Australia's GDP by \$16 billion over the next 50 years.

The Inland Rail Program is 13 related projects spanning 1,700 kilometres connecting Melbourne and Brisbane via central-west New South Wales. The Program will deliver a resilient rail system to provide a freight rail service that is competitive with road transport.

Justification for Inland Rail

Demand for freight transport in the Melbourne to Brisbane corridor is expected to grow substantially from about 4.9 million tonnes in 2016 to around 13 million tonnes by 2050. Inland Rail is needed to improve the efficiency of freight moving between Melbourne and Brisbane. It will bypass the Sydney metropolitan area to deliver an overall journey time less than 24 hours.

Inland Rail is needed to:

- > respond to the growth in demand for freight transport
- > address existing freight capacity infrastructure issues
- meet the demand for transport of non-bulk manufactured product.

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Want to know more?

See:

 Chapter 2.11: Justification and options

Consequences of not proceeding with Inland Rail

Without Inland Rail, road would increasingly become the dominant mode for freight transport between Melbourne and Brisbane, particularly along the Newell Highway. In addition, road transport is unlikely to the meet the longer-term needs of Australia's freight challenge alone.

What Inland Rail will offer

ARTC's service offering is central to the delivery and competitiveness of Inland Rail and reflects the priorities of freight customers. Developed in consultation with key market participants and stakeholders, the key elements to be delivered by Inland Rail for a competitive and complementary service offering compared to other modes are:

- reliability: 98% defined as the percentage of goods delivered on time by rail freight, or available to be picked up at the rail terminal or port when promised
- price: cheaper relative to road transport as a combined cost of access to the rail network, rail haulage and pick-up and delivery
- **transit time:** 24 hours or less from Melbourne to Brisbane
- **availability:** services available with departure and arrival times that are convenient for customers.

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The benefits of Inland Rail



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The Lachlan River Bridge Modification Proposal does not require development consent and is assessable under Division 5.1 of the EP&A Act 1979. Under the Act, ARTC is the proponent and determining authority for the Proposal.

Under the State *Environmental Planning Policy (Infrastructure) 2007,* ARTC is a public authority and the Proposal falls under the definition of rail infrastructure facilities, so development consent is not required.

The purpose of this REF is to fulfil ARTC's obligation under *EP&A Act 1979* to examine likely environmental impacts of the Proposal and to determine whether it is likely to significantly affect the environment. It has been carried out in accordance with ARTC's Code of Practice for *Environmental Impact Assessment of Development Proposals in NSW.* In addition, the capital value of the Proposal is below \$50 million. In accordance with the *State Environmental Planning Policy (State and Regional Development) 2011,* ARTC may self-determine the Proposal and undertake the activity in accordance with the REF.

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Want to know more?

See:

 Chapter 3: Statutory requirements

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Stakeholder engagement

Stakeholder consultation and community engagement commenced in 2016 for the Proposal and has been an important part of the planning process.

Community information stand at the Forbes Rotary Markets

An Engagement Implementation Plan has been developed for the Stockinbingal to Parkes Project. This guides how and when stakeholders are informed about the Project and ensures they can provide feedback at key stages during the planning and construction phases. The REF summarises the consultation activities undertaken to date.

Stakeholders identified for the Stockinbingal to Parkes Project include:

- Australian, New South Wales and local government representatives
- Iocal business and industry
- government agencies
- potentially affected landowners
- community and environment groups
- Traditional Owners
- utility providers
- representatives of neighbouring and related projects
- special interest heritage groups
- local heritage committees and historical societies.



Want to know more?

See:

 Chapter 4: Community and stakeholder consultation Since 2016, there has been 22 community information sessions and a regional supplier briefing held in and around Forbes for the Stockinbingal to Parkes Project.

In December 2020 there were two face-to-face community information sessions held in Forbes to seek feedback on the early reference designs of the Proposal.

Between March and June 2021 there were 10 community information sessions (face to face and online) to provide updates on the Proposal's design progress. An online session was also held in July 2021.

Meetings, working groups and design workshops have been held with key stakeholders from Forbes Shire Council and Transport for NSW to capture feedback and concerns.

Consultation with members of the Forbes Heritage Society was also undertaken in December 2020 regarding heritage impacts and mitigations to the Lachlan River Bridge.

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Engagement activities and communication tools

- toll-free community information line
- program email
- Inland Rail website
- printed information: fact sheets, program information packs, mail outs, program maps
- electronic newsletters
- workshops
- community information sessions through staffed displays and online
- Iandowner face-to-face meetings
- stakeholder meetings and briefings
- submissions
- briefing papers to state and federal agencies
- Iocal media: paid advertising and media releases
- electronic email blasts
- ARTC community/local investment.

The team's engagement with stakeholder groups has provided government agencies, stakeholders, communities and landowners with regular opportunities to engage with the design development and environmental assessments. Consultation will be ongoing in the lead up to, and during construction of the Proposal.

Key topics raised by stakeholders:

- Iand use and property
- flooding
- heritage
- social and economic
- community engagement and involvement
- Proposal scope, design and features
- operation of the Proposal
- noise and vibration
- air quality
- hazards and risks
- traffic and transport
- visual amenity
- soils
- biodiversity
- waste management.

Any issues outside of the scope of the Proposal are passed onto ARTC for management and consideration.

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Environmental assessment

An environmental risk assessment was completed for the construction and operation phase of the Lachlan River Bridge Modification Proposal.

ARTC is committed to the principles of Ecologically Sustainable Development (ESD), which entails using, conserving and enhancing the community's environmental resources in a manner that sustains and improves ecological processes, and hence the quality of life, for present and future generations.



Want to know more?

See:

- Chapter 5: Environmental Assessment
- Chapter 6: Consideration of Environmental Factors
- Appendix A: Environmental Risk Assessment



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Noise and vibration

Noise and vibration studies were conducted to understand current (called baseline) background noise levels and identify 'sensitive receivers' most likely to be impacted by heightened noise activity due to the Proposal.

The existing noise environment in the study area is generally influenced by road traffic noise from the Lachlan Valley Way and Bathurst Street, in addition to rural noise sources and noise from the rail corridor at the time of train passing by. The assessment considers the effect of construction noise and train operations on sensitive receivers.

During bridge works, minor (up to 5 decibels (dB(A)) exceedances of daytime noise management levels has been predicted at 92 sensitive receivers. More noticeable exceedances have been predicted at an additional 41 properties at 5-10 dB(A), seven at 10-20 dB(A) and one at 20-30 dB(A).



 Appendix E: Stockinbingal to Parkes Rail upgrade, Lachlan River Bridge noise and vibration impact assessment During out-of-hours night work, due to allowable work activities, minor noise exceedances could occur at 33 of the sensitive receivers, with sleep disturbance exceedances anticipated at seven nearby sensitive receivers.

There are no sensitive receivers expected to exceed operational noise criteria.

Once Inland Rail has commenced operation, operational noise and vibration compliance monitoring will be undertaken as a conservative measure to compare actual performance against the relevant noise guidelines.

Sensitive receivers identified in the study area:



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> Noise and vibration

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Understanding noise

Noise intensity is measured in decibels using a method that mimics the human ear, abbreviated as dB(A). Noise is considered as an average, for example across a 15-minute period, which is shown as LAeq15min. At other times, we are interested in night-time averages for the 9-hour period of 10pm to 7am (LAeq9-hour), or maximum noise (LAmax).



At a glance

Key construction impacts

- noise during site establishment and decommissioning, including installing a crane pad
- noise during operation of equipment and machinery during bridge works
- noise from heavy vehicles for material and equipment delivery
- additional traffic to transport workers to and from the site
- vibration caused by vibratory roller during site establishment.

Key operational impacts

rail noise.

Management and mitigation measures

During construction phase:

- more detailed assessment of noise and vibration monitoring at identified sensitive receivers.
- preparation and implmentation of **Construction Noise and Vibration** management plan which includes:
 - Imiting noisy works to standard hours where feasible
 - investigate alternative, lower noise emitting work methods
 - installing screens on bridge scaffolding to minimise noise emissions
 - screening noisy stationary equipment
 - maximising the distance between noisy equipment and sensitive receivers
 - using noise controlling equipment
 - communication of potential impacts.

- preparation and implementation of an out-of-hours work protocol which includes:
 - out-of-hours works plan for each work location
 - provision of respite periods and/or alternative accommodation



Lachlan River Bridge is a locally listed heritage item under the Forbes Local Environment Plan. An assessment of heritage significance and potential impacts was undertaken in accordance with relevant NSW legislation and guidelines. An options assessment investigated modifying the bridge, or alternatively replacing the existing bridge truss span with new concrete or steel spans. The design option to modify the existing truss structure is considered best for preserving the heritage values of the bridge, while also making it functional for the Inland Rail Program.

No Aboriginal heritage sites have been identified or recorded in the study area. However, work crews would undergo cultural heritage induction to recognise and protect unanticipated finds under the *National Parkes and Wildlife Act 1974.*

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Want to know more?

See:

- Chapter 5.2: Non-Aboriginal heritage
- Chapter 5.10.2: Aboriginal heritage
- Appendix F: Statement of Heritage Impact for Lachlan River Bridge
- Appendix G: Aboriginal Due Diligence

At a glance

Key construction impacts

 modifications and scaffolding disturbing paint work.

Key operational impacts

 modification of the bridge alters aesthetic and heritage values.

Mitigation measures

- a heritage management sub-plan will be prepared and implemented as part of the Construction Environmental Management Plan (CEMP)
- modification of the bridge truss is to be in a sympathetic style to conserve heritage
- patch paint applied where paint work has been disturbed
- detailed design to be sympathetic with heritage value of bridge.

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Biodiversity

A desktop assessment and field survey was undertaken to understand the terrestrial and aquatic habitat of the Proposal's study area, which is a heavily disturbed rail corridor where much of the original vegetation is already cleared.

The Proposal includes removal of approximately 0.1 hectare of native vegetation. Some River Red Gums located south of the crane pad may require trimming to enable full movement of the crane arm. The assessment concluded the works would have no significant impact on ecological communities, populations or threatened species. Direct impact to aquatic ecology would not occur as no works are proposed within the Lachlan River.

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Want to know more? See:

- Chapter 5.3: Biodiversity
- Appendix D: Biodiversity Assessment Report (BAR)

At a glance

Key construction impacts

The construction and operation of the Proposal has the potential to impact biodiversity through:

- removal of native vegetation
- loss of threatened fauna habitat due to vegetation clearing
- injury and mortality to fauna
- removal of hollow bearing tree limbs impacting habitat.

Indirect impacts on biodiversity have also been identified:

- reduced connectivity of biodiversity corridors and functional habitat fragmentation
- erosion and sedimentation entering the Lachlan River
- weed invasion
- noise and vibration
- dust and light pollution
- disturbing and spreading pests and organisms (called pathogens).

- > minimise vegetation clearing to minimum requirements
- implement a biodiversity management plan prior to and throughout Þ construction, including biosecurity management arrangements
- trimming of canopy trees along the Lachlan River minimised and only conducted by a qualified arborist
- exclusion zones established around native vegetation
- rehabilitation of native vegetation in disturbed areas.

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Visual amenity

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The landscape of the Proposal's study area is characterised by the Lachlan River floodplain. It is relatively flat with the river curving and bending through the landscape.

The area has been extensively cleared and modified for agricultural purposes with properties overlooking the river. The quality of the landscape character is influenced by the existing rail infrastructure, including the Lachlan River Bridge.

The existing rail corridor traverses the landscape and regional roads, including The Escort Way and Lachlan Valley Way.



Want to know more? See:

- Chapter 5.4: Landscape character and visual amenity
- Appendix H: Lachlan River Bridge – Landscape and visual impact assessment



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At a glance

Key construction impacts

- visibility of construction sites, including a crane and two compounds
- construction vehicles, heavy machinery
- removal of vegetation
- lighting for night works.

Key operational impacts

- bridge modification of the truss structure
- increase in frequency, height and length of freight trains.

- minimise the construction and operational footprint
- screening vegetation
- further refinement of design in accordance with relevant guidelines during detailed design
- temporary lighting with minimal light spill
- rehabilitation of vegetation in disturbed areas.

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Surface water (hydrology and flooding)

The Proposal is located in the Lachlan River catchment of the Murray-Darling Basin. Water from the Lachlan River is used to support agriculture and the Forbes town water supply. The proposed works on the Lachlan River Bridge are located on flood prone land. Historical flood records show Forbes and the surrounding area experienced on average a major flood every seven years from 1887 to 2007. The Proposal crosses the Lachlan River, which represents the major source of flood risk. Hydraulic modelling was conducted with flooding considered in terms of the annual exceedance probability (AEP). AEP is expressed as a percentage and explains the likelihood of a flood of a given size or larger occurring in a given year. The Proposal site would start to flood at 10 per cent AEP. No impacts to flood behaviour during operations are anticipated as the proposed modification works are to the truss structure and the height of the bridge would not be modified.

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Want to know more?

See:

- Chapter 5.5: Surface water (hydrology and flooding)
- Appendix I: Lachlan River Bridge, Surface water impact assessment

At a glance

Key construction impacts

- flood event during construction is a risk to construction site staff and may cause damage to construction materials and equipment
- presence of the compounds and a crane pad may impact flood storage.

- construction planning would consider flood risk at construction areas
- flood and emergency response plan as part of CEMP.



During construction of the Proposal, waste will be generated by:

- vegetation clearing
- > earthworks to establish crane pad and compounds
- removal of existing infrastructure
- general construction waste
- construction workers and site amenities
- > removal of lead-based paint from the truss structure.

Waste and construction materials will be separated and classified for re-use and recycling where feasible. If there are no viable options, waste will be disposed of at a licensed landfill in accordance with NSW Waste Classification Guidelines. Hazardous materials (lead-based paint) will be managed in accordance with the *Protection of the Environment Operations Act.*



As an existing railway corridor, no changes in waste generation are anticipated for operation of the Proposal. Small amounts of waste are generated during maintenance activities.

At a glance

- implement a construction waste management plan as part of the CEMP
- maximise off-site fabrication of bridge parts to minimise waste generation on site
- generated waste classified and disposed of appropriately
- investigate opportunities to re-use and recycle.

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Traffic and access

During construction, traffic will be generated by the movement of plant, materials and workers to and from the site. This includes:

- about 16 vehicle movements a day during peak periods, including five light vehicles and three heavy vehicles
- haulage routes will overlap with school bus routes on Bathurst and Lower Bathurst Streets, as well as local bus routes on Flint Street
- access to the site will be predominantly via Bathurst Street, but some light vehicles may enter Wandary Lane
- exclusion zones to be established under the Lachlan River Bridge to maintain safety for users of the waterway during construction.

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Want to know more? See

• Chapter 5.7: Traffic and Access

At a glance

- a traffic, transport and access management plan will be prepared and implemented as part of the CEMP
- adequate road signage
- deliveries scheduled to minimise impacts to school bus movements
- > no significant road closures or detours are anticipated, traffic control will be established where needed to maintain safety parking locations for construction workers away from neighbouring property access and driveways
- a marine transport management plan developed in consultation with Transport for NSW would include measures to protect public and recreational users of the Lachlan River.

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Soil and contamination

The Proposal is located in an existing railway corridor, and historically activities may result in contamination. The assessment on the Proposal site has not identified any significant sources of existing contamination to the soil. However, any generated spoil (waste soil) will require testing to determine its suitability for re-use in the railway corridor or for removal to a suitable waste disposal site.

Potential sources of soil contamination associated with construction include the required removal of identified lead-based paint on the Lachlan River Bridge, and the use of fuels and chemicals from machinery and equipment on site.

Erosion of soils also have the potential to pollute the surrounding environment due to the removal of the natural ground cover for site establishment and compounds.

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Want to know more?

See:

 Chapter 5.8: Soil and Contamination

At a glance

- a contamination and hazardous materials plan will be prepared and implemented as part of the CEMP
- apply protocols for the management of lead paint removal
- erosion and sediment controls designed and inspected throughout construction
- spill contaminant kit on site.

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Socio-economic

A community and socio-economic assessment within the boundary of the Forbes Local Government Area, determined the Proposal to offer positive social benefits, primarily through employment, training and business supply opportunities.

Social benefits include:

- employment opportunities during construction
- increase in local spending
- opportunities for local, regional and Indigenous businessles to participate in the construction supply chain
- improvements in transport infrastructure.

The Proposal would result in positive socio-economic impacts due to the economic benefits during construction and operation. Negative impacts would be generated, including amenity impacts from traffic, noise and vibration. These impacts would be managed through the mitigation and management measures identified in relevant sections of this REF.

> Within the study area, 5.5 per cent of the total workforce is employed in the construction industry



ARTC has developed the Inland Rail Sustainable Procurement Policy to ensure local, regional and Indigenous businesses will have opportunities to supply to the Proposal. A variety of skills will be required during construction and it is expected labour may be sourced locally.



Want to know more? See:

- Chapter 5.9: Socio-economic
- Chapter 6.1: Ecologically sustainable development

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Other issues

A range of additional studies and risk assessments have been conducted on the following matters:



Air quality:

Dust management measures will be prepared and implemented as part of the CEMP to minimise dust impacts during construction from on-site machinery, land disturbance during site establishment, loading and transferring materials on trucks, and vehicles using unsealed tracks along the rail corridor.



Water quality:

The Proposal's site proximity to waterway requires operational procedures and safeguards during construction to minimise the impacts of spills or litter generated. An erosion and sediment control plan would be prepared as part of the CEMP.



Cumulative impacts:

There are other developments proposed within proximity to the Proposal site. If construction stages overlap there is the potential to increase noise, traffic and air quality impacts. The assessment identifies the risk of cumulative impacts to be low, particularly in consideration of the mitigation measures proposed.



Hazard and risk:

A series of mitigation measures will be implemented during construction of the Proposal to minimise impacts from hazard and risk. This includes a flood and emergency response plan, appropriate dangerous goods and hazardous materials handling and storage, and paint-removal undertaken in accordance with Australian Standards. Workplace risks are managed in compliance with the Work Health and Safety Act 2011.



Land use and property:

The Proposal site is predominantly within an active rail corridor. It is immediately surrounded by agricultural land to the north and south, and residential properties to the east and west. Land use as a construction site will be temporary and a small area of council land may be temporarily acquired during construction. Adjacent landholders will be consulted for any property-specific measures required, and any works proposed to utilities will be confirmed prior to construction.

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Environmental management measures

An overarching CEMP will be developed for the construction of the Proposal, including a number of sub-plans as outlined through the management and mitigation measures in this REF. In addition, the assessment has identified control measures to be incorporated into the detailed design phase of the Proposal to be adopted during construction and operation.

Construction Environmental Management Plan



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Conclusion

Conclusion

Inland Rail is needed to respond to the growth in demand for freight transport and to address existing freight capacity and infrastructure needs.

The Lachlan River Bridge Modification Proposal is a critical component of the Stockinbingal to Parkes Project and required for the operation of the Inland Rail Program. The delivery of the Proposal will contribute to providing a safe and sustainable solution to Australia's freight challenge offering positive social and economic benefits.

While developing the Proposal's reference design, assessments, investigations and studies have been conducted to examine all matters affecting or likely to affect the environment due to the proposed activities. This has included considering impacts on threatened species, populations, ecological communities, fauna and native vegetation.

The management and mitigation measures detailed in the REF have been developed to implement during detailed design, construction and operation of the Proposal. The potential impacts have been avoided or minimised during the reference design development and options assessment. As such, the REF deems the Proposal not likely to significantly affect the environment and, on balance, and is justified to proceed.







