

CHAPTER 11

Non-Aboriginal heritage

ALBURY TO ILLABO ENVIRONMENTAL IMPACT STATEMENT

ARTC

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11. Non-Aboriginal heritage

11.1 Summary

There are 42 registered heritage items located within the proposal site (including five conservation areas), found at 20 of the 24 enhancement sites. This includes nine heritage items that are listed on the State Heritage Register (SHR) with curtilages that overlap with 14 enhancement sites. Several of these items are also registered on local environment plans (LEPs) or section 170 registers (registers of heritage items owned, occupied or managed by government agencies). Three unregistered potential heritage items were also identified to have local heritage value during site inspections carried out for this assessment.

During engagement with key stakeholders, concerns were raised about heritage issues at a number of locations, including Murray River bridge, Albury Yard, Culcairn Yard, Wagga Yard and Junee Yard. In response, the proposal has been designed and refined to minimise impacts to heritage items within the proposal site. Construction compounds, footprints and works have also been designed with minimal excavation requirements to minimise impacts to items and areas of archaeological potential within the proposal site as far as practicable.

The proposal would have direct and indirect impacts to multiple state, local and section 170 heritage listed items. Key impacts associated with the proposal would occur where bridges are altered, removed or replaced with new bridges within the station precincts. Options that avoided the demolition of these structures were not considered to be feasible or were not selected as the preferred option following consideration of the Inland Rail specifications, as well as the potential environmental and community impacts of the available alternatives (for further discussion, refer to Chapter 6: Alternatives and proposal options).

The proposal would result in:

- ▶ major impacts to the Cassidy Parade pedestrian bridge (a section 170 register item); Edmondson Street bridge (unregistered potential heritage item); and Kemp Street bridge (unregistered potential heritage item) due to the demolition and replacement of these bridges
- ▶ major impacts to the Yerong Creek Railway Station archaeological site (unregistered potential heritage item) due to proposed ground disturbance
- ▶ moderate impacts to the Murray River Bridge (the Albury rail bridge over the Murray River (SHR 01020)) due to bridge alterations; Albury Railway Station and Yard Group (SHR 01073) due to the replacement of the pedestrian bridge and other changes in the yard; and Culcairn Railway Station and Yard Group (SHR 01126) and Junee Railway Station, Yard and Locomotive Depot Group (SHR 01173) due to removal of redundant pedestrian bridges
- ▶ minor impacts to Wagga Wagga Railway Station and Yard Group (SHR 01279) due to the replacement of the pedestrian bridge and other changes in the vicinity of the item (such as Edmondson Street bridge replacement)
- ▶ negligible impacts to the Henty Railway Station and Yard Group (SHR 01169), The Rock Station and Yard Group (SHR 01268) and the Bomen Railway Station (SHR 01093)
- ▶ minor to negligible impact at all other local and section 170 registered heritage items
- ▶ across all enhancement sites, there would be a major cumulative impact due to the collective impact on railway heritage values.

Mitigation and management measures would be implemented to minimise impacts where complete avoidance is not practicable. Additional opportunities to minimise heritage impacts through design or construction planning would be explored during detailed design and heritage interpretation and management plans would be prepared. Where the avoidance of heritage items and archaeological sites is not possible, detailed recording and/or salvage excavation would be undertaken prior to construction.

During engagement with key stakeholders, Greater Hume Shire Council and Junee Shire Council indicated their interest in repurposing the current decommissioned pedestrian bridges at Culcairn and Junee stations respectively. The gifting of the Junee and Culcairn pedestrian bridges for the purpose of reuse elsewhere would be investigated with the relevant council prior to removal.

11.2 Approach

This chapter provides a summary of the potential non-Aboriginal heritage impacts of the Albury to Illabo (A2I) section of the Inland Rail—program (the proposal). The assessment is provided in Technical Paper 3: Non-Aboriginal heritage.

11.2.1 Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements (SEARs) related to non-Aboriginal heritage, and where in the environmental impact statement (EIS) these have been addressed, are detailed in Appendix A: Secretary's Environmental Assessment Requirements.

11.2.2 Relevant legislation, policies and guidelines

The assessments were undertaken in accordance with the SEARs and with reference to the requirements of relevant legislation, policies and/or assessment guidelines, including:

- ▶ *Environment Protection and Biodiversity Conservation Act 1999* (NSW) (EPBC Act)
- ▶ *Heritage Act 1977* (NSW)
- ▶ *NSW Heritage Manual* (NSW Heritage Office, 1996)
- ▶ *Statements of Heritage Impact* (NSW Heritage Office, 2002)
- ▶ *Assessing significance for historical archaeological sites and 'relics'* (Heritage Council of NSW, 2009)
- ▶ *Criteria for the assessment of excavation directors* (Heritage Council of NSW, 2011)
- ▶ *Assessing Heritage Significance* (NSW Heritage Office, 2001)
- ▶ *The Burra Charter—The Australia ICOMOS Charter for Places of Cultural Significance* (Australia International Council on Monuments and Sites (ICOMOS), 2013) (The Burra Charter)
- ▶ *Archaeological Assessment Guidelines* (Department of Urban Affairs and Planning (DUAP), 1996)
- ▶ *Skeletal Remains—Guidelines for Management of Human Remains under the Heritage Act 1977* (NSW Heritage Office, 1998b).

11.2.3 Methodology

Study area

For the purpose of this assessment, the study area includes the length of the existing railway corridor from Albury to Illabo. This broad area has enabled the capture of the wider heritage landscape, which provides context for the desktop assessment of the history, themes and values of the heritage items discussed in Technical Paper 3: Non-Aboriginal heritage.

The assessment has considered heritage items and conservation areas within and in the vicinity of the enhancement sites that could be directly or indirectly impacted by the proposal. The assessment of heritage items and conservation areas in the vicinity of the enhancement sites has focused on items located within 200 m of the enhancement sites. Beyond 200 m, consideration has been given to heritage items where there may be an impact on significant view lines or corridors as a result of the proposal.

Key tasks

The assessment involved:

- ▶ reviewing statutory heritage registers (including the State Heritage Inventory (SHI), relevant Local Environmental Plans (LEPs), the Australian Heritage Database, and section 170 registers (which lists assets owned or managed by public authorities that have heritage significance) to identify registered heritage items previously recorded within the study area, and conservation areas
- ▶ reviewing existing background documentation, including primary source materials, and prior heritage assessments and historical studies, to establish a historical context for the identified registered heritage items (refer to section 4.2 of Technical Paper 3: Non-Aboriginal heritage)
- ▶ reviewing historical aerial photography, relevant previous heritage assessments (including Conservation Management Plans and other management plans, condition assessments and archival recordings) to identify disturbance and/or altered historical arrangement and/or access (refer to section 4.2 of Technical Paper 3: Non-Aboriginal heritage)
- ▶ targeted field survey including:
 - ▶ inspecting the ground surface for evidence of archaeological items or possible features
 - ▶ a preliminary assessment of the integrity and condition of built heritage items
 - ▶ a preliminary assessment of the view scape from and to the existing rail corridor
 - ▶ taking photographs of the registered heritage items, and unregistered and/or unrecorded potential heritage items

- ▶ assessing heritage significance of identified items as outlined in *Assessing Heritage Significance* (NSW Heritage Office, 2001), which considers historical, aesthetic, scientific and social significance
- ▶ assessing the potential direct and indirect impacts on heritage significance from the proposal in accordance with the *Statements of Heritage Impact* (NSW Heritage Office, 2002). The impacts of construction and operation have been considered together for each item in order to consider the overall impact on heritage significance.
- ▶ providing mitigation and management measures.

Impact assessment

The impact assessments and statements of heritage impact have been prepared in accordance with the *Statements of Heritage Impact* (Heritage NSW, 2002).

Table 11-1 identifies the impact rating categories that have been applied to all listed items, unregistered potential heritage items and conservation areas considered in this assessment.

TABLE 11-1 IMPACT RATING

Level of impact	Description
Major	Major damage is irreversible and extensive damage caused to a registered or potential heritage item, such as the construction of larger or prominent structures immediately adjacent to the heritage item, demolition or extensive removal of associated fabric or structures, or extensive addition of new fabric.
Moderate	Moderate damage is caused to a registered or potential heritage item. This damage may include the construction of larger or prominent structures in the vicinity of the heritage item, partial demolition or removal of associated fabric or structures, or partial addition of new fabric.
Minor	Minor damage is caused to a registered or potential heritage item. This damage may include the construction of larger or prominent structures at a distance from the heritage item or removal of associated structures.
Negligible	Any damage caused is fully recoverable with no permanent effect on the registered or potential heritage item.

Where a heritage item has multiple listings (i.e. at a local and state level), the item can also have multiple curtilages and variations in its description. Where this occurs:

- ▶ the sum of the curtilage has been assessed for impact (the total area covered by the listings)
- ▶ the impact has been assessed for each individual item but the overall impact rating has been provided for the group
- ▶ where items included in a group listing, but are not within the curtilage (e.g. where the state heritage register describes items outside the curtilage), the impact has been assessed to the items described in the state heritage listing.

11.2.4 Key risks

An environmental risk assessment was undertaken for the proposal (refer Appendix E: Environmental risk assessment). Potential impacts on non-Aboriginal heritage with an assessed risk rating of medium or above are:

- ▶ potential direct and indirect impacts on listed heritage items
- ▶ infrastructure designs that detract from the heritage significance of heritage items
- ▶ disturbance of areas of archaeological potential
- ▶ disturbance of unknown heritage items (e.g. archaeological items) during construction.

11.3 Existing environment

There are 42 registered heritage listed items, including five conservation areas, with curtilages that overlap with 20 enhancement sites, as shown in Figure 11-1 to Figure 11-4. Several of these sites have multiple listings on state, local and section 170 registers.

The majority of these heritage items were established with, or followed the construction of, the railway network and their heritage values form part of the fabric of the Main South Line rail corridor and/or are associated with the railway's history. This includes the establishment of railway stations, the agricultural and commercial purposes of the railway network, and vehicle and pedestrian access over and within the railway precincts.

Three unregistered potential heritage items were also identified during the targeted field survey within three enhancement sites, being the Edmondson Street bridge at Wagga Wagga, the Yerong Creek Station archaeological site and the Kemp Street bridge at Junee. These items are discussed further in section 11.3.2.

An additional 86 heritage listed items were identified within 200 m of the proposal site, including the Junee Post Office near the Junee Station pedestrian bridge enhancement site that is on the Commonwealth Heritage List (CHL ID 105500) and State Heritage Register.

No heritage items included on the National Heritage List were identified within the proposal site; likewise, there were no world heritage items identified in the proposal site or within 200 m of the rail corridor.

No heritage items overlap with the Billy Hughes bridge, Table Top Yard clearances, Olympic Highway underbridge and the Junee to Illabo clearances enhancement sites.

11.3.1 State heritage items within the proposal site

There are nine heritage items listed on the State Heritage Register (SHR) with curtilages that overlap with 14 enhancement sites. Several of these items are also registered on LEPs or section 170 registers.

A description of each heritage item is provided below. Further detail is provided in section 4 of Technical Paper 3: Non-Aboriginal heritage.

Albury precinct

Albury rail bridge over the Murray River (SHR 01020)

The state heritage listed bridge overlaps with the Murray River bridge enhancement site. The bridge is also listed on ARTC's section 170 register (4280312) and the Albury Local Environmental Plan 2010 (Albury LEP) (I204). The Murray River bridge is a double-track, three-span steel lattice truss bridge. It has rivetted steel pillars and cast concrete and steel pylons. The bridge is predominantly in good condition, although has extensive graffiti damage.

Albury Railway Station and Yard Group (SHR 01073)

The state and locally heritage listed Albury Railway Station and Yard Group overlaps with the Albury Station pedestrian bridge, Albury Yard clearances and Riverina Highway bridge enhancement sites, as shown in Figure 11-1. The heritage listing includes structures built as early as the 1880s. The item is also listed on the ARTC and Transport for NSW (TfNSW) (formerly Railcorp) section 170 registers (4280274), and the Albury LEP. Multiple local heritage items within the group are listed individually under the Albury LEP (Albury Railway Station (I206), Albury signal box and footbridge (I207), Transshipment shed (I208), Railway turntable (I209) and Railway workers hut (I210)).

The Albury Railway Station is a substantial and ornate structure, built in the Victorian Italianate style. It comprises a highly symmetrical, single-storey building. The platform is a mixture of brick and stone construction. The station building appears to be in good condition.

Immediately adjacent to the station platform is the North Signal Hut (also known as the Albury signal box in the Albury LEP). The hut is a two-storey brick and timber structure with a gabled roof. Its external connection to the railway tracks appears to be intact, as does the toilet cupboard. The entire building is in fair-to-poor condition, as the timber work shows signs of deterioration but maintains a high integrity.

A pedestrian bridge abuts the North Signal Hut on its northern face. The pedestrian bridge is a steel-framed structure with timber treads constructed in a simplified form of the Warren truss. At its eastern extent, it connects to a more recent bridge that spans across the Hume Highway.

The South Signal Hut is a one- and two-storey brick structure with a tiled roof. Some remnant switching gear appears to remain within the building and attached to the railway tracks. It is in poor condition with evidence of extensive vandalism.

The transshipment shed is located on the eastern side of the railway yard. It comprises a single central brick and concrete platform with railway tracks running either side, covered by timber-framed open-sided shed with asbestos sheet clad roof. It is in fair condition, with some smoke or heat damage to the upper timber framing.

Potential archaeological deposits were identified during targeted field surveys within the Albury Railway Station Yard including the:

- ▶ Albury Railway Station Yard—Several areas of extant, unused railway track are visible in the yard, and additional pieces of track are likely to be present subsurface. Some of this track is likely to be remnant broad-gauge rail, particularly around the location of the North Signal Hut
- ▶ Railway station goods shed—A large remnant brick footing pad and areas of crushed brick were visible.

An additional four signal boxes were also identified in Albury Railway Station Yard during the field survey. These signal boxes were arranged in two set of pairs comprising Signal Boxes 1a and 2b and Signal Boxes 2a and 2b.

Greater Hume–Lockhart precinct

Culcairn Railway Station and Yard Group (SHR 01126)

The state and locally heritage listed Culcairn Railway Station and Yard Group overlaps with the Culcairn Yard clearances and pedestrian bridge enhancement sites. The item is also listed on the ARTC and TfNSW (formerly Railcorp) section 170 registers (4280282), and the Greater Hume Local Environmental Plan 2012 (Greater Hume LEP) (I44).

The Culcairn Railway Station was built in 1880 and modified in 1915. The building is a weatherboard structure with a gabled roof clad in corrugated iron sheets. A concrete slab has been added to the surface of the brick platform to raise the height. The Station Master's residence is a two-storey brick structure in the Victorian Filigree style. Both buildings appear to be in good condition.

The pedestrian bridge is located alongside Balfour Street and was built in 1920. The main structure is a simplified form of Warren truss spanning two tracks, with two double-flight sets of stairs. The pedestrian bridge is now disused and a level pedestrian crossing is provided adjacent to the roadway.

Henty Railway Station and Yard Group (SHR 01169)

The state and locally heritage listed Henty Railway Station and Yard Group overlaps with the Henty Yard clearances enhancement site. The item is also listed on the ARTC and TfNSW (formerly Railcorp) section 170 registers (4280285) as well as the Greater Hume LEP (I78).

The station building is a weatherboard structure with a skillion roof clad in corrugated iron sheets. The platform is of brick construction and additional courses of bricks have been added to the surface of the platform to raise the height. The station building and platform appear to be in good condition.

The goods shed is a timber-framed structure with steel uprights and supports, a timber loading platform on the northern end, access platform on the track side, and steps on the southern end of the platform. The structure is clad with corrugated iron sheets, and it has a curved corrugated iron clad roof. The roof and a number of the wall corrugated iron sheets have been replaced. The goods shed is largely in good condition, although the external timber platforms have deteriorated and there is evidence of vandalism and squatting. The original roof and wall corrugated iron sheets are present beneath the loading platform.

The Rock Station and Yard Group (SHR 01268)

The state and locally heritage listed The Rock Station and Yard Group overlaps with The Rock Yard clearances enhancement site. The item is also listed on the ARTC and TfNSW (formerly Railcorp) section 170 registers (4280256), as well as the Lockhart Local Environmental Plan 2012 (Lockhart LEP) (I10). However, the curtilage of the LEP listing does not overlap with the enhancement site.

The Rock Railway Station, built in 1880, is a weatherboard structure with a gabled roof clad in corrugated iron sheets. The gantry crane is located in the centre of the railway yard. The Station Master's residence is a simple brick building, which has been rendered. Both buildings appear to be in good condition, although many of the rooms in the station building have been closed up.

Wagga Wagga precinct

Wagga Wagga Railway Station and Yard Group (SHR 01279)

The state and locally heritage listed Wagga Wagga Railway Station and Yard Group overlaps with the Wagga Wagga Yard clearances, Wagga Wagga Station pedestrian bridge and Edmondson Street bridge enhancement sites, as shown in Figure 11-3. The item is also listed on the ARTC and TfNSW (formerly Railcorp) section 170 registers (4280250 and 4280661), as well as the *Wagga Wagga Local Environmental Plan 2010* (Wagga Wagga LEP). Multiple local heritage items within the group are listed individually under the Wagga Wagga LEP (Railway Station and Yard Group (I98), Stationmaster's Residence (former) (I99) and Best Street Railway Gatehouse (former) (I254)). The Stationmaster's Residence (former) is not within the state heritage curtilage but is described in the state heritage listing.

The Wagga Wagga Railway Station, built in 1879, is a substantial and ornate structure, built in the Victorian Free Classical style. It comprises a highly symmetrical, single-storey building.

West of the station building is the Wagga Wagga pedestrian bridge, which was built in 1936. It is a simple steel girder bridge with a steel post-and-rail safety barrier and straight lateral bracing post. The pedestrian bridge is in fair condition. This bridge does not contribute to the heritage significance of the railway precinct.

Immediately west of the station building is a building that houses the Wagga Wagga Railway Museum. The building is a single-storey brick building with a corrugated iron sheet clad roof.

Southwest of the station building is the former Best Street gatehouse. It has a T-shaped floorplan and has been constructed from brick with a corrugated iron roof (partially missing). It also has an external water closet and laundry structure. The building is in poor condition, with evidence of fire damage, ongoing squatting and general disrepair.

Bomen Railway Station (SHR 01093)

The state and locally heritage listed Bomen Railway Station overlaps with the Bomen Yard clearances enhancement site. The item is also listed on ARTC's 170 heritage register (4280278) and Wagga Wagga LEP (I8). The adjoining Station Master's residence (former) (I9) was removed from the state heritage listing following its 1994 sale.

The Bomen Railway Station building is a small, unpainted brick building with a corrugated iron clad hipped roof. The veranda is supported by simple timber posts, which is not typical of NSW Government railway style. A well with decorative iron elements is located at the station.

Junee precinct

Junee Railway Station, Yard and Locomotive Depot (SHR 01173)

The state and locally heritage listed Junee Railway Station, Yard and Locomotive Depot overlaps with the Junee pedestrian bridge and Junee Yard clearances enhancement sites, as shown in Figure 11-4. The item is also listed on the ARTC and TfNSW (formerly Railcorp) section 170 registers (4280760), as well as the *Junee Local Environmental Plan 2012* (Junee LEP). This includes two individual items under the Junee LEP (Junee Railway Station (I8) and Junee Railway Refreshment Rooms (I10)). The local listing for Junee Railway Station (I8) item overlaps with the Kemp Street bridge enhancement site.

The Junee Railway Station is a substantial and ornate structure, built in the Victorian Free Classical style. It comprises a highly symmetrical, single-storey building.

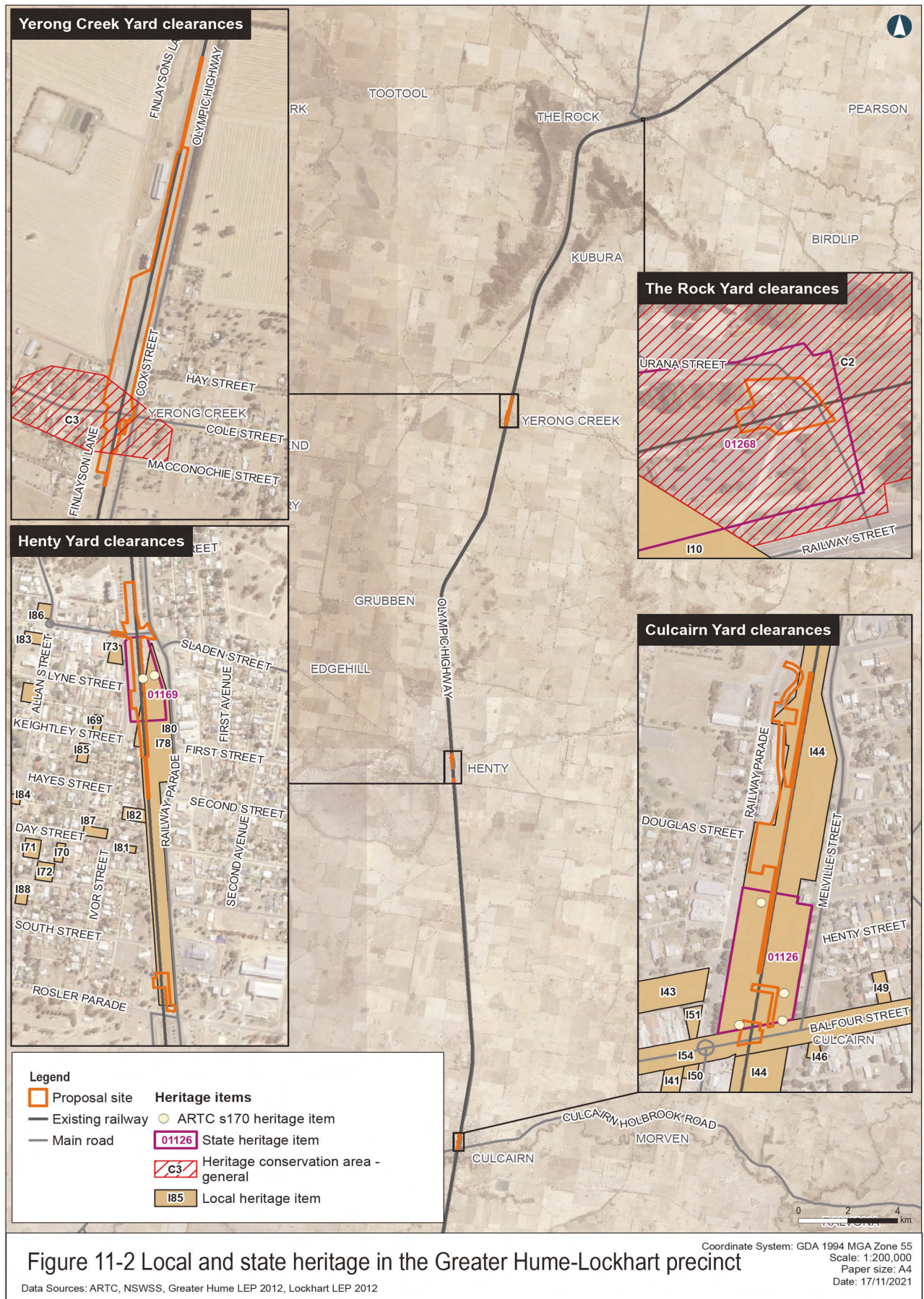
The Junee Locomotive Depot/Roundhouse is located around 500 m south of Kemp Street bridge and does not overlap with any enhancement site. The depot/roundhouse comprises a circular brick building split into two 'halves', with the internal structure laid out in a radial pattern from a central turntable. The building is in fair condition but slightly derelict.

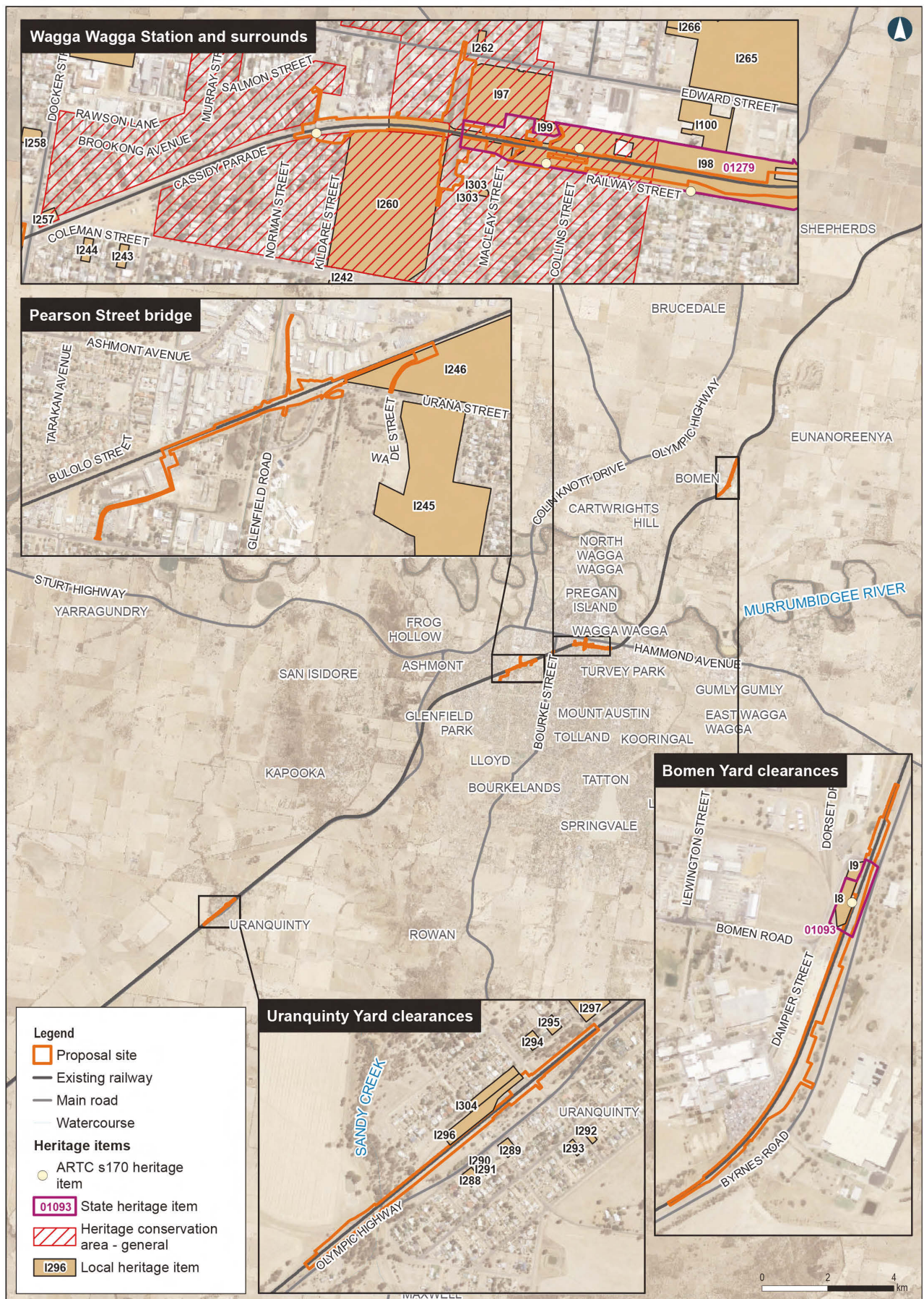
The pedestrian bridge is not included in the state heritage register description for this item. It is one of 30 Warren truss designed railway footbridges identified in NSW, which are becoming increasingly rare. This component has been viewed as part of the wider railway listing. The bridge is now disused.

On the south-western edge of Junee Yard are two small brick office buildings. These are not specifically included in the state heritage register description. The buildings are in poor condition, with evidence of vandalism and squatting.

Junee Railway Station moveable relics (SHR 01172)

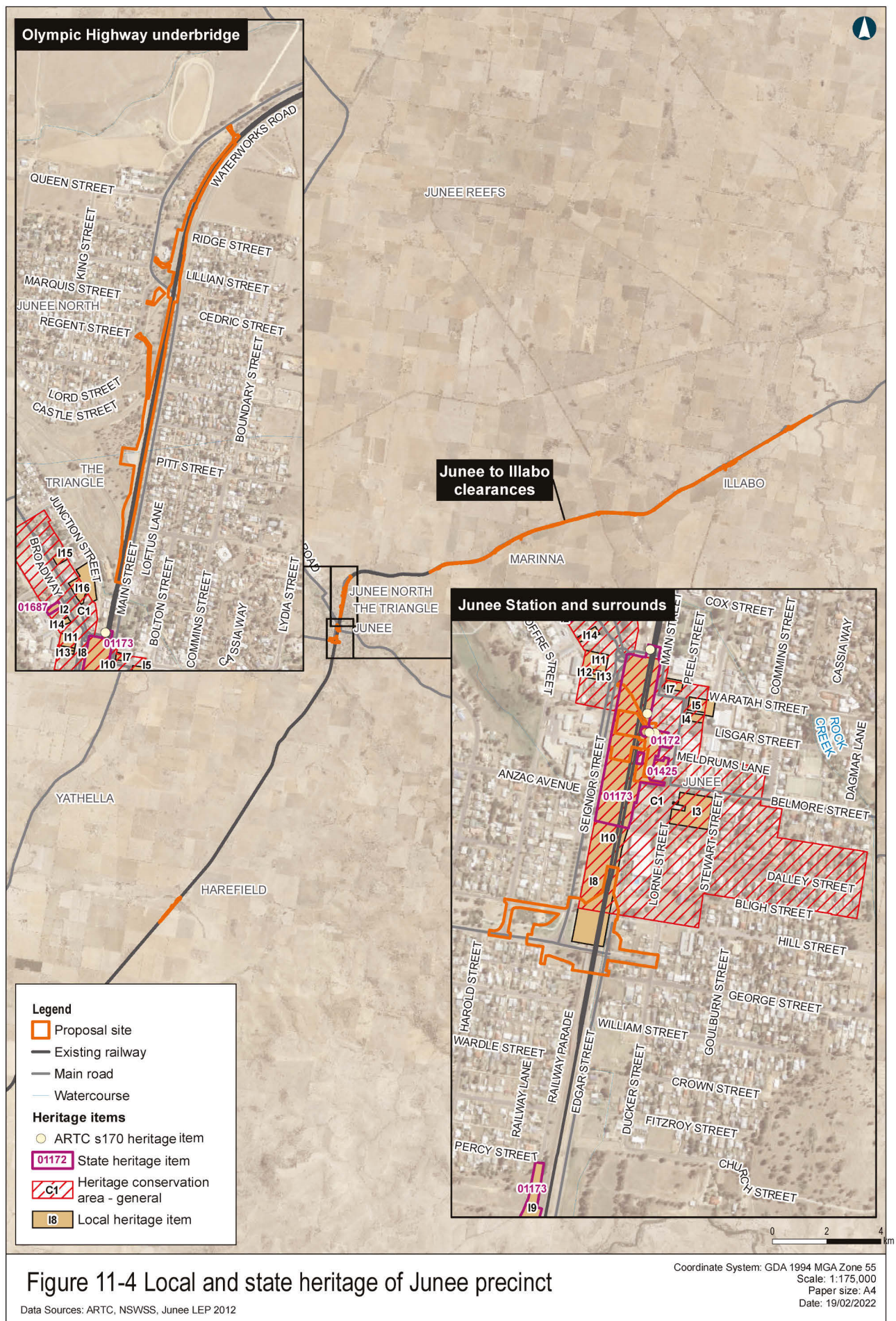
The moveable relics associated with Junee Railway Station are stored across the railway yard. The relics include items such as signage, benches, stormwater grates, lamp posts and indoor furniture.





Data Sources: ARTC, NSWSS, Wagga Wagga LEP 2010

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11.3.2 Local and unregistered potential heritage items that overlap with the proposal site

Items that are listed as heritage items in one of the relevant LEPs or s170 heritage registers, and that overlap with the proposal site, are described in Table 11-2. Table 11-2 also describes items that were identified within the proposal site during the assessment as having potential heritage value but were not listed in an LEP or a section 170 heritage register.

TABLE 11-2 LOCAL AND UNREGISTERED POTENTIAL HERITAGE ITEMS THAT OVERLAP WITH THE PROPOSAL SITE

Precinct	Heritage item	Listing	ID	Description
Albury	Murray River bridge enhancement site			
	Railway bridge	Local (Albury LEP)	I204	This item is captured under the state heritage Albury rail bridge over the Murray River, which is described in section 11.3.1. It is also listed on the ARTC's section 170 register.
		s170	4280312	
	Albury Railway Station pedestrian bridge, Albury Yard clearances and Riverina Highway bridge enhancement sites			
	Albury Railway Station and Yard Group	s170	4280274	These items also captured under the state heritage Albury Railway Station and Yard Group, which is described in section 11.3.1. It is also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register. The station building appears to be in good condition, while the North Signal Hut (also known as the Albury signal box in the Albury LEP ¹) is in fair-to-poor condition, with timber work showing signs of deterioration. The transshipment shed is in fair condition with some smoke or heat damage to upper timber framing. The Railway turntable (I209) is located within the yard but does not overlap with the Albury Yard clearances enhancement site.
	Albury Railway Station	Local (Albury LEP)	I206	
	Albury signal box and footbridge	Local (Albury LEP)	I207	
	Transshipment shed	Local (Albury LEP)	I208	
	Railway turntable	Local (Albury LEP)	I209	
	Railway workers' hut	Local (Albury LEP)	I210	
Railway conservation area	Local (Albury LEP)	C13	The conservation area comprises the Albury Railway Station and Yard.	
Greater Hume–Lockhart	Culcairn pedestrian bridge and Culcairn Yard clearances enhancement sites			
	Culcairn Railway Station and Yard Group	Local (Greater Hume LEP)	I44	This item is captured under the state heritage Culcairn Railway Station and Yard Group, which is described in section 11.3.1. It is also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register.
		s170	4280282	
	Street trees	Local (Greater Hume LEP)	I54	A portion of the heritage curtilage is located in the enhancement site; however, the closest heritage listed trees are located 5–15 m from the enhancement site on either side of Balfour Street.
	Henty Yard clearances enhancement site			
	Henty Railway Station and Yard Group	Local (Lockhart LEP)	I78	This item is captured under the state heritage Henty Railway Station and Yard Group, which is described in section 11.3.1. It is also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register.
		s170	4280285	
	Yerong Creek Yard clearances enhancement site			
	Yerong Creek Urban Conservation Area	Local (Lockhart LEP)	C3	Partially overlaps with, and adjacent to, the railway corridor, the conservation area includes a number of 19th and early 20th century buildings.
	Yerong Creek Railway Station archaeological site	Unregistered potential heritage item	–	An area adjacent to the 19th century brick railway platform, which is likely the site and archaeological remnants of the old railway station, and is considered to have a local significance level.

Precinct	Heritage item	Listing	ID	Description
	The Rock Yard clearances enhancement site			
	The Rock Station and Yard	Local (Lockhart LEP)	I10	This item is captured under the state heritage The Rock Station and Yard, which is described in section 11.3.1.
		s170	4280256	It is also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register.
	The Rock Urban Conservation Area	Local (Lockhart LEP)	C2	Partially overlaps with and adjacent to the railway corridor, the conservation area includes a number of 19th and early 20th century buildings. The station building and station master's residence appear to be in good condition, although many of the rooms in the station building have been closed up.
Wagga Wagga	Uranquinty Yard clearances enhancement site			
	Uranquinty silos	Local (Wagga Wagga LEP)	I296	The silos comprise three older concrete silos capped by a grain elevator, and two modern steel silos.
	Pearson Street bridge enhancement site			
	Wagga Wagga Showground, 'Kyeamba Smith' Hall, and grandstand	Local (Wagga Wagga LEP)	I246	The Wagga Wagga Showground includes a number of early and mid-20th century buildings, including the 'Neil Skeers' Grandstand, the 'Kyeamba Smith' Hall and several other contemporary buildings. The Grandstand and the Hall appear to be in fair condition. The small area within the proposal site is used as a campground.
	Cassidy Parade pedestrian bridge enhancement site			
	Cassidy Parade and Brookong Avenue footbridge	ARTC s170	4280661	This pedestrian bridge has been constructed from cast concrete with a steel pipe and wire railing fence. The design of the pedestrian bridge has been identified as a unique feature of the NSW railway heritage landscape, with no comparable examples known. It was opened in 1965. The pedestrian bridge appears to be in good condition, although there is graffiti damage.
	Edmondson Street bridge, Wagga Wagga Station pedestrian bridge and Wagga Wagga Yard clearances enhancement sites			
	Wagga Wagga conservation area	Local (Wagga Wagga LEP)	I246	Partially overlaps with, and adjacent to, the railway corridor, the conservation area includes a number of 19th and early 20th century buildings.
	Mount Erin Convent, Chapel, High School, and Grounds	Local (Wagga Wagga LEP)	I260	This complex comprises of a number of buildings, many of which date to the late 19th century and extensive mature plantings, which screen much of the site from external views.
	Edmondson Street bridge	Unregistered potential heritage item	—	The bridge is in the Wagga Wagga conservation area but has not been identified specifically as a contributory item. The bridge is a steel-framed girder bridge with red brick masonry. A significance assessment presented in section 4.5.2 of Technical Paper 3: Non-Aboriginal heritage concluded that it may meet two of the seven SHR criteria and has potential heritage significance at a local level. This item was identified as potentially having local significance as it shares a similar design and likely was part of a design template for bridges. It is unknown how many of these bridges remain.

Precinct	Heritage item	Listing	ID	Description
	Wagga Wagga Railway Station and Yard Group	s170	4280250	These items are also captured under the state heritage Wagga Wagga Railway Station and Yard Group, which is described in section 11.3.1 and also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register. The former Best Street Railway Gatehouse is in poor condition, with evidence of fire damage, ongoing squatting, and general disrepair, while the footbridge is in fair condition.
	Best Street Railway Gatehouse (former)	Local	I254	
	Wagga Wagga Railway Station	Local (Wagga Wagga LEP)	I98	
	Station Master's Residence (former)	Local (Wagga Wagga LEP)	I99	
	Bomen Yard clearances			This item is captured under the state heritage Bomen Railway Station, which is described in section 11.3.1. It is also listed on ARTC's section 170 register.
	Bomen Railway Station	Local (Wagga Wagga LEP)	I8	
		s170	4280278	
Junee	Kemp Street bridge, Junee Station pedestrian bridge and Junee Yard clearances enhancement sites			
	Kemp Street bridge	Unregistered potential heritage item	–	The bridge is a steel-framed girder bridge with red brick masonry, which spans the entire railway corridor. The bridge is in good condition and is free from any modifications, maintaining high design integrity. A significance assessment presented in section 4.5.2 of Technical Paper 3: Non-Aboriginal heritage concluded that it may meet two of the seven SHR criteria and has potential heritage significance at a local level. This item was identified as potentially having local significance as it shares a similar design and likely was part of a design template for bridges. It is unknown how many of these bridges remain.
	Junee Station, Yard, and Locomotive Depot	s170	4280760	These items are also captured under the state heritage Junee Railway Station, Yard, and Locomotive Depot, which is described in section 11.3.1 and also listed on ARTC's section 170 register and TfNSW's (formerly Railcorp) section 170 register.
	Junee Railway Station	Local (Junee LEP)	I8	
	Junee Railway refreshment rooms	Local (Junee LEP)	I10	
	Junee Heritage conservation area	Local (Junee LEP)	C1	
				Partially overlaps with, and adjacent to, the railway corridor. The conservation area includes a majority of late 19th century buildings but some 1920s–1930s structures are present.

1. This assessment assigns the term 'signal hut' to structures that can accommodate an operator for an extended period of time, and 'signal box' for smaller structures that can accommodate an operator for immediate requirements but not for an extended period of time. For this reason, the brick signal structure at Albury Station that is covered by Albury LEP is referred to as the North Signal Hut.

11.3.3 Heritage items beyond the proposal site

Within 200 metres

Of the 86 registered heritage items, all are of local heritage significance except for the:

- ▶ Commercial Hotel and Cottage (a state heritage item) located around 150 m from the Albury Station pedestrian bridge enhancement site
- ▶ Junee Post Office (a state and Commonwealth heritage item) located 20 m from the Junee Station pedestrian bridge enhancement site
- ▶ former Jadda Centre at Junee (a state heritage item) located around 175 m from the Junee Station pedestrian bridge enhancement site.

The heritage items comprise residences (including former station master residences), public buildings (such as community halls, schools, court houses, post offices, churches or police stations), industrial uses, (such as silos and flour mills) and commercial properties (including hotels, former bank buildings, stores and corner stores).

Beyond 200 metres

Heritage items that are located beyond 200 m of the railway corridor (and enhancement sites) are generally unable to directly view the railway corridor due to intervening structures. In addition to this, views to heritage items, such as Murray River bridge, are also restricted due to screening from vegetation and existing structures when viewed at a distance.

11.3.4 Areas of archaeological potential

Potential archaeological deposits within the Albury Railway Station Yard and Yerong Creek Railway Station archaeological site were identified through the desktop assessment and targeted field surveys, as described in section 11.3.1. At Albury Yard, the archaeological deposits may contribute to an understanding of the historical path of the railway tracks through the railway yard and varying phases of this, e.g. remnant railway track, cut-and-fill features, and other structural remains. At Yerong Creek Yard, the archaeological deposits in the vicinity of the demolished station building may contribute to an understanding of the building layout, its construction method and materials, and the users of the railway station (e.g. from lost items or other occupational deposits).

Due to the historical railway infrastructure identified along the proposal site, the potential presence of further archaeological potential could not be discounted. A heritage unexpected finds protocol would be implemented in the event of any unexpected finds during construction (refer to section 11.5.2).

11.3.5 Viewsheds and vistas

Many of the existing viewsheds that define the railway corridor are confined to the individual station precincts. In these spaces, the views are generally characterised by long-reaching views down the railway line, which are framed by the buildings and landscapes that are immediately adjacent to the corridor. Visibility beyond this boundary is largely restricted, with views to other features obscured by the structures adjacent to the railway corridor. This is particularly evident in areas that have been built up, e.g. Albury Station and Wagga Wagga Station, and/or are predominantly level, e.g. Junee Station.

Most of the heritage items identified within 200 m of the proposal site have interrupted views to or from the rail corridor and are largely obscured by the structures immediately adjacent to the rail corridor. Due to this, most of the heritage items that have views of the rail corridor are generally sited within its immediate vicinity (e.g. immediately adjacent).

Where views beyond the railway corridor are not obscured, they tend to be of prominent geographical features (e.g. The Rock). Outside of the railway station precincts and urban areas, the railway corridor is characterised by wide, sweeping views of agricultural landscapes.

11.3.6 Curtilages

The curtilage of a heritage item is the land surrounding the item that is essential for retaining and interpreting its significance. Curtilages are defined for items and areas listed on the SHR, LEPs and Section 170 registers, and often form the listing boundary. In the majority of instances, these align to cadastral boundaries. Exceptions include conservation areas, which often encompass wide ranging areas.

Individual items listed on Section 170 registers may not necessarily have a defined curtilage, with the boundary of the item being confined to the item itself. Impacts to heritage curtilages generally stem from changes to cadastral boundaries or when development is proposed that would encroach on the curtilage.

11.4 Impact assessment

The proposal would support the historical and ongoing use of the rail corridor for freight and passenger transport; however, the proposal would result in direct and indirect impact to multiple heritage structures and archaeological areas during construction and operation. This includes potential impacts from vibration, demolition, archaeological disturbance, altered historical arrangements and access, aesthetic changes, changes to visual amenity, viewsheds and vistas, and at-property noise treatments.

Potential impacts of subsidence were considered and found to have no impact on the identified registered heritage items. Significant views or references to significant view lines were not identified during the register searches. During construction, vibration-intensive works such as piling and vibratory compaction would occur within safe working distances to some heritage structures (refer to section 15.4.2). If heritage items remain within safe working distances based on the detailed design and final construction methodologies, further assessment (including a structural assessment) and vibration impact monitoring (if required) would be completed to ensure safe vibration levels for the structures are met. The risk of cosmetic damage would be mitigated in accordance with the management measures outlined in Chapter 15: Noise and vibration.

Accidental damage due to construction work occurring within or adjacent to a heritage item would be managed through exclusion measures, training, monitoring, and other controls (refer to section 11.4 of the EIS).

Except for the Cassidy Parade and Brookong Avenue footbridge, the proposal would not have an impact on the curtilage of any other registered heritage items with works occurring entirely within or entirely outside the heritage curtilage of each item. The Cassidy Parade and Brookong Avenue footbridge has no defined curtilage and so its boundary is defined by the bridge structure itself. The demolition would require the heritage item to be removed from the Section 170 register.

Ongoing operational impacts (beyond direct changes to heritage fabric) are largely restricted to impacts caused by the vibration of passing trains. These are predicted to be negligible, as items located in close proximity to the railway corridor are already subject to operational rail vibration. Where there is risk of impact to identified heritage items during maintenance works, these would be considered according to the nature of the works and managed through standard mitigation measures. For further discussion on vibration impacts refer to section 15.5.2 of this EIS.

The following sections provide an assessment of the construction and operational impacts of the proposal on the heritage items in the proposal site and those located in proximity to the proposal site.

11.4.1 Impacts to state heritage within the proposal site

Impacts to state heritage listed items are described below.

TABLE 11-3 STATE HERITAGE ITEMS WITHIN THE PROPOSAL SITE

Precinct	Proposed impacts	Assessment summary
Albury	Albury rail bridge over the Murray River (SHR 01020, 4280312 and I204)	
	<p>The existing Murray River bridge does not provide sufficient clearance for the passing of double-stacked freight trains.</p> <p>The proposal would modify the existing bridge to a sufficient height. The proposal would involve:</p> <ul style="list-style-type: none"> raising the top bracing by approximately 2 m (including installation of new bracing) removal of the original top bracing framework reinforcement of bridge structure addition of permanent walkway temporary construction work platforms running of larger, more frequent trains. <p>Key impacts of the proposal would include the partial demolition of the structure and the addition of new fabric as well as changes to the viewshed and aesthetic values.</p>	<p>While the proposal would require the removal of original fabric and would alter the visual appearance of the bridge, the new fabric would be designed and installed in a manner that is sympathetic to the heritage style of the bridge (see section 7.2.2 of this EIS). This would reduce the impact on the overall character of the bridge. Further, the proposal would not alter views to/from the bridge, and the adaptation of the existing railway bridge would not impact on the heritage values of the bridge.</p> <p>The heritage values of the bridge are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the bridge.</p> <p>Overall, the proposed works would have a moderate impact on the heritage significance of the Murray River bridge.</p> <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion see Table 5.2 of Technical Paper 3: Non-Aboriginal heritage.</p>
Albury	Albury Railway Station and Yard Group (SHR 01073, 4280274, I206, I207, I208, I209 and I210)	
	<p>The proposal would modify the existing track and associated overhead structures to a sufficient height and width to support the safe running of double-stacked freight trains. The proposal would have direct and potential indirect impacts on the Albury Railway Station and Yard by the following key activities:</p> <ul style="list-style-type: none"> demolition of the pedestrian bridge and construction of a new pedestrian bridge demolition of Signal Box 1a construction activities and removal of redundant track in proximity to built heritage components construction of new track in an area of archaeological potential establishment of a temporary construction compound in areas of archaeological potential running of larger, more frequent trains. <p>There are no works to the railway workers' hut or turntable.</p>	<p>The demolition of the pedestrian bridge would have a major impact on the significance of the pedestrian bridge, which is identified as a contributing factor to the listing and as a vanishing characteristic of the wider heritage landscape. The replacement bridge has been designed to reduce the visual impact of the new structure within the historic character of the yard and landscape. The design would be refined during detailed design to further reduce the visual impact of the new bridge. Further detail on the urban design treatments (refer to section 7.5 of this EIS and Technical Paper 10: Landscape and visual).</p> <p>The proposal would also have impacts on the aesthetic and viewshed of the group, primarily due to the new bridge structure; however, the proposal would largely be in keeping with the primary function of the yard and its visual display, and would not change the character of the viewshed.</p> <p>The realignment of the track within the yard would require the demolition of Signal Box 1a as well as disturbance of archaeological material associated with the broad-gauge railway track.</p>

Precinct	Proposed impacts	Assessment summary
	<p>Key impacts of the proposal would include direct impact to heritage fabric and structures (including demolition), disturbance of archaeological material, and potential impacts due to the addition of new fabric, vibration, changes to the viewshed and aesthetic values.</p> <p>As discussed in section 6.3.3 of this EIS:</p> <ul style="list-style-type: none"> ▶ The replacement of the bridge was selected as the preferred option as it required fewer changes to connecting infrastructure and avoided potential land acquisition, while maintaining connectivity and delivering a DDA-compliant bridge. As discussed in section 6.3.3 of this EIS, other options (including track lowering or reinstatement of the bridge) were not considered to be technically feasible. ▶ The preferred option for the track realignment was selected as it reduced the potential interaction with the North Signal Hut during construction and operation, given clearances to the structure and adjustments to track formation. It also afforded other operational and construction benefits when compared to the available alternative (refer to section 6.3.3 of this EIS). 	<p>The demolition of Signal Box 1a would have a major impact on its significance and would disrupt the visual continuity and relationship between the supporting signal boxes.</p> <p>The removal of the redundant track would remove the connection between the existing North Signal Hut and its lever system (although disconnected). This would have a moderate impact on the heritage significance of the hut.</p> <p>The removal of the redundant track and addition of a temporary construction compound has the potential to have a major impact on the significance of potential archaeological material associated with the broad-gauge railway track.</p> <p>The alterations to the utilities, including the adjustments to an existing telecommunications pole would have a negligible impact on the railway station building.</p> <p>The heritage values of the bridge are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the bridge.</p> <p>Overall, the proposal would have a moderate impact on the overall heritage significance of the Albury Railway Station and Yard Group (01073/4280274). This takes into account the impacts on individually registered items that range from a major impact (I207), minor (I206) and negligible (I210, I209, I210), as well as major impacts on the unregistered potential heritage signal boxes and the remnant broad-gauge railway track.</p> <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>
Greater Hume, Lockhart	<p>Culcairn Railway Station and Yard Group (SHR 01126, I44 and 4280282)</p> <p>The proposal would modify the existing track and associated overhead structures to a sufficient height and width to support the safe running of double-stacked freight trains.</p> <p>The proposal would have direct and potential indirect impacts on the heritage item as a result of the following key activities:</p> <ul style="list-style-type: none"> ▶ removal of the closed pedestrian bridge ▶ construction works associated with track realignment and modifications to the level crossing ▶ modifications to an existing gantry ▶ running of larger, more frequent trains. <p>Key impacts of the proposal would include direct impacts to heritage fabric and structures (including removal), vibration, changes to the viewshed and aesthetic values.</p> <p>As detailed in section 6.3.3 of this EIS, the removal of the disused bridge was selected as the preferred option, as an existing at-grade and shorter alternative is available. Other alternatives (including bridge reinstatement and track lowering) were not considered technically feasible.</p>	<p>Although the proposal would result in trains of an increased height, this would not impact on the heritage significance of the group, as it is already characterised by trains.</p> <p>The removal of the pedestrian bridge would have a major impact on the overall heritage significance of the pedestrian bridge which is identified as a contributing factor to the listing and as a vanishing characteristic of the wider heritage landscape.</p> <p>The presence and position of the bridge within the yard has been identified as a contributing item to the significance of the group. While it is a prominent feature, it is not the focal point within the yard, and its removal would have a minor impact on the viewshed of the heritage item. Impacts on the aesthetics of the heritage item would be moderately impacted by the proposal as it would alter the visual appearance and distribution of structures within the yard; however, the changes within the yard would be in keeping with the primary function of the yard and its visual display.</p> <p>The heritage values of the group are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the group.</p>

Precinct	Proposed impacts	Assessment summary
		<p>The proposal would have a moderate impact on the overall heritage significance of the Culcairn Railway Station and Yard Group.</p> <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion, see Table 5.2 of Technical Paper 3: Non-Aboriginal heritage.</p>
	Henty Railway Station and Yard Group (SHR 01169, I78 and 4280285)	
	<p>The proposal would modify the existing track and associated overhead structures to a sufficient height and width to support the safe running of double-stacked freight trains. The proposal would have direct and potential indirect impacts on the heritage item by the following key activities:</p> <ul style="list-style-type: none"> ▶ slewing a section of the railway track for approximately 600 m ▶ removal of several redundant sidings ▶ establishment of temporary construction compounds within the curtilage of the heritage item (but would be located away from station building, platform, and goods shed) ▶ modification of the level crossing at Sladen Street to facilitate safer pedestrian access ▶ existing signalling infrastructure would be replaced ▶ modification to existing drainage lines ▶ running of larger, more frequent trains. <p>Key impacts of the proposal would include direct impacts to vibration, changes to the viewshed and aesthetic values.</p>	<p>The adaptation of the existing railway corridor to allow for and the running of taller trains would not impact on the heritage values of the group.</p> <p>There are no proposed works to the structures associated with the Henty Railway Station and Yard Group. The proposal has been designed in a manner that prevents impact to the goods shed (refer to section 6.4 of the EIS).</p> <p>The heritage values of the group are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the group.</p> <p>The proposal would have a negligible impact on the overall heritage significance of the Railway Station and Yard Group. For further discussion see Table 5.2 of Technical Paper 3: Non-Aboriginal heritage.</p>
	The Rock Station and Yard Group (SHR 01268, I10 and 4280256)	
	<p>The proposal would involve the modification of one overhead gantry structure. There are no proposed works to the structures associated within The Rock Railway Station and Yard Group heritage listing.</p> <p>Key impacts of the proposal would include direct impacts to vibration, changes to the viewshed and aesthetic values.</p>	<p>The adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the group.</p> <p>The minor works at this location would not change the viewshed and would be in keeping with the primary function of the yard and its visual display.</p> <p>It would have negligible impact on the overall heritage significance of heritage item. For further discussion see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>
Wagga Wagga	Wagga Wagga Railway Station and Yard Group (SHR 01279, 4280250, I98, I99, I254)	
	<p>The proposal would modify the existing track and associated overhead structures to a sufficient height and width to support the safe running of double-stacked freight trains. The proposal would have direct and potential indirect impacts on the heritage item as a result of the following key activities:</p> <ul style="list-style-type: none"> ▶ demolition of the Wagga Wagga Railway Station footbridge and construction of a new pedestrian bridge ▶ demolition of Edmondson Street bridge and construction of the replacement road bridge (adjacent to the heritage item) ▶ realignment of track and associated construction activities in proximity to built heritage components ▶ other modifications to rail-related infrastructure, such as signals and the removal of a gantry ▶ temporary construction compounds ▶ running of larger, more frequent trains. <p>Key impacts of the proposal would include direct impacts to heritage fabric and structures (including</p>	<p>The Wagga Wagga Railway Station footbridge has not been identified as having any individual heritage significance or as a contributing factor to the railway precinct; therefore, the removal of the Wagga Wagga Railway Station footbridge would have a negligible impact on the heritage significance of the railway group.</p> <p>The new pedestrian bridge would be a larger structure and would be a more visually prominent feature within the railway precinct. Further detail on the urban design treatments (refer to section 7.5 of this EIS and Technical Paper 10: Landscape and visual). The design of the new bridge would reduce the visual impact of the new structure on the character of the heritage item.</p> <p>The proposal would also have impacts on the aesthetic and viewshed of the group, primarily due to the new bridge structures (road and pedestrian), noting:</p> <ul style="list-style-type: none"> ▶ the pedestrian bridge would be a larger structure but would not change the character of the

Precinct	Proposed impacts	Assessment summary
	<p>bridge demolition), addition of new fabric, vibration, changes to the viewshed and aesthetic values.</p> <p>The replacement of the pedestrian bridge was selected as the preferred option as it avoided potentially more significant impacts on the station (such as more significant excavation adjacent to the station platforms) and provides a DDA-compliant bridge solution.</p> <p>Reinstatement of the footbridge is not technically feasible as it would not meet current design requirements without substantial structural modifications. Refer to section 6.3.3 for further detail.</p>	<p>viewshed of the group, including the Station Master's residence (former)</p> <ul style="list-style-type: none"> the viewshed of the former gatehouse has views to Edmondson Street bridge, and the current bridge has a similar building materials and style to this structure. The demolition and construction of a new larger bridge structure would have a major impact on the viewshed and would have an impact on the overall aesthetic of the building. <p>The adaptation of the existing railway corridor to allow for and the running of taller trains would not impact on the heritage values of the group.</p> <p>All other works associated with the proposal would not directly impact any component of the heritage item and would have a negligible impact.</p> <p>Overall, the proposed works would have a minor impact on the overall heritage significance of the Wagga Wagga Railway Station and Yard Group. This takes into account the impacts to the following individual items:</p> <ul style="list-style-type: none"> Wagga Wagga railway station (Wagga Wagga LEP 2010 I98)—Minor Station Master's residence (former) (Wagga Wagga LEP 2010 I99)—Minor Wagga Wagga ('Mothers') footbridge (ARTC s170 4280661)—Major Best Street railway gatehouse (former) (Wagga Wagga LEP 2010 I254)—Major. <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>
	Bomen Railway Station (SHR 01093, I8, 4280278)	
	<p>The proposal would avoid direct impacts to the Bomen Railway Station building. The proposal would include the following key activities:</p> <ul style="list-style-type: none"> track realignment removal of a level crossing and associated signalling and drainage works temporary site compounds and material laydown areas would be located within the yard away from the station building and platform running of larger, more frequent trains. <p>There are no proposed works to the structures associated with the Bomen Railway Station listing. The proposal avoids direct impact to the well, which is located outside the rail corridor.</p> <p>Key impacts of the proposal would include direct impacts to vibration, changes to the viewshed and aesthetic values.</p>	<p>The proposed works would not alter the viewshed or aesthetics of the heritage item, as this would be in keeping with the primary function of the yard and its visual display, with negligible visual impact from construction and operation of the proposal (see sections 17.3 and 17.4 of this EIS).</p> <p>The heritage values of the group are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not impact on the heritage values of the group.</p> <p>Overall, the proposed works would have a negligible impact on the heritage significance of the Bomen Railway Station. For further discussion see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>
Juneec	Juneec Railway Station, Yard and Locomotive Depot Group (SHR 01173, I8, I10 and 4280760)	
	<p>The proposal would avoid direct impacts to the station building and the Locomotive Depot. The Locomotive Depot is located over 500 m away from the proposal site. The proposal would include the following key activities:</p> <ul style="list-style-type: none"> demolition of the existing pedestrian bridge, which would require minor works on the station platform to remove redundant footings adjustment to utilities, including adjustments to existing overhead signalling track work in Juneec Station Yard is located around 100 m to the south of the state heritage 	<p>The viewshed of the group, which is largely concentrated within the yard and its associated structures, would not be altered by the proposal. The heritage values of the group are intrinsically linked to the railway network and its use by passing railway traffic. Due to this, the adaptation of the existing railway corridor—while to support trains of an increased size—would not alter the existing outlook of the heritage item.</p> <p>While the bridge is not described in the state heritage listing, a significance assessment concluded that the truss bridge meets one of the seven state heritage listing criteria (refer to section 4.5.1 of Technical Paper 3: Non-Aboriginal heritage).</p>

Precinct	Proposed impacts	Assessment summary
	<p>curtilage for this item but is within the curtilage identified in the Junee LEP</p> <ul style="list-style-type: none"> temporary construction compounds running of larger, more frequent trains. <p>Key impacts of the proposal would include direct impacts to heritage fabric and structures (including bridge removal), addition of new fabric, vibration, changes to the viewshed and aesthetic values.</p> <p>The removal of the bridge was selected as the preferred option to achieve the required clearances, as lowering of the track at this location was not considered feasible given the proximity to the station platform (see section 6.3.3 of this EIS).</p>	<p>The removal of the bridge would have a major impact on the significance of the bridge, which is identified as a vanishing characteristic of the wider heritage landscape and would alter the visual appearance and distribution of railway structures through the yard.</p> <p>Overall, the proposed works would have a moderate impact on the heritage significance of the Junee Railway Station, Yard and Locomotive Depot. This takes into account the impacts on individually registered item, which range from minor (18) and negligible (110), and major impacts on the existing pedestrian bridge.</p> <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion, see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>
Junee Railway Station moveable relics (SHR 01172)		
	<p>The proposal would not involve activities that would directly impact the Junee Railway Station moveable relics.</p> <p>Key potential impacts of the proposal would include vibration and aesthetic values.</p>	<p>The visual aesthetic of the relics is associated with the station, and the proposal would not alter these values; however, moveable heritage could be susceptible to vibration if works are occurring in close proximity.</p> <p>As the proposal would not impact the form or alter the fabric of Junee Railway Station Moveable Relics, there would be a negligible impact on the item.</p> <p>Mitigation measures to further minimise impacts to this heritage item are identified in section 11.5.2.</p> <p>For further discussion, see Table 5.2 in Technical Paper 3: Non-Aboriginal heritage.</p>

11.4.2 Impacts to local and unregistered items that overlap with the proposal site

The impact to locally listed, section 170 heritage items and unregistered heritage items that overlap with each enhancement site is described and assessed in Table 11-4. The assessment of locally listed heritage items that are also listed on the SHR has been considered in section 11.3.1.

TABLE 11-4 LOCAL, SECTION 170 AND UNREGISTERED POTENTIAL HERITAGE ITEMS THAT OVERLAP WITH THE PROPOSAL SITE

Precinct	Heritage item	Proposed impacts	Assessment summary
Albury	Albury Railway Station pedestrian bridge, Albury Yard clearances and Riverina Highway bridge enhancement sites		
	Railway conservation area (C13)	Visual changes due to the removal, modification and replacement of railway structures, temporary works and the running of larger, more frequent trains.	<p>The visual characteristics of the conservation area are the setting of the railway station and yards. These overall characteristics would not change as a result of the proposal. The proposal would, however, result in the removal of the pedestrian bridge and short-term changes would occur due to the presence of construction activity.</p> <p>Therefore, the proposal would have a moderate impact on the heritage significance of the conservation area. This impact is associated with proposed works to the Albury Railway Station and Yard Group, described in Table 11-3.</p>
Greater Hume, Lockhart	Culcairn pedestrian bridge and Culcairn Yard clearances		
	Street trees (154)	No direct impact; however, there is potential for accidental impact to the four trees during construction works.	There are no proposed works to the four street trees associated with the Walbrundie Road, Holbrook Road, and Balfour Street trees, therefore the proposal would have a negligible impact on the four trees.

Precinct	Heritage item	Proposed impacts	Assessment summary
	Yerong Creek Yard clearances		
	Yerong Creek Urban conservation area (C3)	Impacts to the conservation area are associated with proposed works to the level crossing and the running of larger, more frequent trains (refer to section 11.4.1). The remnant 1880s platform is not included in the conservation area, as the demolition of the original railway station building has resulted in it not representing an intact characteristic of the area.	The visual characteristics of the conservation area are the intact nature of the streetscape. These overall characteristics would not be changed by the proposal; moreover, the visual character of the conservation area is partially influenced by the presence of the railway corridor, as much of the streetscape was constructed following the establishment of the railway network. Therefore, the proposed works would have a negligible impact on the heritage significance of the conservation area.
	Yerong Creek Railway Station archaeological site (unregistered potential heritage)	The removal of the 1880 platform would disturb any subsurface archaeological materials associated with the Yerong Creek Railway Station.	The proposal would disturb the archaeological area in order to accommodate the realigned track. This would have a major impact on the potential heritage significance of the Yerong Creek Railway Station archaeological site. Mitigation and management measures have been identified to address this impact in section 11.5.
	The Rock Yard clearances		
	The Rock Urban conservation area (C2)	Impacts to the conservation area are associated with gantry modifications to allow for the running of larger, more frequent trains (refer to section 11.4.1).	The visual characteristics of the conservation area are the intact nature of the streetscape. These overall characteristics would not be changed by the proposal. Moreover, the visual character of the conservation area is partially influenced by the presence of the railway corridor, as much of the streetscape was constructed following the establishment of the railway network. Therefore, the proposal would have a negligible impact on the heritage significance of the conservation area.
Wagga Wagga	Uranquinty Yard clearances		
	Uranquinty silos (I296)	A portion of the heritage item (vacant brownfield area) would be used to support construction and to provide access to the rail corridor. It would not impact the silo structures themselves. Track realignment works would occur adjacent to the item to allow for the running of larger, more frequent trains.	The visual characteristics of the item are the intact nature of the silos, as well as the social and economic significance to the community. The proposal would not impact these values as no permanent alterations would be made to the structure. The adaptation of the existing railway corridor to allow for and the running of taller trains would not impact on the heritage values of the group. The proposed works would have negligible impact on the overall heritage significance of the showground.
	Pearson Street Bridge		
	Wagga Wagga Showground, 'Kyeamba Smith' Hall, and grandstand (I246)	A portion of the showground (the campground) would be used as a temporary construction compound during construction.	The viewshed of the group is largely concentrated within the showground and its associated structures. This would be impacted temporarily by the proposal while the construction compound is present. There would be no ongoing operational impacts from the proposal. There are no proposed works that would impact on the heritage values of the structures associated with the Wagga Wagga Showground, 'Kyeamba Smith' Hall, and grandstand citation. The proposed works would have a negligible impact on the overall heritage significance of the showground.

Precinct	Heritage item	Proposed impacts	Assessment summary
	Cassidy Parade pedestrian bridge		
	Cassidy Parade and Brookong Avenue footbridge (ARTC section 170 -4280661)	The pedestrian bridge would be demolished and replaced with a new pedestrian bridge.	The proposed works would have a major impact on the overall heritage significance of the bridge. The bridge cannot be retained to achieve the required clearances as this would have required a track-lowering solution. This was not considered to be feasible due to the extensive length of track that would require lowering (see section 6.3.3 of this EIS). Insitu retention is not possible given the concrete form of the bridge. The curtilage of the footbridge is restricted to the physical boundary of the item. As such, the demolition of the footbridge would result in the complete removal of the curtilage.
	Cassidy Parade pedestrian bridge, Edmondson Street bridge, Wagga Wagga Yard clearances and Wagga Wagga Station pedestrian bridge		
	Wagga Wagga conservation area (C9)	Impacts to the conservation area are associated with proposed works to the Wagga Wagga Yard, the running of larger, more frequent trains and replacement of the pedestrian and road bridges (refer to section 11.4.1).	<p>The visual characteristics of the conservation area are the intact nature of the streetscape and railway precinct. These overall characteristics would not be changed by the proposal.</p> <p>Contributory heritage items do not have direct views to the new bridges or would be restricted by intervening vegetation or structures. Further, construction of new bridge would contribute a modern structure in the conservation area but would not impede on the earlier features of the conservation area.</p> <p>However, the railway precinct is a significant component of the conservation areas. Views of the station are predominately restricted to Station Place and Railway Street. The construction of the new pedestrian bridge would alter the aesthetic and change views from the immediate street but would not change the overall character of the conservation area.</p> <p>The proposal would have an overall minor impact to the heritage significance of the conservation area.</p>

Precinct	Heritage item	Proposed impacts	Assessment summary
	Edmondson Street bridge		
	Mount Erin Convent, chapel, high school, and grounds (I260)	<p>Impacts to the aesthetics and views due to the running of larger, more frequent trains, as well as the construction of the new Edmondson Street bridge and the removal of some vegetation in the north-eastern edge of the convent complex. Replacement plantings would be provided at the completion of construction work.</p> <p>An overhead powerline that runs alongside Edmondson Street would be relocated within the north-eastern corner, with an easement created.</p> <p>The buildings have also been identified as being eligible for potential at-property treatment to address operational rail noise (refer to section 15.5.1). This would be confirmed during detailed design and in consultation with the landowner.</p>	<p>The aesthetic of the convent complex is associated with the intactness of the buildings and the private, enclosed nature created by the screening of mature plantings. The removal of a number of these plantings, while it would impact the sheltered aesthetic of that part of the convent complex, would not change its overall character.</p> <p>If at-property treatment is required to address operational rail noise impacts, the treatment would be sympathetic to the heritage values of the item and would be carried out in accordance with best-practice heritage management (e.g. would be reversible). Advice of a conservation architect would also be sought.</p> <p>The proposed works would have a moderate impact on the viewshed of the convent complex. The new bridge would sit above the surrounding landscape, altering both views to and from the bridge. The viewshed from the convent complex would be altered to include new structures, and the new bridge would also increase views into the complex. Views of larger trains would not have an impact on the heritage significance of the complex, as the proximity of passing trains has been a constant feature of its history.</p> <p>Overall, the proposal would have an overall minor impact on the complex. Although the proposal would remove plantings and construct new infrastructure (including a relocated powerline), these features would not change the overall character of the complex.</p>
	Edmondson Street bridge (unregistered potential heritage item)	<p>The bridge would be demolished and replaced with a new structure (refer to section 7.2.2 for further detail).</p> <p>Options to avoid demolition of this unlisted heritage item were not considered feasible given the engineering and flooding constraints in this locality (see section 6.3.3 of this EIS).</p>	<p>The proposal would result in the loss of the bridge, which is part of the Wagga Wagga Conservation Area and a vanishing characteristic of the wider heritage landscape.</p> <p>This would have a major impact on this item.</p> <p>The visual and aesthetic impacts of the replacement structure are considered in the Wagga Wagga Conservation Area assessment.</p>
June	Kemp Street bridge		
	Kemp Street bridge (unregistered potential heritage item)	<p>The bridge would be demolished and replaced with a new structure (refer to section 7.2.2 for further detail).</p> <p>Options to avoid demolition of this unlisted heritage item were not considered feasible given the engineering and drainage constraints in this locality (see section 6.3.3 of this EIS).</p>	<p>The proposal would have a major impact on the significance of the unregistered potential heritage item, which has been identified as a vanishing characteristic of the wider heritage landscape.</p> <p>The broader landscape has not been identified as a sensitive heritage area, and therefore the replacement structure would have a negligible impact on the broader viewshed.</p>

Precinct	Heritage item	Proposed impacts	Assessment summary
	Junee Station pedestrian bridge and Junee Yard clearances		
	Junee Heritage conservation area (C1)	Impacts to the conservation area are associated with proposed works to the railway yard (including the removal of the Junee Station pedestrian bridge) and the running of larger, more frequent trains (refer to section 11.4.1).	<p>The visual characteristics of the conservation area are the intact nature of the streetscape. These overall characteristics would not be changed by the proposal, as much of the streetscape was constructed after the establishment of the rail network. The removal of the pedestrian bridge, while forming part of the intact area, is largely screened from view by intervening structures and its removal would not be visually prominent in the context of the broader conservation area. As such, the proposal would have a negligible impact on the heritage significance of the conservation area.</p> <p>This impact is associated with proposed works to the Junee Railway Station, Yard, and locomotive depot, described in Table 11-3.</p>

11.4.3 Impacts to heritage outside the proposal site

Impacts to heritage items located outside the proposal site would be associated with:

- ▶ potential indirect impacts due to vibration
- ▶ accidental impacts during construction
- ▶ at-property treatment to address operational rail noise.
- ▶ changes to viewsheds and vistas of existing heritage settings and curtilages.

These are discussed below.

Vibration

The proposed construction works, including compaction, earthworks and piling, can generate vibration, which can cause cosmetic and structural damage to heritage structures. Materials used in historic buildings, such as brickwork and stone, can be vulnerable to vibrations due to an inability to deform without rupturing; however, heritage buildings should not be assumed as being structurally unsound.

Heritage items located in close proximity to the proposal site could be vulnerable to the effects of vibration from the proposed works, if not properly managed. While heritage buildings should not be assumed as being structurally unsound, a conservative assessment threshold (being 3 millimetres per second (mm/s)) has been applied for vibration, to identify potential risks of indirect impacts to heritage items for cosmetic damage (refer to section 15.3.4 of this EIS). This translates to a safe working distance of around 15 m for vibratory piling and 20 m for vibratory compaction.

There were 11 registered local heritage items outside of the enhancement sites, in addition to those described in Table 11-3 and Table 11-4, that would be within these safe working distances. The commonwealth and state heritage listed Junee Post Office (CHL ID 105500) would be beyond these buffers and not impacted by vibration.

Due to extensive coverage of conservation areas and the varying condition of items included within their curtilages, vibration impacts to individual items within heritage curtilages were not assessed; however, in most instances, these individual items would be outside the rail corridor and beyond safe working distances. Where heritage items are within safe working distances, mitigation and management measures have been identified in Chapter 15: Noise and vibration.

Ongoing operational impacts are largely restricted to impacts caused by the vibration of passing trains. These are predicted to be negligible, as items located in close proximity to the railway corridor are already subject to continuous vibration as a result of the railway track (refer to Technical Paper 7: Operational noise and vibration (rail)). Where there is risk of impact to identified heritage items during maintenance works, these would be considered according to the nature of the works and managed through standard mitigation measures. For further discussion on vibration impacts refer to section 15.5.2 of this EIS.

Accidental impact

There is potential for accidental damage to heritage items in close proximity to construction activities. Movement of heavy machinery and intrusive works near heritage structures presents a low risk of inadvertent damage to heritage structures adjacent to the proposal site.

At-property treatment

The South Wagga Public School (Wagga Wagga LEP 2010 I97) may qualify for at-property acoustic treatment (refer to section 15.5.1 of this EIS). Eligibility would be confirmed during detailed design and in consultation with the school. Should at-property treatment be required, this would be done in such a way to minimise heritage impacts, while preserving owner amenity. Any treatment would be sympathetic to the heritage values of the item and would be carried out in accordance with best-practice heritage management (i.e. any alterations to the fabric of a structure should be immediately identifiable and reversible). If noise treatment within the heritage structure is required, the advice of a conservation architect would be sought.

Viewsheds and vistas

Significant views or references to significant view lines were not identified during the register searches. As such, the following section discusses the general viewsheds associated with heritage items located within 200 m of the enhancement sites.

In general, the impact of the proposal on viewsheds and vistas of heritage items are generally considered to be minor to moderate, as described in this section. Impacts to viewsheds and vistas would occur to items and conservation areas where there are existing views to the proposal, particularly where bridges and pedestrian bridges that would be demolished and replaced by taller structures.

During construction, views of construction activities would be temporary and short-term. This would not have a material impact on heritage items that have views to the proposal site.

Where views to the railway corridor are present, the increased size and frequency of the passing trains would intensify the visual presence of the railway corridor. Items close to the corridor that have existing outlooks towards the rail corridor would not be altered by the larger, more frequent trains. Further, many of the items within the 200-m zone were established in conjunction with/following the railway corridor and have heritage values influenced by it. Their proximity means that alterations to passing railway traffic (such as increased size and frequency) would not be impacted.

Viewsheds from heritage items located beyond the 200-m zone are unlikely to be impacted, as many of the items do not have direct views to or from the railway corridor due to intervening structures or landscape features; however, where views to the railway corridor are present, the increased frequency and size of the double-stacked trains would intensify the visual presence of the railway corridor. These would not be permanent fixed features, however, and any impact would be transitory.

Viewsheds and vistas of heritage items impacted by the proposal are summarised in Table 11-5.

TABLE 11-5 IMPACTS TO VIEWSHEDS AND VISTAS OF HERITAGE ITEMS OUTSIDE OF THE ENHANCEMENT SITES

Precinct	Affected registered heritage items	Assessment summary
Albury	Murray River bridge	
	No registered heritage items	There are no heritage items in the vicinity that have views directed towards the bridge and hence there would be no impact on views to the enhancement site.
	Albury Station pedestrian bridge	
	Streetscape and heritage items associated with the Dean Street Conservation Area (Albury City LEP 2010 C6)	Views to the proposal during construction and operation would be obscured due to existing landscape screening and the distance of the heritage items from the enhancement site, with works predominantly occurring within Albury Yard, resulting in no impact on views to the enhancement site.
	Streetscape and heritage items associated with the Hanel Street Conservation Area (Albury City LEP 2010 C8)	The visual catchment to the pedestrian bridge would be increased to the north, east, and south; however, the impact of the increased views would be minor . This is due to the distance of the heritage items from the enhancement site and oblique view the majority of the heritage items have of the pedestrian bridge.
	Streetscape and heritage items associated with the Kenilworth Street Conservation Area (Albury City LEP 2010 C9)	The works adjacent to this precinct are limited to the construction of new ramps with limited views to the new Albury Station pedestrian bridge. The change in views would be minor and limited to buildings with direct views of this area. The impact would be minor .
	Heritage items located on Smollett Street (e.g. Commercial Hotel and Cottage [SHR 00538], Albury Public School [Albury City LEP 2010 I19, I114, I360])	Views to the proposal during construction and operation would be obscured due to existing landscape screening and the distance of the heritage items from the enhancement site, with works predominantly occurring in the railway station precinct and yard, resulting in no impact on views to the enhancement site.

Precinct	Affected registered heritage items	Assessment summary
Greater Hume–Lockhart	Culcairn pedestrian bridge	
	Culcairn Hotel (Greater Hume LEP 2012 I43)	The impact of the changed view would be minor . Although the removal of the pedestrian bridge would create an absence in the landscape, the views are currently predominantly screened by mature plantings.
	'London Bank' (Greater Hume LEP 2012 I46)	The impact of the changed view would be moderate . The removal of the pedestrian bridge would create an absence in the landscape.
	Culcairn Post Office (Greater Hume LEP 2012 I50)	The impact of the changed view would be moderate . The removal of the pedestrian bridge would create an absence in the landscape.
	'Scholz's Corner' (Greater Hume LEP 2012 I51)	The impact of the changed view would be minor . Although the removal of the pedestrian bridge would create an absence in the landscape, the views are currently predominantly screened by mature plantings.
Wagga Wagga	Edmondson Street bridge and Wagga Wagga Station pedestrian bridge	
	South Wagga Public School (Wagga Wagga LEP 2010 I97)	The height of the current Edmondson Street bridge is complementary within the level of the surrounding landscape and views. The new bridge would be raised above existing vegetation and surrounding landscape, allowing views to the elevated sections of the bridge and ramps. The new pedestrian bridge would extend the visual catchment to the north. The impact of the changed view would be minor . This is due to the oblique view the heritage item has of the enhancement sites.
	Bomen Yard clearances	
	Bomen Station Master's Residence (Wagga Wagga LEP 2010 I9)	Viewsheds to the Bomen Station Master's Residence (Wagga Wagga LEP I9) would not be altered by slewing, signage, or level crossing works. These works would predominantly occur at ground level. As such, impacts would be negligible .
Junee	Junee Station pedestrian bridge	
	Junee Post Office (CHL ID 105500)	Viewsheds to the Junee Railway Station, Yard, and Locomotive Depot (SHR 01173) would not be altered by slewing, ballast replacement, signal modification, or demolition of the footbridge. These works are predominantly occurring within the railway station precinct and yard, which is obscured from the view of the post office due to intervening structures and vegetation screening. As such, these impacts would be negligible .

11.4.4 Impacts on railway heritage by the proposal

Across the proposal site, the proposal would have a minor to moderate impact on non-Aboriginal heritage, except for the potential impacts to bridges. Cumulatively, the heritage items and potential archaeological deposits identified in the proposal site represent approximately 140 years of railway heritage in NSW. They are associated with the establishment of the railway stations, the agricultural and commercial purposes of the railway network, and vehicle and pedestrian access over and within the railway precincts. Overall, the proposal would have a minor impact on the heritage items that overlap with the enhancement sites and the significance of the NSW railway network more broadly.

The proposal would have a major impact on a particular subset of these heritage items, however. These are items that have all been identified as either having their own individual heritage values or contributing to the heritage value of the landscape in which they are situated—being the footbridges at Albury, Culcairn and Junee stations, the Edmondson Street and Kemp Street bridges (potential unregistered items), and the Cassidy Parade and Brookong Avenue footbridge. The demolition of these structures has the potential to cause major cumulative impacts on railway heritage, noting:

- ▶ around 36 Warren truss footbridges were identified in a 1996 study, of which 10 have since been demolished. The removal of footbridges at Albury, Culcairn and Junee stations would result in a further loss and represents around 36.1 per cent of the original assemblage of 36 footbridges and 11.5 per cent of the remaining examples
- ▶ the design of Edmondson Street and Kemp Street bridges have been identified in one other instance in NSW (Guess Avenue, Wolli Creek). It is unknown whether this design was common or if it was a specialised response at a select number of locations. It is unknown how many other bridges share this design that remain intact

- ▶ the Cassidy Parade and Brookong Avenue footbridge is a one-of-a-kind example. There are no comparable bridges known to exist in NSW.

Nine of 10 items that overlap with the proposal site that are listed on ARTC's section 170 register items would be directly impacted by the proposal, and represent around 5.5 per cent of items on this register. Due to the rarity of particular items (the Cassidy Parade and Brookong Avenue footbridge, and Signal Box 1a at Albury Station), the proposal has the potential to cause a minor cumulative impact to the representativeness of ARTC managed heritage assets.

For further discussion on cumulative impacts refer to Chapter 6 of Technical Paper 3: Non-Aboriginal heritage.

11.5 Mitigation and management

11.5.1 Approach to mitigation and management

The proposal has been designed to avoid impacts, where reasonably practicable, and minimise impacts where complete avoidance is not practicable. Additional opportunities to minimise heritage impacts through design or construction planning would be explored during detailed design, as detailed in section 11.5.2, and a heritage interpretation plan would be prepared. Where the avoidance of heritage items and archaeological sites is not possible, detailed recording and/or salvage excavation would be undertaken prior to construction.

The potential for impacts during construction would be managed in accordance with a heritage management sub-plan, which would be implemented as part of the Construction Environmental Management Plan (CEMP). The sub-plan would include, at a minimum:

- ▶ requirements for site induction, training, heritage monitors, inspections, audits, corrective actions, notification and classification of environmental incidents, record keeping, monitoring, and performance objectives for handover on completion of works
- ▶ heritage management actions to be undertaken by suitably qualified persons
- ▶ specific requirements for items that cannot be avoided during construction
- ▶ a heritage unexpected finds protocol (UFP), including assessment by a suitably qualified person and notification obligations under the applicable heritage legislation, and steps to be taken should potential burials or human skeletal material be encountered, including notification obligations to NSW Police Force
- ▶ any other requirements necessary to comply with conditions of approval, subsequent approvals, regulatory requirements, or ARTC heritage management requirements.

If heritage items remain within safe working distances based on the detailed design and final construction methodologies, further assessment (including a structural assessment) and vibration impact monitoring (if required) would be completed to ensure safe vibration levels for the structures are met. The risk of cosmetic damage would be mitigated in accordance with the management measures outlined in Chapter 15: Noise and vibration.

11.5.2 Mitigation measures

Measures that will be implemented to address potential impacts on non-Aboriginal heritage are listed in Table 11-6.

TABLE 11-6 NON-ABORIGINAL HERITAGE MITIGATION MEASURES

Stage	Ref	Impact/issue	Mitigation measure
Detailed design	NAH1	Alteration of heritage items	The condition of the original top bracing framework of the Albury rail bridge over the Murray River (SHR 01020) would be investigated during detailed design to determine if this material can be re-purposed in the modified structure. If this cannot be re-purposed, a suitably qualified heritage professional would be consulted concerning the design and installation of the new bracing framework to ensure that it is appropriate to the existing fabric and style of the bridge.
Detailed design	NAH2	Demolition or alteration of heritage items	The relocation of Signal Box 1a in the Albury Railway Station and Yard (SHR 01073) would be investigated during detailed design and documented through a Statement of Heritage Impact (SoHI). If practicable, the new location will be identified in consultation with a heritage specialist and positioned in the yard so that it maintains its proximity and visual relationship with the Albury Railway Station, Signal Box 1b, and tracks.

Stage	Ref	Impact/issue	Mitigation measure
Pre-construction	NAH3	Demolition or alteration of heritage items	<p>Where possible, the gifting of elements of the following items for the purpose of reuse elsewhere would be investigated with the relevant council prior to removal:</p> <ul style="list-style-type: none"> ▶ pedestrian bridge at Culcairn Railway Station and Yard Group (SHR 01126) ▶ pedestrian bridge at Junee Railway Station, Yard and Locomotive Depot Group pedestrian bridge (SHR 01173). <p>The gifting would be subject to the relevant council making appropriate arrangements to receive and site the elements of the pedestrian bridge.</p>
Detailed design	NAH4	Demolition or alteration of heritage items	<p>The re-purposing of salvaged materials within the design of new road bridges for the following unregistered potential heritage items would be investigated during detailed design:</p> <ul style="list-style-type: none"> ▶ Edmondson Street bridge—red brick ▶ Kemp Street bridge—red brick and street lights.
Detailed design	NAH5	Demolition or alteration of heritage items	<p>Detailed design and construction planning will seek to identify refinements that further minimise impacts on heritage items and areas of archaeological potential as far as reasonably practicable. This includes:</p> <ul style="list-style-type: none"> ▶ remnant broad-gauge railway track archaeological sites in the Albury Railway Station and Yard Group (SHR 01073) ▶ the Yerong Creek Railway Station archaeological site.
Detailed design	NAH6	Heritage interpretation	<p>A heritage interpretation strategy for non-Aboriginal heritage will be prepared. This will provide a framework for interpreting the heritage items (listed and unregistered potential heritage) impacted by the proposal, set out the key interpretative themes and identify communication strategies.</p> <p>The strategy will include interpretation requirements for specific parts of the proposal, and incorporation into the urban design of the new structures, particularly where heritage items are proposed to be removed or archaeological sites are proposed to be excavated. This includes:</p> <ul style="list-style-type: none"> ▶ new structural components at the Albury rail bridge over the Murray River (SHR 01020) ▶ new pedestrian bridge in the Albury Railway Station and Yard Group (SHR 01073) ▶ removed pedestrian bridge in the Culcairn Railway Station and Yard Group (SHR 01126) ▶ new pedestrian bridge at the Cassidy Parade and Brookong Avenue site ▶ new Edmondson Street bridge ▶ new pedestrian bridge in the Wagga Wagga Railway Station and Yard Group (SHR 01173) ▶ new Kemp Street bridge ▶ removed pedestrian bridge in the Junee Railway Station, Yard and Locomotive Depot Group (SHR 01173). <p>These may include approaches such as interpretive signage at heritage items that have been removed or excavated, historical/artefact displays at local museums or visitor centres, and online media about heritage items and history in the vicinity of the proposal.</p> <p>The strategy will be prepared with regard to <i>Interpreting Heritage Places and Items: Guidelines</i> (NSW Heritage Office, 2005a), and the NSW Heritage Council's <i>Heritage Interpretation Policy</i> (NSW Heritage Office, 2005b).</p>

Stage	Ref	Impact/issue	Mitigation measure
Pre-construction	NAH7	Demolition or alteration of heritage items	<p>Archival photographic recording of buildings to be removed would be carried out prior to removal in accordance with <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (Heritage Council of NSW, 2006) and <i>How to prepare archival records of heritage items</i> (NSW Heritage Office, 1998a) at the following sites:</p> <ul style="list-style-type: none"> ▶ Albury rail bridge over the Murray River (SHR 01020) ▶ external lever system adjacent to the North Signal Hut in the Albury Railway Station and Yard Group (SHR 01073) ▶ pedestrian bridge in the Albury Railway Station and Yard Group (SHR 01073) ▶ Signal Box 1a in Albury Railway Station and Yard Group (SHR 01073) ▶ slewed track in the Albury Railway Station and Yard Group (SHR 01073) ▶ pedestrian bridge in the Culcairn Railway Station and Yard Group (SHR 01126) ▶ slewed track in the Culcairn Railway Station and Yard Group (SHR 01126) ▶ slewed track in the Henty Railway Station and Yard Group (SHR 01169) ▶ Cassidy Parade and Brookong Avenue footbridge (ARTC s170 ID 4280661) ▶ Edmondson Street bridge in the Wagga Wagga conservation area (Wagga Wagga LEP 2010) ▶ Wagga Wagga (Mothers) footbridge in the Wagga Wagga Railway Station and Yard Group (SHR 01173) ▶ slewed track in the Wagga Wagga Railway Station and Yard Group (SHR 01173) ▶ slewed track in the Bomen Railway Station (SHR 01093) ▶ Kemp Street bridge ▶ pedestrian bridge in the Junee Railway Station, Yard, and Locomotive Depot (SHR 01173).
Pre-construction	NAH8	Disturbance of archaeological material	<p>Where impacts cannot be avoided on areas of archaeological potential, test excavation will be carried out prior to the commencement of works that disturb these areas, in accordance with the archaeological research design. Test excavation will be carried out by an appropriately qualified excavation director, in accordance with the NSW Heritage Council's excavation director criteria.</p> <p>This applies to:</p> <ul style="list-style-type: none"> ▶ remnant broad-gauge railway track archaeological sites in the Albury Railway Station and Yard Group (SHR 01073) ▶ the Yerong Creek Railway Station archaeological site. <p>If the remains are found to be extensive and/or highly significant, they would be salvaged through further excavation.</p>
Construction	NAH9	Impact to built heritage	<p>The temporary work platforms will be attached to the Murray River bridge in a manner that avoids permanent damage to the fabric of the structure, following the removal of the platforms.</p>
Construction	NAH10	Accidental impact	<p>Exclusion zones for retained heritage items or structures within the proposal site will be marked on the environmental control maps, site plans and avoided.</p> <p>Prior to the commencement of construction, retained heritage items will be inspected by a suitably qualified person to demarcate the exclusion measures (such as fencing).</p> <p>Items vulnerable to vibration or damage associated with the Junee Railway Station Moveable Relics (SHR 01172) would be temporarily relocated or alternative measures implemented to avoid impact.</p> <p>Exclusion measures would be inspected regularly during construction to ensure protection of these heritage items.</p>
Construction	NAH11	Unexpected finds	<p>If at any time during the proposed works, any items of potential historical heritage significance or human remains are discovered they will be managed in accordance with the heritage unexpected finds protocol.</p> <p>The heritage unexpected finds protocol will be included in the heritage sub-plan of the CEMP and would detail notification obligations to the NSW Police and Heritage NSW according to the nature of the unexpected find.</p>

11.5.3 Effectiveness of mitigation measures

During development of the design, impacts on listed and potential heritage items were avoided, where reasonably practicable. New items within the corridor have been designed to be sympathetic with heritage items in the near area. This process has included review of similar materials and styles so that new elements do not detract from the general visual amenity of the surrounding heritage items (refer to sections 7.5 and 17.5 of the EIS, and Technical Paper: Landscape and visual for further information). This process reduces the overall impact of change within and adjacent to the curtilages of heritage items; however, not all impacts on heritage can be avoided, as this would result in additional impacts in other areas. Therefore, further measures to mitigate impacts are required.

The measures provided in Table 11-6 have been identified as an outcome of the non-Aboriginal heritage assessment, and through considering best-practice approaches to managing potential impacts, as defined by relevant heritage guidelines. The non-Aboriginal heritage assessment was prepared, and relevant mitigation measures identified, by a qualified heritage consultant. As a result, the measures are expected to be effective. The proposal has been designed to provide an important piece of national infrastructure that would provide local, state and national benefits once operational. In the context of the strategic benefit of the overall proposal, it is considered that the identified heritage impacts are acceptable.

11.5.4 Interactions between mitigation measures

Mitigation measures in other chapters that are relevant to the management of non-Aboriginal heritage include:

- ▶ Chapter 15: Noise and vibration specifically details measures that address impacts to structure from vibration during construction
- ▶ Chapter 17: Landscape and visual amenity specifically details measures that address visual impacts to heritage character.

There are no mitigation measures identified in the assessment of other environmental aspects that are likely to affect the assessment of non-Aboriginal heritage.

11.5.5 Residual risk

Residual impacts are impacts of the proposal that may remain after implementation of the mitigation and management measures detailed in section 11.5.1 and section 11.5.2. These are summarised in Table 11-7. The proposal would result in some unavoidable residual impacts, due to the loss of heritage items through demolition.

Further information on the approach to the environmental risk assessment, including descriptions of criteria and risk ratings, is provided in Appendix E: Environmental risk assessment.

TABLE 11-7 RESIDUAL RISK MANAGEMENT—NON-ABORIGINAL HERITAGE

Stage	Potential impact	Pre-mitigated risk	Mitigation measures	Mitigated risk	Residual risk management ¹
Construction	Potential direct and indirect impacts on listed heritage items and known areas of archaeological potential	Very high	NAH9 – NAH10	High	The heritage management plan would include measures to minimise the potential for impacts during construction and avoid potential heritage items, where practicable. The measures provided would minimise the potential for residual impacts, as far as reasonably practicable. Where impacts cannot be avoided on areas of archaeological potential, test excavation will be carried out prior to the commencement of works that disturb these areas, in accordance with the archaeological research design.
Construction	Disturbance of unknown heritage items (e.g. archaeological items) during construction	Low	NAH11	Low	N/A
Operation	Design that detracts from the heritage	High	NAH1, NAH4, NAH6, LV2	Medium	The urban design and landscape plan will further identify design

Stage	Potential impact	Pre-mitigated risk	Mitigation measures	Mitigated risk	Residual risk management ¹
	significance of heritage items				guidelines to minimise the visual impacts of infrastructure, with consideration of the existing landscape and visual context. This, combined with the heritage interpretation strategy, would minimise the potential for residual impacts.
Operation	Potential permanent direct and indirect impacts on listed heritage items	Very high	NAH1 – NAH7	High	The gifting of the two footbridges to be removed (where practicable) and re-purposing of materials for road bridge replacements (where practicable) would minimise the potential for residual impacts from demolition, as far as reasonably practicable.

1. For residual impacts with a risk rating of medium or above