

APPENDIX

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Lachlan River Bridge Modification Project

Visual and Landscape Character Impact Assessment

STOCKINBINGAL TO PARKES REVIEW OF ENVIRONMENTAL FACTORS



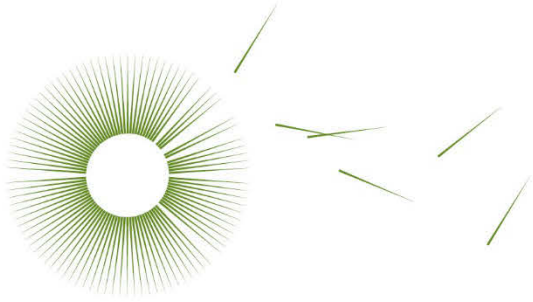
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Inland Rail Lachlan River Bridge

Visual and landscape character impact assessment



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Glossary

Term	Definition
Amenity	<i>'The pleasantness of a place as conveyed by desirable attributes including visual, noise, odour etc.'</i> (Australian Institute of Landscape Architects QLD 2018)
Construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials and/or construction site offices and worker facilities
Existing rail corridor	The corridor within which existing rail infrastructure, subject to works as part of Inland Rail, are located. The existing rail corridor is defined by ARTC to mean everywhere within 15 metres of the outermost rails; or within the boundary fence where boundary fences are provided and are closer than 15 metres; or if the property boundary is less than 15 metres, the property boundary; or a permanent structure such as a fence, wall or level crossing separating the operating rail corridor from other land.
Glare	<i>'Condition of vision in which there is discomfort or a reduction in ability to see, or both, caused by an unsuitable distribution or range of luminance, or to extreme contrasts in the field of vision.'</i> (AS4282:2019)
Heritage listed	An item, building or place included on statutory heritage lists maintained by local, State and/or the Australian Government.
Inland Rail program (Inland Rail)	The Inland Rail programme encompasses the design and construction of a new inland rail connection between Melbourne and Brisbane, via Wagga, Parkes, Moree, and Toowoomba. The route for Inland Rail is about 1,700 km in length. Inland Rail will involve a combination of upgrades of existing rail track and the provision of new track.
Landscape	<i>'All aspects of a tract of land, including landform, vegetation, buildings, villages, towns, cities and infrastructure.'</i> (TfNSW, 2020)
Landscape and visual study area	This assessment considers a wider <i>'landscape and visual study area'</i> which includes the potential visual catchment of the proposal. This area varies according to topography and land cover (vegetation and built form).
Landscape character	The ... <i>'combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place'</i> . (TfNSW, 2020)
Landscape character zone (or area)	<i>'An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately nearby.'</i> (TfNSW, 2020)
Landscape feature	A component, part or feature of the landscape that is prominent or eye-catching, e.g. hills, buildings, vegetation.
Level crossing	A place where rail lines and a road cross at the same elevation.
Local road	Road used primarily to access properties located along the road.

Term	Definition
Magnitude	Magnitude is the ... <i>'measurement of the scale, form and character of a development proposal when compared to the existing condition. In the case of visual assessment this also relates to how far the proposal is from the viewer.'</i> (TfNSW, 2020)
Possession	A period of time during which a rail line is blocked to trains to permit work to be carried out on or near the line.
(the) proposal	The construction and operation of the Lachlan River bridge section of Inland Rail.
Proposal site	The area that would be directly affected by construction works (also known as the construction footprint). It includes the location of proposal infrastructure, the area that would be directly disturbed by the movement of construction plant and machinery, and the location of the storage areas/compounds sites etc, that would be used to construct that infrastructure.
Proposal study area	The study area is defined as the wider area including land surrounding the proposal site, with the potential to be directly or indirectly affected by the proposal (for example, by noise and vibration, visual or traffic impacts). The actual size and extent of the study area varies according to the nature and requirements of each impact assessment technical report.
Rail alignment	The exact positioning of the track, accurately defined both horizontally and vertically, along which the rail vehicles operate.
Rail corridor	The corridor within which the rail tracks and associated infrastructure are located.
Rail level	The theoretical level of the running surface of the rails.
Sense of place	The intangible qualities and character of a place, interpreted and valued by people.
Sensitive receivers	Land uses which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
Sensitivity	<i>'Susceptibility of a landscape or receptor to accommodate change without losing valued attributes.'</i> (Australian Institute of Landscape Architects 2018) The sensitivity of a landscape character zone or view is <i>'its capacity to absorb change'</i> . (TfNSW, 2020)
Sky glow	<i>'The brightening of the night sky that results from radiation (visible and non-visible), scattered from the constituents of the atmosphere (gaseous, molecules, aerosols and particulate matter), in the direction of observation.'</i> It comprises Natural sky glow and artificial sky glow. (AS4282:2019)
Spill light	<i>'Light emitted by a lighting installation that falls outside of the design area. Spill light may or may not be obtrusive depending on what it affects'</i> (AS4282:2019)
Track	The structure consisting of the rails, fasteners, sleepers and ballast, which sits on the formation

Term	Definition
Values	<i>'Any aspect of landscape or views people consider to be important. Landscape and visual values may be reflected in local, state or federal planning regulations, other published documents or be established through community consultation and engagement, or as professionally assessed.'</i> (Australian Institute of Landscape Architects 2018)
View	The visual experience from the viewer's perspective. <i>'Any sight, prospect or field of vision as seen from a place, and may be wide or narrow, partial or full, pleasant or unattractive, distinctive or nondescript, and may include background, mid ground and/or foreground elements or features.'</i> (Australian Institute of Landscape Architects 2018)
Viewpoint	<i>'The specific location of a view, typically used for assessment purposes.'</i> (Australian Institute of Landscape Architects 2018)
Visual absorption capacity	<i>'The potential for a landscape or scene to absorb a particular change without a noticeable loss of valued attributes.'</i> (Australian Institute of Landscape Architects 2018)
Visual amenity	<i>'The attractiveness of a scene or view.'</i> (Australian Institute of Landscape Architects 2018)
Visual catchment	Extent of potential visibility to or from a specific area, feature or proposal
Visual impact	The impacts on the views from residences, workplaces and public places. This can be positive (i.e. benefit or an improvement) or negative (i.e. adverse or a detraction)

Executive summary

The Stockinbingal – Parkes railway line (also known as the 'Forbes line') is on the Main West line. In this location, the rail corridor consists of a single track, slightly elevated on embankment and culvert structures, with a steel truss bridge at the Lachlan River crossing. The bridge is included as a heritage item in the Forbes LEP 2014.

The Lachlan River Bridge is surrounded by vegetation along the Lachlan River in a generally flat and low-lying area. Surrounding the site there are rural uses, including lowset detached dwellings set on acreage lots, small paddocks and scattered trees. There are several dwellings in close proximity to the bridge, including rural properties along Bathurst Street to the north of the river, Wandary Lane and Reisling Street to the south. The outskirts of the township of Forbes is a further 500 metres to the west. The main access road between Forbes and Sydney is located about 750 metres north of the proposal site, at The Escort Way. The area surrounding the site has been described as the 'Lachlan River rural plains rural landscape character area' for the purposes of this assessment.

The visual catchment of the proposal is limited due to the flat terrain, existing vegetation both the Lachlan River and within the surrounding rural areas, and the limited footprint and scale of the proposed works.

There would generally be low to moderate landscape and visual impacts associated with the project in this location. This would include:

- a **low impact** on the landscape character of the Lachlan River plains rural landscape character area during construction;
- a **moderate-low impact** on landscape character during the operation of the proposal;
- **low visual impacts** during construction due to the relatively small site required for the works and the retention of vegetation which encloses views to the site;
- **low visual impacts** from areas to the south of the Lachlan River and
- **moderate-low visual impacts** from areas to the north of the River, including from Bathurst Street and The Escort Way, and from residences overlooking the site, particularly the residence at 289 Bathurst Street, Forbes.
- a **negligible visual impact** at night during construction; and
- a **moderate visual impact** during operation of the proposal.

Overall, the proposed adjustments to the Lachlan River Bridge would be generally in character with the heritage aesthetic of the existing bridge. During operation of the Inland Rail Program, the main causes of visual impact being the intermittent train operations. Similarly, at night, the headlights from intermittent trains travelling along the corridor would alter the character of the setting of the proposal site at night.

The opportunity to mitigate the potential visual impact on private residence at 289 Bathurst Street, though the provision of screening vegetation, would be investigated during detail design. There is also the opportunity to manage any potential night time visual impacts caused by light spill onto private property, during detail design.

1.0 Introduction

1.1 Overview

The Australian Government has committed to delivering a significant piece of national transport infrastructure that will provide a safe, sustainable solution to the freight challenge that exists on Australia's east coast. The Inland Rail Program is a 1,700-kilometre interstate freight rail corridor that will connect Melbourne and Brisbane, via central-west New South Wales (NSW) and Toowoomba in Queensland QLD). The Stockinbingal to Parkes (S2P) section, is an enhancement project for Inland Rail Program. It is a 173-kilometre section of existing rail corridor located in regional NSW between the towns of Stockinbingal and Parkes.

A number of enhancement works (which do not constitute a complete upgrade of the track alignment) are required to be undertaken in this section, including modifications to, construction or removal of various structural and track assets along the alignment. Due to the number of enhancement works required along the S2P corridor, the environmental approvals have been split into four Review of Environmental Factors (REF) packages.

This landscape and visual assessment report has been prepared for the modification works to the Lachlan River Bridge in Forbes, NSW.

1.2 The proposal and location

The proponent is seeking to modify the Lachlan River Bridge in Forbes, NSW (the proposal) to provide the clearance required for double stack freight trains. The proposal site (shown in Figure 1-1) is located in the township of Forbes, approximately two kilometres to the south-east of the Forbes Railway Station.

The existing bridge is a multi-span bridge that comprises a single steel span truss crossing the Lachlan River as shown in Figure 1-1. The bridge is listed as a local heritage item (Forbes Local Environmental Plan 2013) and was originally constructed in 1918, with the approach spans replaced in 1996. The height of the truss structure does not provide sufficient vertical clearance for double stack freight trains and sections of handrail encroach on horizontal clearance.

The proposal involves modifying the truss structure of the Lachlan River Bridge by removing metal sections from along the top of the structure and installing new angled frames to maintain structural integrity.

Ancillary works include utilities on the bridge and establishing construction compounds, laydown areas, a crane pad and environmental controls. Patch painting would also be required where lead-based paint has been disturbed by the works.

Chapter 2, 5 and 6 provide further information on the location of the proposal, and a description of the proposal site for the purposes of the Review of Environmental factors (REF).



Stockinbinal to Parkes Lachlan River Bridge Proposal site

0 10 20 m

Coordinate System: GDA 1994 MGA Zone 55

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Date: 11/05/2021 Paper: A3
 Author: WSP Scale: 1:500
 Data Sources: ARTC, NSWSS

- +— Existing railway
- Local road
- Track
- Watercourse
- Cadastre
- ▨ Proposal site

INLAND RAIL **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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FIGURE 1-1 PROPOSAL SITE

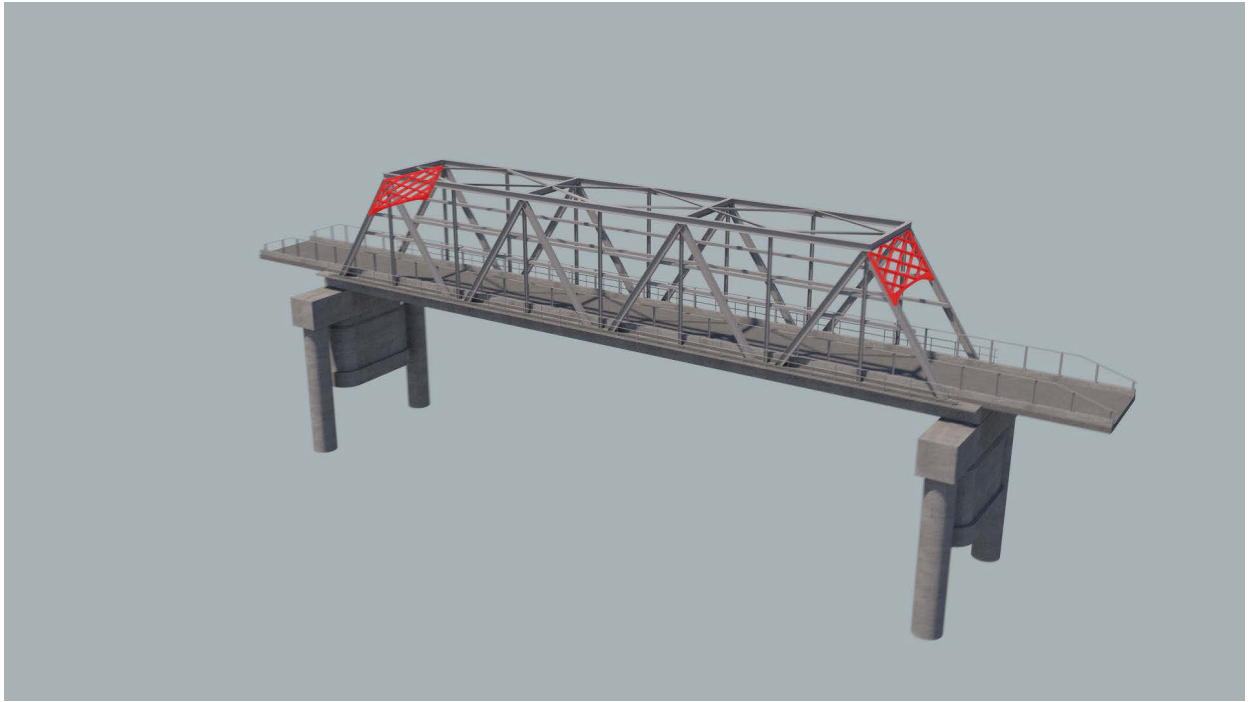


FIGURE 1-2 3D VIEW OF THE EXISTING BRIDGE (LATTICE BRACING HIGHLIGHTED)



FIGURE 1-3 3D VIEW OF THE PROPOSED BRIDGE MODIFICATIONS (NEW ANGLED FRAMES HIGHLIGHTED)

The proposal would form part of the rail network managed and maintained by ARTC. Train services would be provided by a variety of operators. The proposal would enable the use of double stacked trains along its entire length. Inland Rail would operate 24 hours per day and would initially accommodate double-stacked freight trains up to 6.5 metres high and up to 1,800 metres in length (refer to Figure 1-4). Freight train speeds would range from 60 to 115 kilometres per hour, which is consistent with current train speeds.



FIGURE 1-4 CHARACTER IMAGES SHOWING TRAINS WITH DOUBLE STACKED CONTAINERS

1.4 Scope and purpose of this report

This report has been prepared by IRIS Visual Planning & Design as part of the REF for the Lachlan River Bridge proposal, specifically to identify the potential landscape and visual amenity impacts of the proposal.

This report identifies the potential visual impacts of the proposal on views to the bridge from surrounding areas. The study area for this proposal extends from The Escort Way in the north, Lachlan Valley Way to the south, the town of Forbes to the west and to the east, including the flat, low-lying Lachlan River floodplain to the east of Forbes.

This assessment is based upon a viewpoint assessment, identifying and assessing views that represent the range of publicly accessible views to the proposal. The potential views from neighbouring properties will be inferred from these views and site observations. This assessment includes views from surrounding residential areas, footpaths and streets, other facilities such as nearby riverside tourist park.

This assessment begins with the identification of the existing character of the site; a description of the visual character of the proposal; and an individual viewpoint assessment. The viewpoint assessment includes a description of the sensitivity of each view and the magnitude of change that would be experienced in each view. These factors are then combined to determine a level of impact. The assessment has identified the impacts of the proposal during the day and night, throughout construction and in operation.

This assessment is based on the '*Lachlan River Bridge 100% Constructability Report*' (June 2021) and '*100% Reference Design*' drawings (July 2021) prepared by WSP.

1.5 Structure of this Report

The structure of the report is as follows:

- **Chapter 1 – Introduction** (this chapter) – Introduces the report;
- **Chapter 2 – Legislation and policy context** – Describes the legislative and policy context for the assessment and relevant guidelines;
- **Chapter 3 – Methodology** - Describes the methodology used for the undertaking of the landscape and visual assessment, including the survey methodology;
- **Chapter 4 – Existing Environment** - Broadly describes the existing environment associated with the project area as a whole, informed by research and field investigation;
- **Chapter 5 – Impact assessment** – Describes the features of the proposal and potential landscape and visual impacts during construction and operation, during the day and at night;
- **Chapter 6 – Cumulative impact** – Describes the potential effect of the proposal in conjunction with other transport infrastructure in the vicinity of the proposal;
- **Chapter 7 – Mitigation and Management Measures** – Details recommended mitigation and management measures to minimise landscape and visual amenity impacts; and
- **Chapter 8 – Conclusion** – Overview of the key findings of the report.
- **Chapter 9 – References**

2.0 Legislation and policy context

The following chapter includes a brief review of the State, Regional and Local planning documents which provide guidance for the management of landscape character and visual amenity values of the study area. This should be read in conjunction with the planning chapter of the REF and its response to the planning scheme benchmarks.

2.1 NSW policies and guidelines

2.1.1 *Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW, 2020*

This guideline was developed to assist design teams in creating bridges of *'aesthetic value'* (Centre for Urban Design, 2019, Section 1.1). It draws on the high level urban design principles in *Beyond the Pavement* (Centre for Urban Design and TfNSW, 2020), to form an overarching framework for Bridge Aesthetics, including consideration of the relationship to the surrounding natural and built landscape, form, proportions and scale, and use of texture, colour and lighting (Centre for Urban Design, 2019, Section 1.3).

The document identifies the *'visibility of the bridge'* as an *'important contextual factor'* (Centre for Urban Design, 2019, Section 2.1.2). It further states: *'a bridge which is looked on by the community needs to be carefully considered in terms of its visual impact on residents and road users'* (Centre for Urban Design, 2019, Section 2.1.2), due to the potential for bridges to *'affect the visual quality and sense of place'* (Centre for Urban Design, 2019, Section 2.1.7). It suggests that the design *'complexity of a bridge should be minimised in a rural setting'*, including preference for a simple bridge profile *'to allow the landscape setting to dominate the view and be appreciated from all viewpoints'* (Centre for Urban Design, 2019, Section 3.1.3).

This document will inform the assessment of potential landscape and visual impact of the bridge works proposed for this proposal.

2.2 Regional policies and guidelines

2.2.1 Central West and Orana Regional Plan 2036

This plan is intended to guide the NSW Government's land use planning priorities and decisions over the next 20 years. Forbes is a rural town located in the south of the Central West area, on the banks of the Lachlan River, and is identified as a *'strategic centre'* in the regional plan. The rural area surrounding the town is *'underpinned by irrigated and dryland agriculture, particularly grains and livestock'* (p.71). Relevant planning priorities for Forbes include the *'protect important agricultural land from encroachment'*, particularly from residential development, and the attraction of *'tourism-related development, capitalising on Forbes's natural and built character'* (p.71).

The Inland Rail Program is identified as a key project in the vision for the region, to improved transport connections with Sydney, Canberra and Newcastle, and *'increase opportunities for freight and logistics facilities'* (p.13).

2.2.2 *Destination Country and Outback NSW: Destination Management Plan 2018 - 2020*

Destination Country and Outback NSW is one of six Destination Networks established by the NSW Government. This Destination Management Plan (Destination Country and Outback NSW, 2018) is responsible for driving the growth of the visitor economy, aiming to *'create meaningful*

connections between the place, the communities and businesses with visitors to the region' (Page 6).

This region is vast, covering 61.2% of the State. The proposal is located in the southern part of the region in the Lachlan Valley, south east of Forbes, a town known for its heritage buildings set alongside riverbanks and leafy parks. Tourist experiences in the vicinity of Forbes include a country sculpture trail set alongside the Lachlan River and historic buildings along Forbes Heritage Trail, neither of which are close to the proposal site.

As the vast majority of visitors to the region access the region by private vehicle (Page 37), awareness of the region's 'touring routes and trails' is listed as a key priority to respond to the issues and opportunities for the region (Page 176). The only touring route in close proximity to the proposal site includes Lachlan Valley Way, at the southern end of the site.

2.3 Local policies and guidelines

2.3.1 Forbes Shire Council

Forbes Local Strategic Planning Statement

Forbes Local Strategic Planning Statement (Forbes Shire Council, 2020) is intended to guide the growth of Forbes over the next 20 years. It sets the land use framework for Forbes, identifying planning priorities and future strategic planning activities, in the form of studies and strategies, to guide future development.

The proposed Lachlan River bridge site is located in a rural area on the south eastern fringe of Forbes, alongside the Lachlan River. Acknowledging that '*residential land within proximity to the Lachlan River is highly desirable*' (p.19), Council has identified the land to the south of the Lachlan River (including land adjoining and west of the Lachlan River bridge site) as an '*investigation area*' for future residential, in the Future Land Release areas map. Other broad planning priorities that also relate to this location include:

- *Improve and enhance transport connections to improve access to global markets:*
 - *Ensure land zonings will accommodate the investment and growth in the Shire expected from infrastructure upgrades*
 - *Investigate how the agricultural and manufacturing sector can leverage inland rail to move freight to markets and ports and action any changes as appropriate. (p.37)*
- *Protect and enhance our heritage and biodiversity:*
 - *Continue to promote and preserve the heritage values of Forbes via suitable land use controls*
 - *Work with land holders to preserve existing vegetation throughout the Shire. (p.43)*

Forbes Local Environmental Plan 2013

The Forbes Local Environmental Plan 2013 (LEP) aims to '*reinforce the rural character of Forbes while promoting sustainable development*', whilst promoting Forbes '*premier tourist-destination building on its unique heritage and environmental attributes*' (Clause 1.2.2, Forbes Shire Council, 2013b).

The proposed enhancement site at the Lachlan River bridge is located mostly within the SP2 Infrastructure zone, which aims to '*provide for infrastructure and related uses*' (Land Use Table, SP2). A small area between Wandary Lane and Lachlan Valley Way, and the land surrounding the bridge site, is zoned RU4 Primary Production, which aims to ensure land is available for '*intensive plant agriculture activities*' whilst minimising '*conflict between land uses within this zone and land uses within adjoining zones*' (Land Use Table, RU4). North of the river, the land to the west of the bridge is zoned RU1 Primary Production; whereas land to the east of the bridge site in the vicinity

of Lower Bathurst Street is zoned as 'Deferred Matter', for which the *Forbes Local Environmental Plan 1986* still applies and identified as an area to be 'resolved' in the Forbes LSPS.

The Lachlan River Bridge consists of an iron rail bridge over the Lachlan River, south east of Forbes, and is listed as a heritage item in the LEP. An objective of the heritage conservation clause is to 'conserve the heritage significance of heritage items and heritage conservation areas' including 'settings and views' (cl.5.10, Forbes Shire Council, 2013b).

Forbes Development Control Plan 2013

The Development Control Plan (DCP) supports the Forbes LEP by providing additional objectives and controls for administering specific types of development.

North of the Lachlan River, the land to the east of the bridge site in the vicinity of Lower Bathurst Street (zoned as 'Deferred Matter' in the LEP), is identified for 'large lot residential development' (Forbes Shire Council, 2013a, s. 8.16), located on 'transitional lands between urban and rural land' (s.8.1).

Chapter 9 refers to the 'rural development' and aims to 'maintain the rural visual character of agriculture within the Forbes Shire' (s.9.6), including the RU1 and RU4 Primary Production land surrounding the Lachlan River bridge site. In relation to 'Scenic and Landscape Quality' as well as the siting and design of built form, this chapter aims to 'minimise the impact of development upon the rural landscape', including the protection of 'existing stands of native vegetation' (s.9.9) and ensuring that built form 'complement the characteristics of the landform' (s.9.8). The following standards are identified for maintaining the 'Scenic and Landscape Quality' of rural areas:

'The scale, form, materials and colours of the development shall be appropriate to the character of the area and location of development site. Highly contrasting coloured bricks/finishes should be restricted to use on building elements such as sills, window heads, stringcourses etc. The body of external walls shall be consistent in colour'. (s.9.9)

Chapter 13 related to Heritage, including the Lachlan River bridge site, which is identified as a local heritage item in the LEP. Relevant objectives include:

- 'To conserve the heritage significance of the built and natural environments';
- 'To ensure that new development is sympathetic to the identified heritage significance';
- 'To provide guidance to owners and perspective developers of heritage items concerning the most appropriate method for their development to proceed without detracting from the heritage significance and its value to the site' (s.13.3), for example through maintaining 'principal building elements of height, bulk, scale, setback' in any redevelopment' (s.13.15).

3.0 Methodology

3.1 Guidance for landscape and visual impact assessment

This assessment was generally undertaken in line with the following landscape and visual impact assessment guidance documents:

- *Guideline for Landscape Character and Visual Impact Assessment EIA-N04*, Transport for NSW, Centre for Urban Design, 2020.
- *The Guidance Note for Landscape and Visual Assessment (GNLVA)*, Australian Institute of Landscape Architects Queensland, 2018.
- *The Guidelines for Landscape and Visual Impact Assessment (GLVIA)*, Third Edition, prepared by the Landscape Institute and Institute of Environmental Management & Assessment, United Kingdom, 2013.

As the visual catchment and potential visual impact of the proposal is limited (refer to Section 5.2 of this assessment for further explanation), , photomontages are not considered to be necessary to support this assessment and therefore have not been prepared.

3.2 Study area

The landscape and visual study area extends to include the potential visual catchment of the proposal. Photographs were taken from publicly accessible locations from a range of locations around the site. Several viewpoints were then selected to represent the range of views to the site and areas of potential visual impact. Publicly accessible locations were used to represent views from groups of private properties where relevant.

3.3 Process

This assessment identifies the landscape and visual impacts of the proposal, during construction and operations. The process of assessment involved the following steps:

- Review relevant local and regional planning and policy documents and clauses, to provide context for the landscape and visual assessment.
- Identification of existing conditions, including topography, land use, land cover, settlement pattern, key sites and buildings (including heritage items)
- Assess potential impacts on landscape character, including identification and description of landscape character zones and their sensitivity, the magnitude of change expected, and assigning a potential landscape impact level
- Assess potential impacts on views, including identification of the potential visual catchment of the proposal, selection of representative viewpoints and identification of their sensitivity, the magnitude of change expected, and assigning a visual impact level
- Assess impact on night time visual conditions, with reference to the environmental zones in AS4282-2019, by identifying the relevant environmental zone and sensitivity, describing the magnitude of change expected, and assigning a potential night time visual impact level
- Identify opportunities for mitigation.

The following section describes this method in detail.

3.4 Landscape assessment methodology

The landscape impact was determined by identifying the sensitivity of each landscape area, the likely magnitude of change expected as a result of the proposal, which are then combined to make an overall assessment of landscape impact.

Table 3-1 lists the landscape sensitivity levels that applies to this assessment.

TABLE 3-1: LANDSCAPE SENSITIVITY LEVELS

Landscape sensitivity	Description
High	<ul style="list-style-type: none"> - Landscape feature or place that is heavily used and/or is iconic to the State or nationally - These landscapes are generally unique to or uncommon within the state and / or nationally.
Moderate	<ul style="list-style-type: none"> - Landscape feature or place that is heavily used and valued by residents of a major portion of a city or a non-metropolitan region and / or - Places with regionally important scenic value or to landscape features - These places are generally unique or uncommon within the region.
Low	<ul style="list-style-type: none"> - Landscape feature valued and experienced by groups of residents and/or local recreational users and / or - Places of local scenic value or local landscape features - These places are likely to be somewhat common within the landscape.
Negligible	<ul style="list-style-type: none"> - Places where without any particular scenic values or local landscape features - These places are likely to be common within the landscape.

Table 3-2 lists the magnitude of change levels that have been used in this assessment.

TABLE 3-2: LANDSCAPE MAGNITUDE OF CHANGE LEVELS

Magnitude of change	Description
High	<ul style="list-style-type: none"> - The landscape is altered such that the proposal dominates and / or transforms its character, amenity and / or function.
Moderate	<ul style="list-style-type: none"> - The proposal substantially changes and / or is not compatible with the character, amenity, and function of the landscape. - This would result in an extensive and / or severe change in landscape values.
Low	<ul style="list-style-type: none"> - The proposal somewhat changes and / or is not compatible with the character, amenity, and function of the landscape. - This would result in a considerable and / or unsympathetic change in landscape values.
Negligible	<ul style="list-style-type: none"> - The proposal would not change the character, amenity and/ or function of the landscape. - If there is a change, it would not be perceived as altering the landscape values.

3.5 Visual assessment methodology

The assessment of visual impact uses a representative viewpoint assessment approach. Representative viewpoints have been selected from the potential visual catchment of the proposal. Each view has then been assessed by identifying the magnitude of change level created by the proposal, and the sensitivity of the viewer. Combined, these characteristics of the view are then used to assign a level of potential visual impact.

The following terminology has been used to describe the level of visual sensitivity, see Table 3-3.

TABLE 3-3: VISUAL SENSITIVITY LEVELS

Visual sensitivity	Description
High	<ul style="list-style-type: none"> - Heavily experienced view to a feature or landscape that is iconic nationally or within the state - Views from World Heritage Listed Places - Views to areas with a scenic value recognised by the state or nationally - These views are generally unique or uncommon nationally or statewide.
Moderate	<ul style="list-style-type: none"> - Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, an important view from an area of regional open space - Views to areas of regionally important scenic value or to landscape features of the region - These views are generally unique or uncommon within the region.
Low	<ul style="list-style-type: none"> - High quality view experienced by concentrations of residents and/or local recreational users, and/or large numbers of road or rail users, and / or - Views to areas of local scenic value or to local landscape features e.g. views from local conservation areas, railway stations and local parks. - These views are somewhat common within the landscape.
Negligible	<ul style="list-style-type: none"> - Views where visual amenity is not particularly important to the wider community, such as lower quality views briefly glimpsed from roads. - These views are likely to be common within the landscape.

Table 3-4 lists the terminology used to describe the magnitude of change.

TABLE 3-4: MAGNITUDE OF CHANGE LEVELS

Magnitude of change	Description
High	<ul style="list-style-type: none"> - The view is altered such that the proposal visually dominates and transforms the character of the view. - It would result in a substantial change in the amenity of the view.
Moderate	<ul style="list-style-type: none"> - The proposal is visually prominent, and / or contrasts with the character of the view. - It would result in a considerable change in the amenity of the view.
Low	<ul style="list-style-type: none"> - The proposal is somewhat prominent and / or is not compatible with the character of the view. - It would result in a noticeable change in the amenity of the view.
Negligible	<ul style="list-style-type: none"> - The proposal is not visible, is not visually prominent in the view and / or is compatible with the character of the view. - It would result in no perceived change in the amenity of the view.

3.6 Night time visual assessment methodology

The assessment of night-time impact has been carried out with a similar methodology to the daytime assessment. However, the assessment also draws upon the guidance contained within AS4282 *Control of the obtrusive effects of outdoor lighting* (2019).

AS4282 identifies environmental zones which are useful for categorising night-time landscape settings. The following assessment will use these environmental zones to describe the existing night-time visual condition and assign a sensitivity to these sites.

The night time visual sensitivity levels are as described in Table 3-5.

TABLE 3-5: ENVIRONMENTAL ZONE SENSITIVITY – NIGHT-TIME

Environmental Zones (AS4282:2019)		
Sensitivity level	Description	Examples
High	A0: Intrinsically dark	UNESCO Starlight Reserve, IDA Dark Sky Parks Major optical observatories, No road lighting – unless specifically required by the road controlling authority
	A1: Dark	Relatively uninhabited rural areas No road lighting – unless specifically required by the road controlling authority
Moderate	A2: Low district brightness	Sparsely inhabited rural and semi-rural areas
Low	A3: Medium district brightness	Suburban areas in towns and cities
Negligible	A4: High district brightness areas	Town and city centres and other commercial areas, Residential areas abutting commercial areas

Table 3-6 lists the categories used to describe the visual magnitude of change at night.

TABLE 3-6: VISUAL MAGNITUDE OF CHANGE LEVELS – NIGHT-TIME

Magnitude of change	Description
High	<ul style="list-style-type: none"> - Substantial change to the level of skyglow, glare or light spill expected, and / or - The lighting of the proposal would transform the character of the surrounding setting at night, and / or - The effect of lighting would be experienced over a large area
Moderate	<ul style="list-style-type: none"> - Considerable change to the level of skyglow, glare or light spill and / or - The lighting of the proposal would noticeably contrast with the surrounding landscape at night and / or - The effect of lighting would be experienced across a medium portion of the landscape.
Low	<ul style="list-style-type: none"> - Alteration to the level of skyglow, glare or light spill would be expected, and / or - The lighting of the proposal would not contrast substantially with the surrounding landscape at night, and or - The effect of lighting would be experienced across a small portion of the landscape.
Negligible	<ul style="list-style-type: none"> - Either the level of skyglow, glare and light spill is unchanged or - if it is altered, the change is generally unlikely to be perceived by viewers or - compatible with the existing or intended future use of the area.

3.7 Assigning impact levels

An assessment of impact has been made by combining the sensitivity and magnitude of change levels for each item and assigning an impact level.

Table 3-7 shows the impact rating matrix.

TABLE 3-7: LANDSCAPE CHARACTER AND VISUAL IMPACT RATING MATRIX (SOURCE: FIGURE 7, TfNSW, 2020)

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

4.0 Existing environment

The Stockinbingal – Parkes railway line (also known as the 'Forbes line') is on the Main West line. The line is part of the main route for goods trains travelling between Sydney and the west of NSW and beyond. To the south east of Forbes, the railway line crosses the Lachlan River in a north-south direction, between the Forbes and Red Bend stations.

In this location, the rail corridor consists of a single track, slightly elevated on embankment and culvert structures, with a steel truss bridge at the Lachlan River crossing. The bridge is included as a heritage item in the Forbes LEP 2014.

The Lachlan River Bridge is located within the riparian zone of the Lachlan River. In this location the landform is generally flat and low-lying associated with the river. The study area is located within the NSW South Western Slopes Bioregion. Vegetation in the vicinity of the proposal includes areas of mature open eucalypt forest, containing species such as River Red Gum. The river is largely vegetated through the study area, however, much of the land beside the river has been cleared for rural uses. In these areas there are scattered groups of trees and areas of floodplain woodland. (Refer to Figure 5-7)

Surrounding the site there are rural uses, including lowset detached dwellings set on acreage lots, surrounded by small paddocks and scattered trees. There are several dwellings in close proximity to the bridge, including rural properties along Bathurst Street and Lower Bathurst Street to the north of the river, Wandary Lane and Reisling Street to the south.

Further to the west, nearing Forbes, the land use transitions into suburban residential development along Bathurst and Lower Bathurst Streets, including detached dwellings located on large lots with river frontage. Other land uses in the vicinity of the bridge include a riverside tourist park and surrounding recreational land alongside the river near Reymond Street, about 500 metres to the south west of the proposal.

The main access road between Forbes and Sydney is located about 750 metres north of the proposal site, at The Escort Way.

5.0 Impact Assessment

5.1 Assessment of Landscape Impact

The following is an assessment of the 'Lachlan River rural plains rural landscape character area', which includes the Lachlan River Bridge site and surrounding area.

Existing landscape character:

The landscape of the site and study area is characterised by the Lachlan River floodplain. This landscape is relatively flat, with the river meandering in sweeping curves and bends through the landscape. This area has been extensively cleared and modified for arable farming and livestock grazing purposes. This rural landscape includes a mix of cereal crops and pastures fields. Near the Lachlan River, properties and lot sizes become smaller in size, with some small acreage properties and rural lifestyle blocks overlooking the river.

The Main West railway line traverses the landscape in a north-south direction, incorporating the proposal site. As a part of the main route for goods trains travelling between Sydney and the west of NSW and beyond there would be freight trains moving through this landscape intermittently. The Newall Highway and other regional roads are also located in the vicinity of the rail corridor, including The Escort Way and Lachlan Valley Way.

Landscape sensitivity:

This landscape includes the riverfront areas of the Lachlan River, which are identified as having recreational values relating to the 'natural environment' in the Forbes Local Environmental Plan 2013 (cl.RE1 zone). However, there are no formalised areas for public access to the river in the vicinity of the site. While this landscape would be appreciated by a moderate number of locals and tourists travelling along The Escort Way and Lachlan Valley Way, the quality of the landscape character of the site is influenced by the existing rail infrastructure. Overall, the Lachlan River plains rural landscape character area is of local value and is of **low landscape sensitivity**.

Landscape impact during construction:

The construction site would be established beside the railway line, including two compounds beside the northern end of the bridge, set back from Bathurst Street. Construction vehicles would be seen travelling along Bathurst and Lower Bathurst Streets, accessing the site and compounds, with some light vehicle access via Wandary Lane, to the south of the bridge.

Vegetation within the area used for construction would be impacted with some tree trimming required to allow access to the bridge during construction. Minor modifications to the site landform may also be required at the compounds and at the bridge footings, to allow construction and access to the site. There would be construction activity occurring on the bridge itself, to install the new angled frames and remove the lattice bracing on the bridge ends.

The character of the construction activity would somewhat contrast with the existing character of the rail corridor, this change combined with the trimming of vegetation would result in a low magnitude of change to the Lachlan River rural plains rural landscape character area, which is of low landscape sensitivity, and a **low landscape impact** during construction.

Landscape impact during operation:

The areas impacted by construction would be revegetated and rehabilitated as appropriate. The end frame bracing (lattice pattern) and traverse bracing between the trusses would have been removed, and a new angled frames added to the sides, somewhat altering the heritage character and aesthetic value of the bridge. The overall scale of the building would be largely maintained and the materials would be consistent with the existing heritage bridge.

During operations, there would also be freight trains more regularly seen travelling across this landscape character area. These trains would taller and longer than the existing freight trains seen along the Main West line.

Overall, during operation, there would be a moderate magnitude of change to the Lachlan River rural plains rural landscape character area, which is of low sensitivity, and a **moderate-low landscape impact**.

5.2 Assessment of daytime visual impact

5.2.1 Visual catchment of the proposal

The visual catchment of the proposal is limited due to the flat terrain, existing vegetation both the Lachlan River and within the surrounding rural areas, and the limited footprint and scale of the proposed works.

To the north of the river there would be views to the proposal from Bathurst and Lower Bathurst Streets in the vicinity of the bridge crossing. This includes about 100 metre section of Bathurst and Lower Bathurst Streets before the existing vegetation and dwellings intervene to enclose the view (refer **Figure 5-1** and **Figure 5-2**).

There would also be views from the residence directly to the east of the existing bridge (289 Lower Bathurst Street). However, the vegetation along Lower Bathurst Street screens views from rural properties to the northeast of the site.

The visual catchment also extends north west to the south eastern outskirts of Forbes. This includes views from the eastern end of the local roads (including Regent Oxford and Banton streets) and properties orientated towards the existing rail corridor (refer **Figure 5-3**). There are also more distant views from the elevated areas to the east of Forbes such as from Berkley Street near the Forbes Hospital (refer **Figure 5-4**).

There would be views along the rail corridor, north of the site, from Escort Way at the rail crossing (refer **Figure 5-5**).

There is limited works proposed to the south of the river, and views to the works are also reduced by the distance between the river and surrounding dwellings. However, there would be glimpsed views from the footpath on the Raymond Street bridge, and also from Reisling Street and the adjacent residences (refer **Figure 5-6**).



FIGURE 5-1 VIEW SOUTHWEST FROM LOWER BATHURST STREET TOWARDS THE PROPOSAL SITE



FIGURE 5-2 VIEW NORTHEAST FROM BATHURST STREET TOWARDS THE PROPOSAL SITE



FIGURE 5-3 VIEW NORTHEAST FROM REGENT STREET TOWARDS THE PROPOSAL SITE



FIGURE 5-4 VIEW SOUTHEAST FROM BERKLEY STREET NEAR THE HOSPITAL TOWARDS THE PROPOSAL SITE



FIGURE 5-5 VIEW SOUTHEAST FROM ESCORT WAY ALONG THE RAIL CORRIDOR TOWARDS THE PROPOSAL SITE



FIGURE 5-6 VIEW NORTH FROM REISLING STREET TOWARDS THE PROPOSAL SITE

5.2.2 Representative viewpoint assessment

The following viewing locations were selected as representative of the range of views to the proposal:

- Viewpoint 1: View south from The Escort Way
- Viewpoint 2: View south west from Lower Bathurst Street
- Viewpoint 3: View north from Reymond Street.

Figure 5-7 identifies the location of these viewpoints.

The following section summarises the daytime visual impact identified in the representative viewpoint assessment.



FIGURE 5-7 VIEWPOINT LOCATION PLAN

Viewpoint 1: View south from The Escort Way

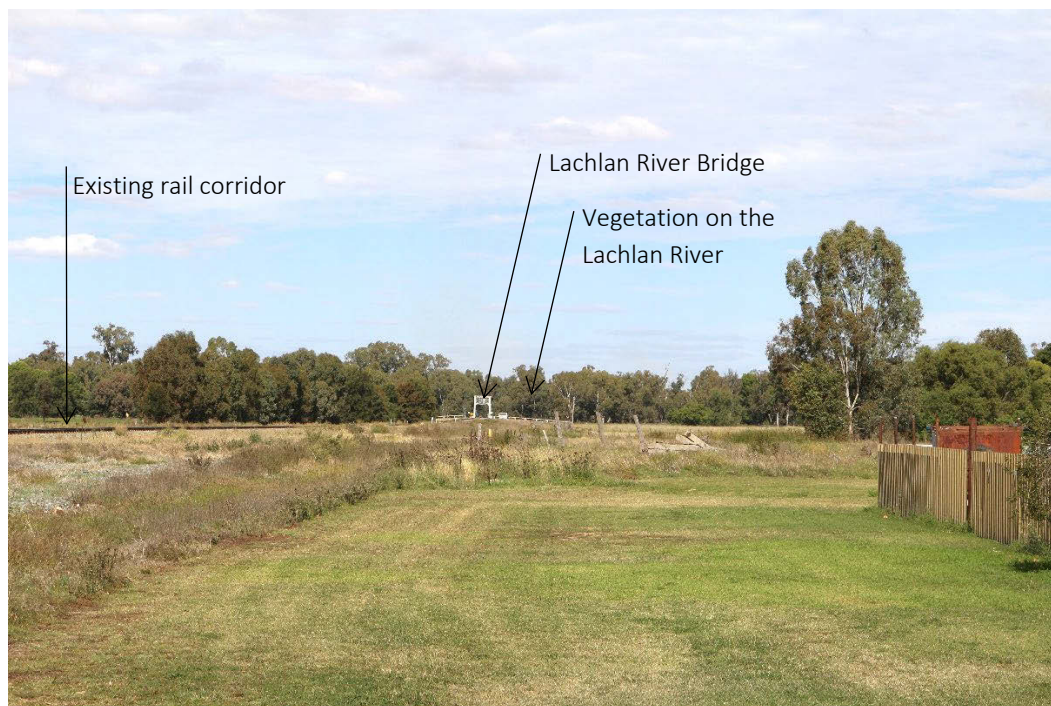


FIGURE 5-8 VIEWPOINT 1: VIEW SOUTH FROM THE ESCORT WAY

Existing view: This view is in the location of an at-grade railway corridor and includes existing rail infrastructure in the foreground. The existing Main West railway line corridor can be seen extending away from the viewer (left of view), adjacent to the rear gardens of the residences within the low density properties along Ferry Street (right of view). The rail corridor consists of a single track, slightly elevated on embankment and culvert structures, passing through a flat, open rural landscape. The vegetation along the Lachlan River and within the fields adjacent to Bathurst Street create a backdrop to this view. The existing Lachlan River railway bridge structure can be seen, silhouetted against the vegetation of the river.

Visual sensitivity: The Escort Way is a busy regional road connecting Forbes with areas to the east, including the scattered rural properties and homesteads to the south east of Forbes and beyond to other rural towns such as Eugowra, Orange and Molong. The westbound views contribute to the sense of arrival to the town centre of Forbes. This is a glimpsed view, seen briefly from moving vehicles. Overall, this is a locally important view and is of **low visual sensitivity**.

Visual impact during construction: The proposal site would be located at the existing bridge crossing over the Lachlan River, about 800 metres to the south east of this location. There would be minor excavation, levelling works and scaffolding at the bridge structure site, and also the trimming of vegetation surrounding the existing bridge. This work would be visible in the background of this view and partially screened by the adjacent riverside vegetation.

Construction works would include the use of large machinery and cranes, and movement of vehicles to and from the site via Bathurst Street. Where the works are visible, they would contrast with the surrounding landscape. Due to the distance from this view, this would result in a low magnitude of change and a potential **low visual impact** overall.

Visual impact during operation: At this distance the Lachlan River Bridge would be slightly altered in appearance, with the removal of end frame and transverse bracing and new angled frames attached to the upper portion of the truss structure. The main change in this view, however, would be the increase in the number and height of the freight trains travelling across the bridge and along the railway corridor, in the middle and foreground of this view.

The taller height and increased frequency of freight trains would intermittently alter the

prevailing character of this view. Overall, there would be a moderate magnitude of change and a potential **moderate-low visual impact** in this view.

Viewpoint 2: View south west from Lower Bathurst Street

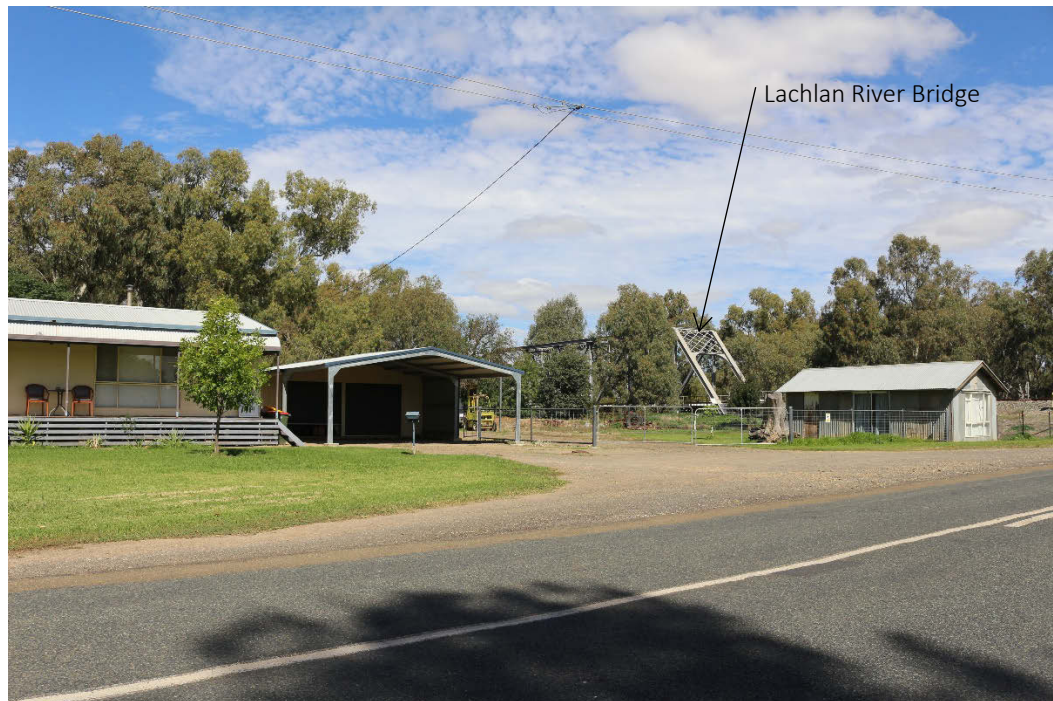


FIGURE 5-9 VIEWPOINT 2: VIEW SOUTH WEST FROM LOWER BATHURST STREET

Existing view: This view from Lower Bathurst Street includes the existing Lachlan River Bridge in the middle ground of the view, seen amongst and viewed against the existing mature trees along the river and in adjacent properties. The superstructure of the bridge is visible including the northern end of the bridge with its distinctive end frame including lattice bracing and glimpses to the eastern elevation. The track is slightly elevated on a small embankment, with a level crossing at Bathurst Street (right and out of view).

In this view the southern end of the bridge is screened by the buildings on the adjacent residential property. This property includes an existing dwelling which is orientated east-west with views north towards the road and south towards the river. The bridge is located to the west of the dwelling, beside several outbuildings including sheds and a car port.

Visual sensitivity: Lower Bathurst Street is a two-lane road providing access to Forbes. It is used primarily by local residents and visitors accessing local properties and is of **low visual sensitivity**.

Visual impact during construction: The construction activity at Lachlan River Bridge would be seen in the middle ground of this view, and in close proximity to the adjacent dwelling. Construction works would include the use of large machinery cranes and movement of vehicles to and from the site via Bathurst Street. The existing vegetation would remain, with some trimming of trees in the vicinity of the bridge. A compound would be established on each side of the existing track, beside the bridge landing, to the rear of the shed in this view. The works would be prominent in this view and contrast with the surrounding rural landscape. Due to the close proximity of the construction activity to this viewing location, and scale of the works, there would be a moderate magnitude of change resulting in a potential **moderate-low visual impact** overall.

Visual impact during operation: The Lachlan River Bridge would be altered in appearance, with the removal of the end frame and traverse bracing and new angled frames attached to the upper level of the truss structure. However, the heritage aesthetic of the bridge would be largely maintained with the overall scale and fabric of the bridge remaining. The bridge structure would

be slightly more visible due to the trimming some existing vegetation during construction. This change would be seen in the middle ground of this view, set back from Lower Bathurst Street, and would continue to be viewed against a backdrop of vegetation along the river.

The operation of freight trains travelling along the bridge and north over the Bathurst Street level crossing of increased height and frequency would be visually dominant in this view due to the proximity and scale of these trains. This change would alter the character of this view intermittently.

Overall, there would be a moderate magnitude of change to a view of low sensitivity and a potential **moderate-low visual impact** during operations.

Viewpoint 3: View north from the Reymond Street bridge



FIGURE 5-10 VIEWPOINT 3: VIEW NORTH FROM THE FOOTPATH ON THE REYMOND STREET BRIDGE

Existing view: This view along the southern bank of the Lachlan River shows the riparian vegetation (left of view) and glimpses to the existing rail corridor and bridge in the background (centre of view) across the rural landscape.

Visual sensitivity: Reymond Street is a local road providing access between the Forbes Apex Riverside Tourist Park and areas to the south of the river, as well as properties on Lachlan Valley Road, south east of Forbes. This view would be available to pedestrians on the path and vehicles on the bridge. Overall, this view is of **low visual sensitivity**.

Visual impact during construction: The proposal would be located at the existing bridge crossing, about 500 metres to the north east of this viewpoint. There would be glimpses to the scaffolding, machinery and movement of vehicles at the bridge structure site, however, the compound and set down areas would be located on Bathurst Street and out of view. These works would be set back in the far background of this view and partially screened by the dense riverside vegetation.

There would also be construction vehicles seen in the middle ground of the view (right of view) accessing the site via Reymond Street and Wandary Lane. Where the works are visible, they would contrast with the surrounding rural and natural landscape.

Due to the distance and low visibility of the works in this view, there would be a low magnitude of change and a potential **low visual impact** overall during construction.

Visual impact during operation: Lachlan River Bridge, although slightly altered in appearance, is in the background of this view, only glimpsed through existing vegetation, and is viewed against a backdrop of vegetation along the river. There would also be an increased number of freight trains seen travelling along the bridge and along the railway through the rural landscape, in the background of this view. The increased height and frequency of freight trains would be noticeable, however, due to the intervening vegetation, it would not change the prevailing character of this view. Overall, there would be a low magnitude of change and a potential **low visual impact** in views from this location.

5.3 Assessment of night-time visual impact

Existing night time conditions and visual sensitivity: At night this landscape would have low light levels with rural residences scattered across the landscape. There would be additional light on within Forbes where there is denser residential development, 24-hour facilities such as the Forbes Hospital, and where there are streetlights and vehicles travelling along local roads and the Newell Highway. There would also be a headlight on the existing trains using the Main Western Line rail corridor. This lighting would contribute to the overall light levels and a sky glow above the landscape. Overall, this is an area of low district brightness (A2) and has a **moderate visual sensitivity** at night.

Night time visual impact during construction: The majority of the proposal site would be located at the northern end of the Lachlan River Bridge, with two small compound sites at either side of the track, beside the northern bridge landing. While the construction works would occur generally during day-time hours, some lighting may be required outside of standard working hours, including temporary spotlights in support of short-duration night works (when required) and headlights from staff and construction vehicles accessing the site. This would occur for a short duration each day and for a short time within the proposal construction program. Minor security lighting may also be required at the compound sites, at site access, storage and laydown ancillary areas.

Overall, there would be a negligible magnitude of change to this landscape which is of moderate sensitivity, and a potential **negligible visual impact** at night. This night time visual impact would be localised and temporary.

Night time visual impact during operation: Each freight train would have a headlight that would be seen intermittently, directed along the rail corridor. As there would be an increase in the frequency of freight trains during the operation of Inland Rail, there would be an increase in frequency of headlights seen in the vicinity of the rail corridor. The alignment and level of the rail corridor in this location would not change, so that this would be an incremental increase in frequency, rather than there being any new areas where there is a potential for light spill or visual intrusion onto neighbouring properties.

Overall, this increase would result in a low magnitude of change to this landscape at night. As this area is of moderate visual sensitivity at night this results in a potential **moderate-low visual impact** at night.

5.4 Summary of impacts

The following table contains a summary of the landscape and visual impacts identified in this assessment.

TABLE 5-1 SUMMARY OF IMPACTS

	Sensitivity	Construction		Operation	
		Magnitude of change	Potential impact	Magnitude of change	Potential impact
Landscape character impact					
Lachlan River plains rural landscape character area	Low	Low	Low	Moderate	Moderate-low
Day time visual impact					
Viewpoint 1: View south from The Escort Way	Low	Low	Low	Moderate	Moderate-low
Viewpoint 2: View south west from Lower Bathurst Street	Low	Moderate	Moderate-low	Moderate	Moderate-low
Viewpoint 3: View north from Reymond Street	Low	Low	Low	Low	Low
Night-time visual impact					
Lachlan River plains rural landscape character area	Moderate (A2 Low district brightness)	Negligible	Negligible	Low	Moderate-low

6.0 Cumulative impact

There are no Inland Rail projects or other major projects located within the visual catchment of the site, therefore, there would be no cumulative visual impact as a result of the proposal.

7.0 Mitigation and management measures

The following mitigation measures should be considered to further reduce the potential visual impacts identified in this assessment.

TABLE 7-1: MITIGATION MEASURES

ASPECT	MITIGATION MEASURE	PROJECT PHASE
Landscape and urban design	Detailed design and construction planning would seek to minimise the construction and operation footprints and avoid impacts on mature native vegetation, as far as reasonably practicable.	Detailed design / pre-construction
	In consultation with the owner of the adjoining residential property to the east of Lachlan River Bridge, vegetation screening would be included where practicable, to mitigate the visual impact of the rail line without affecting operational rail safety.	Detailed design / pre-construction
	Detailed design of the bridge to would consider Bridge aesthetics: design guidelines to improve the appearance of bridges in NSW (Transport for NSW, 2019).	Detailed design / pre-construction
	Any landscape works would be completed in accordance with ARTC Landscape design guideline and Landscape Rehabilitation Strategy.	Detailed design / pre-construction
	<p>A rehabilitation strategy would be based on the Inland Rail Landscape and Rehabilitation Strategy, the Inland Rail Landscape and Rehabilitation Framework and property-specific reinstatement commitments. This would guide the approach to rehabilitation of disturbed areas following the completion of construction. The strategy would include:</p> <ul style="list-style-type: none"> • clear objectives and timeframes for rehabilitation works (including the biodiversity outcomes to be achieved) • details of the actions and responsibilities to progressively rehabilitate, regenerate, and/or revegetate areas, consistent with the agreed objectives <p>identification of flora species and sources procedures for monitoring the success of rehabilitation corrective actions should the outcomes of rehabilitation not conform to the objectives adopted.</p>	Detailed design / pre-construction
Night time visual impacts	Temporary lighting would be designed and sited to minimise light spill in accordance with <i>AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting</i> (Standards Australia, 2019)	Detailed design / pre-construction

8.0 Conclusion

In conclusion, there would generally be low to moderate landscape and visual impacts associated with the project in this location.

This would include a **low impact** on the landscape character of the Lachlan River plains rural landscape character area as a result of project construction. This impact level would increase to a **moderate-low impact** on landscape character during the operation of the Inland Rail Program due to the increased scale and frequency of the trains using the corridor and bridge.

The visual catchment of the site during construction and operation is relatively small due to the surrounding land uses and existing vegetation, which contain views. There would generally be a **low visual impact** during construction due to the relatively small site required for the works and the retention of vegetation which encloses views to the site.

During operation of the Inland Rail Program, the main causes of visual impact being the intermittent train operations as the adjustments to the bridge would be generally in character with the heritage aesthetic of the existing bridge. There would be **low visual impacts** from areas to the south of the Lachlan River and **moderate-low visual impacts** from areas to the north of the River, where Bathurst Street, Lower Bathurst Street and The Escort Way provide opportunities to view the site. These impacts would be experienced from residences overlooking the site, particularly the residence at 289 Lower Bathurst Street, Forbes.

At night there would be a **negligible visual impact** during construction, as there would be limited night works required. During operations, however, the headlights from more frequent trains using the Inland Rail corridor would cause a **moderate visual impact** in the area which has moderate (A2 Low district brightness) light levels.

There is the potential to mitigate the potential visual impact on private residence at 289 Lower Bathurst Street through the provision of screening vegetation which would be investigated during detail design. There is also the opportunity to manage any potential night time visual impacts caused by light spill onto private property, during detail design.

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