



**HERITAGE
COUNCIL**
OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.8.6 Building and maintaining railways
- 8.1.4 Enjoying the natural environment

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 202 Rail & light transport
- 203 Road transport
- 304 Timber industry
- 405 Sport, recreation & entertainment

11.1 AESTHETIC VALUE*

Asquith Bridge is a very substantial utilitarian timber trestle bridge structure having aesthetic significance for its use of structural timbers, lack of adornment, simple but strong proportions and unusual curved alignment. (Criterion 1.2)

Asquith Bridge in its natural forest setting, above the Murray River and overlooking the adjoining valley, contributes to the aesthetic values of the natural landscape, provides a focal point to the forest landscape and also an important viewing platform for enjoying the surrounding natural bushland setting. (Criterion 1.3)

11.2. HISTORIC VALUE

Asquith Bridge is one of the last extant railway bridges of timber trestle construction built in Western Australia in the twentieth century and one of the most substantial. (Criterion 2.1)

Asquith Bridge was built 1949-52 as part of the Western Australian Government Railways (WAGR) railway extension for development of the Asquith Timber Concession in the post-World War II period, thus enabling new timber concessions to be available when timber was in short supply. (Criterion 2.2)

* For consistency, all references to architectural style are taken from Apperly, Richard; Irving, Robert and Reynolds, Peter A *Pictorial Guide to Identifying Australian Architecture: Styles and Terms from 1788 to the Present*, Angus & Robertson, North Ryde, 1989.

Asquith Bridge was operated by the WAGR as a railway bridge for a decade. Transferred to the Forests Department (now Department for Environment and Conservation) in 1966, it was converted to road use, before being closed to vehicular traffic in the 1990s, and subsequently became part of the Bibbulmun Track in 1997-98. (Criterion 2.3)

Asquith Bridge is an outstanding example of the technical and design expertise of the WAGR, one of the finest railway bridges built in Western Australia, employing well-proven construction techniques, and a notable achievement of construction in the period 1949-52. (Criterion 2.4)

11. 3. SCIENTIFIC VALUE

Asquith Bridge has the potential to be an important teaching reference and benchmark site through its demonstration of the design and building techniques of timber trestle railway bridge construction common from the late nineteenth century to the inter-war period, but which are no longer practised. (Criterion 3.1)

Asquith Bridge is an outstanding achievement in the construction history of timber railway bridges in Western Australia. (Criterion 3.3)

11. 4. SOCIAL VALUE

Asquith Bridge is highly valued by the Western Australian Division of the Institution of Engineers, Australia, as evidenced by the report in their survey of large timber structures; and by the community of the Shire of Boddington, evidenced by its inclusion in the Municipal Heritage Inventory.

Asquith Bridge is highly valued by the community as evidenced by its inclusion in the 'Report of the Western Australian Comprehensive Regional Assessment Community Heritage Program (Non-Indigenous)' in which the place was identified and assessed through community workshops, and determined to be valued by the local community, tourists visiting the area and those who use the Bibbulmun Track.

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

Asquith Bridge is a rare example of a curved timber railway bridge in Western Australia. (Criterion 5.1)

12. 2 REPRESENTATIVENESS

Asquith Bridge is a representative example of timber trestle bridge, a common method for bridge construction in the nineteenth and early twentieth century, becoming less common in the mid to late twentieth century when the bridge was constructed. (Criterion 6.1)

12. 3 CONDITION

Asquith Bridge is in fair to good condition as a result of regular inspections and repair in the past. However, in the absence of an ongoing maintenance program the bridge is likely to deteriorate in the future as the timbers are now more than fifty years old and there is evidence of deterioration in some members requiring attention.

12.4 INTEGRITY

Asquith Bridge has high integrity. Although no longer a railway bridge, it continues to span the Murray River and provide a means of crossing. Its use as part of the Bibbulmun Track ensures its continued viability.

12.5 AUTHENTICITY

Asquith Bridge has high authenticity. It remains substantially as constructed in 1949 with the exception that the original railway tracks are no longer extant. The bridge has been adapted for vehicles and subsequently for bush walkers.

13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by Robin Chinnery, Historian and Rosemary Rosario, Architectural Heritage Consultant, in June 2005, with amendments and/or additions by HCWA staff and the Register Committee.

13.1 DOCUMENTARY EVIDENCE

Asquith Bridge is a curved, timber trestle construction, railway bridge, 28 spans of 4.57 metres (15 feet), 2.79 metres wide between kerbs, with a maximum height of 10 metres, across the Murray River. It was built by Western Australian Government Railways (WAGR) in 1949-52, as part of the railway extension to the Asquith Timber Concession, which operated through into the early 1960s. In the late 1960s, the bridge was transferred to the Forests Department (now DEC). In the late 1990s, it was closed to vehicular traffic and is now used as a pedestrian bridge as part of the Bibbulmun Track.

In 1910, when the Hotham Valley branch railway line was opened to Dwellingup, Western Australian Government Railways (WAGR) built a small sawmill by the station with the aim of providing sufficient timber sleepers for maintenance works and to stockpile towards future construction. In its first year of operation, this mill exceeded expectations in its production of sleepers, sawn jarrah timber, posts, and firewood, and so it was decided to develop a larger scale operation to produce timber for a wider range of general railway purposes at Midland Workshops. In 1911, a site was selected north of Dwellingup, to which an 8 kilometre long railway line was opened in January 1912. A new mill, initially called No. 2 railway mill and later Banksiadale, opened there in December 1912.¹

As was customary in the timber industry in the early twentieth century, a network of railway lines extended from the mill at Banksiadale out to the areas where timber was being felled. By mid-1917, there were 33 kilometres of bush lines. This increased to more than 35 kilometres, by 1926, in which year the Banksiadale mill produced 185,000 sleepers, and 6347 other loads, of which the WAGR utilised a little more than 50%, the balance being sold or stacked.

By 1946, the timber concession in proximity to Banksiadale was cut out. The WAGR obtained a new area in the Asquith concession, 30 kilometres east of Harvey, approximately 60 kilometres distance from Banksiadale. A railway line was required to service the new location, and to this end the WAGR rehabilitated 6 kilometres of Banksiadale rail track, took over 42 kilometres of rail track operated by State Saw Mills in the area of Hakea, and built 17 kilometres of new railway line.²

In 1948, WAGR plans show the existing State Sawmills Railway line extending from the Hotham Valley Railway to Hakea and beyond almost to the Murray River. The plans show the proposed new railway crossing the river, thence to cross Bell Brook, and then past the homestead of Mrs Le Mercier to terminate at the Asquith Timber Permit area.³ The river was the

¹ Gunzburg, Adrian and Austin, Jeff, *Rails through the bush: timber and firewood tramways and railway contractors of Western Australia*, Light Railway Research Society of Australia, Melbourne, 1997, p. 124.

² *ibid.*, p. 125.

³ Part Copy of C. E. Plan 37042, TRANSWA Archives, 129C.

'largest obstacle' on the chosen route, and to cross it WAGR engineers designed a 28 span timber trestle bridge.⁴ The carefully selected site for the bridge crossing was assessed as to flood levels to determine the dimensions of the proposed structure, and a plan for the proposed deviation of the railway was prepared.⁵ Another plan shows the area purchased for the railway, 3 acres 1 rood 10 perches at Location 2246, 6 acres 2 roods 1 perch at Location 2247, and 2 acres 2 roods 22 perches at Location 2248, 12 acres 1 rood 33 perches in total, together with the proposed route of the railway and the proposed bridge across the Murray River.⁶

In 1948, a further plan again shows the Murray River at the site of the proposed bridge, the route of the proposed railway and plans for the north and south abutments, both being shown as 'stone pitched if necessary'.⁷ Building commenced in 1949, and Pile 2 of Pier 13 has 'RFT 1949' engraved near the top on the side towards Abutment 2.⁸ As completed, Abutment 1 was constructed of stone, whilst Abutment 2 comprised three shallow timber piles with six round bedlogs to act as sheeting to retain the backfill. All the bridge piers comprised three piles in the same configuration, the outside piles being raked and the middle pile vertical. All piers were braced. There were concrete plinths and timber sill foundations to Piers 1 to 6, whilst Piers 7 to 27 were constructed from driven piles. The overall length of the bridge was 127.88 metres, comprising 28 x 4.57 metre spans, with an overall width of 3.05 metres, being 2.79 metres, kerb to kerb. Its clear height at the mid spans was 10 metres. The bridge was straight from Abutment 1 to approximately halfway, from whence it commenced a curve to the right.⁹ The bridge, known in 2005 as *Asquith Bridge*, was 28, 15 feet (4.57 metres) spans, with sawn timber stringers over high timber sill piers.¹⁰ On 7 January 1952, log hauling commenced on the section of railway which included *Asquith Bridge*.¹¹

In the early 1950s, the Banksiadale-Asquith railway line was worked by G class locomotives. An early photograph of *Asquith Bridge* shows a 4-6-0 G class locomotive with a train of log 'sets' crossing the Murray River.¹² After the G class locomotives proved too slow because of the considerable distance, the WAGR substituted some C class locomotives class 4-6-2, which had been taken out of operation on branch lines following introduction of the new W class. Over four years, four C class engines, rebuilt in the 1940s, were converted to wood burning and transferred to service at Banksiadale. Initially No. 439 operated in black, but later these locomotives were painted in the WAGR's new Larch Green livery to denote their mill line service, and each was named for a local timber, other than the relief engine, No. 436, which

4 Gunzburg, Adrian and Austin, Jeff op. cit., p. 125.

5 WAGR Asquith Timber Permit Railway Proposed Deviation Copy of C. E. Plan 37042, TRANSWA Archives 129C.

6 WAGR Asquith Timber Permit Railway, Plan 40789, SROWA Cons. 1781 Item 37042.

7 WAGR Asquith Timber Permit Railway, 1948, SROWA Cons. 1781 Item 37042

8 A. Humphreys, MRDWA, to Elizabeth Hoek, Boddington Development Commission, 6 October 1998. Note: Piers are numbered along the length of the bridge in ascending order from Abutment 1, and piles are numbered across the bridge from left to right.

9 G B Hill Consulting Engineers, Bridge No. 4559 in 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB, 2 May 1997.

10 Entry 1313 in Large Timber Structures

11 Gunzburg, Adrian and Austin, Jeff op. cit., p. 124.

12 Photograph, L. Purcell collection, reproduced in Gunzburg, Adrian and Austin, Jeff ibid p. 127.

remained unnamed and was not painted green. It is notable that 'These were the largest steam locomotives to operate on an Australian timber railway, and were very successful.'¹³

On 30 June 1961, the mill at Banksiadale and the associated railway were transferred from WAGR to State Building Supplies.¹⁴ State Parliament had passed the Government Trading Concerns Act in 1912, enabling the State to establish enterprises including a shipping line, implement works, brickworks, butcher shops, secondary schools, and sawmills. The first State Sawmills were built at Manjimup and Big Brook (Pemberton) to provide karri sleepers for the Transcontinental Railway.¹⁵ In the late 1950s, State Sawmills was amalgamated with the State's other building enterprises as State Building Supplies.¹⁶ On 1 July 1961, the Government sold State Building Supplies to the well known British company Hawker Siddeley for £2 million, and it was renamed Hawker Siddeley Building Supplies.¹⁷

A photograph, c.1961, of *Asquith Bridge* shows the locomotive 'Black Butte' (built Baldwin 20158/1902, painted green and named at Midland Workshops, September 1953) crossing the bridge hauling a train of QCS log bogie wagons on the return journey to Banksiadale.¹⁸

The railway line which included *Asquith Bridge* continued in operation for the transport of logs and sawn timber to Dwellingup until early 1961, when fire destroyed the timber mill at Dwellingup. The mill was not rebuilt as it was part of the area destined to be flooded when the new South Dandalup Dam was constructed. Consequently, as the railways were no longer required they were removed, bringing to an end the use of *Asquith Bridge* as a rail bridge.¹⁹

In 1966, the Forests Department took over ownership of *Asquith Bridge*.²⁰ The plan showing the land to be surrendered to the Conservator of Forests by the WAGR was a copy of that prepared for the railway and bridge construction in the 1940s.²¹ Subsequently, the bridge was converted to road use, primarily for forestry department vehicles, as indicated by signage erected and visible in 1980s photographs.²² In keeping with standard practice, the place was assigned a Main Roads Department Bridge number, as Bridge 4559. In 1979, the bridge was visually inspected and photographed, including showing lifting of the running planks laid lengthwise along the decking. It was considered that although the bridge was very narrow, it was in good condition, and would last

13 Gunzburg, Adrian and Austin, Jeff op. cit., p. 125.

14 *ibid*, p. 128.

15 Mills, Jenny *The Timber People: A History of Bunnings Limited* Bunnings Limited, Perth, Western Australia, 1986, p. 51.

16 Mills, Jenny op. cit., p. 195

17 *ibid*; and Gunzburg, Adrian and Austin, Jeff op. cit., p. 128. Note: In 1970, Bunnings Timber Holdings Ltd. would take over Hawker Siddeley's operations in Western Australia, other than the brickworks and some property, at a price of \$3 million. (Mills, Jenny *ibid*, p. 218.)

18 Photograph, D. Burke collection, reproduced in Gunzburg, Adrian and Austin, Jeff op. cit., p. 127.

19 Gunzburg, Adrian and Austin, Jeff op. cit., p. 128. Note: The fire which destroyed Dwellingup was one of a number of bush fires that caused severe damage in the South-West in late 1960-early 1961.

20 Backlog Review Form, HCWA Place No. 15424.

21 Asquith, Plan 57591 in SROWA Cons. 1781 Item 37042, 9 March 1966.

22 Bridge 4559 in MRDWA File 51-4559-22, 29 October 1986.

for many years. A detailed inspection was recommended, but it appears that this was not undertaken at this time.²³

In October 1986, *Asquith Bridge* was again inspected and photographed, showing further deterioration in the state of the running surface, with numerous timber planks damaged or missing. The report noted many of the deck planks were near the end of their life, four to six split piles required banding and the northern abutment (i.e. Abutment 2) might need repair. It was suggested that if the bridge were to be retained in use it might be 'a realistic solution' to overlay the deck.²⁴ Such use of a concrete overlay was a not uncommon practice, but it was not implemented at *Asquith Bridge*.

In 1992, *Asquith Bridge* was officially converted to road use.²⁵ In November 1992, when a full inspection of the bridge was made, it had a 10 tonne load limit. The inspection report noted many piers required repairs; the timber decking was very weathered, about 60% needing replacement, and a similar degree of weathering was noted to the outside ends of the decking, which needed to be sealed or replaced. There were active termites in the bridge requiring eradication; all bolts should be tightened and rusty bolts replaced. At Abutment 2, the bedlogs and piles were 'in a very damaged condition', and the abutment should be rebuilt with a reinforced concrete abutment in front of the existing bedlog abutment.²⁶ After concluding that the superstructure was 'very healthy but the sub-structure is suspect', a review of the load limit was recommended 'or the bridge should be given a major overhaul.'²⁷

In January 1993, *Asquith Bridge* was inspected and photographed again, prior to preparation of preliminary sketches for repairs to the piers, with repairs proposed to various piles at Piers 4, 5, 15, 22, 23, 24, 25, 26 and 27.²⁸ The condition of Abutment 2 was discussed²⁹, but the aforementioned works to rebuild it were not implemented.³⁰ By mid-September 1993, the decking had been extensively replaced. These repairs, based on stringer strength, 'would normally be adequate to upgrade the load limit to 14 tonne gross'; but, after an inspection revealed 'a number of rotted piles', an interim load limit of 6 tonne gross was recommended until they were repaired.³¹

In 1994, a report to the National Trust of Australia (WA) asserted that *Asquith Bridge* was 'One of the most impressive railway bridges ever built in WA.'³²

By the late 1990s, most of the formations and structures that were part of the large network of railways associated with Banksiadale were inaccessible

23 Report and correspondence in MRDWA File 51-4559-22, 1979.

24 Bridge 4559 in MRDWA File 51-4559-22, 29 October 1986.

25 Entry 1313 in Engineering Heritage Panel, The Institution of Engineers, Australia, Western Australia Division, *Large Timber Structures in Western Australia* Perth, 1998.

26 Inspection Report, Bridge 4559, 9 December 1992, in 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-22.

27 *ibid.*

28 Mark Billings to D. E. Narrogin, in *ibid.*, 16 February 1993.

29 Mark Billings to D. E. Narrogin, *op. cit.*

30 Site visit, Robin Chinnery, Rosemary Roasrio and Lloyd Margetts, March 2005.

31 J. Pressley, Acting Senior Engineer Bridges to Director Rural Operations, 14 September 1993. Around 50% of the decking was replaced. (Elizabeth Hoek, conversation with Robin Chinnery, March 2005)

32 Austin, J. National Trust of Australia (WA) Report, 1994, p. 21, in *Large Timber Structures in Western Australia* *op. cit.*

because of dieback quarantine regulations or inundated. A most notable exception was 'the magnificent Asquith bridge over the Murray River'.³³

In March 1997, a detailed inspection of *Asquith Bridge* indicated that major repairs were required. The main repairs necessary to make it suitable for vehicular traffic were strengthening the piles; installation of new bolts at all the bottom connections of the sill beams and bracings, and replacement of some sill beams; and spiking of all the old planks. The deck was considered suitable for the pouring of concrete, with new kerbing and railing to be fitted. Widening would require extension to the half caps and also additional beams, 'which could be an expensive exercise.'³⁴ G. B. Hill, Consulting Engineers, were commissioned to determine the load carrying capacity of the bridge to carry a 6 tonne vehicle. Their report described the existing structure and reported on its condition, then outlined four possible options for repairs to enable the bridge to be brought back into service carrying the above-mentioned load.³⁵ In May, estimated costs were obtained, and discussions were held with CALM regarding the options and the possible future use of the bridge. It was subsequently recorded 'CALM has no funds or need to open bridge.'³⁶

In August 1997, although the bridge was officially closed to vehicular traffic, it was reported that some vehicles were continuing to use the bridge.³⁷ In 1997-98, the bridge was brought into use as part of the Bibbulmun Track, a 650 km walking track which extends from Kalamunda to Walpole, much of its length in the jarrah forest areas following former railway grades. Later, circa 2001, a pedestrian railing was installed at either side of *Asquith Bridge* for safety reasons.³⁸ Set back from the edges, the simple wire system was constructed by prison labour from Karnet Prison.³⁹

In 1997, *Asquith Bridge* was identified in the 'Report of the Western Australian Comprehensive Regional Assessment Community Heritage Program (Non-Indigenous)⁴⁰ in which the place was assessed through community workshops. It was determined that the place was considered to meet the threshold for the National Estate for social value. It is valued and used by the local community and tourists visiting the area and those who use the Bibbulmun Track.

In 1997, *Asquith Bridge* was included in the Large Timber Structures Survey, with a Ranking of 4 in relation to its heritage status, and was recommended for inclusion in the Register of Heritage Places. It was considered an 'Exceptional example of a timber tramway bridge', and the aforementioned

33 Gunzburg, Adrian and Austin, Jeff op. cit., p. 128.

34 Summary Report of Bridge No. 4559, 20 March 1997, in 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB.

35 G B Hill Consulting Engineers, Bridge No. 4559 in 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB.

36 Note, 21 May 1997, on fax., 2 May 1997, in *ibid.*

37 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB, March-August 1997.

38 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB, July 1998.

39 Elizabeth Hoek, telephone conversation with Robin Chinnery, March 2005.

40 Gray, L., Heaver, D., O'Connor, P., and Pearson, D., 1997. 'Report of the WA Comprehensive Regional Assessment Community Heritage Program (Non-Indigenous).' Prepared for Environment Task Force, Environment Australia and Western Australian Department of Conservation and Land Management.

National Trust of Australia (WA) Report was quoted: 'One of the most impressive railway bridges ever built in WA'.⁴¹

In April 2000, as *Asquith Bridge*, the place was included in Shire of Boddington's Municipal Heritage Inventory. Considered significant as an 'Excellent example of an early rail trestle bridge', and for its 'Strong association with the timber industry', it was ranked 1-2 in the Management Category 'Conservation Essential/Highly Recommended'.⁴²

In late 2001, Bridge 4559, *Asquith Bridge*, was removed from Main Roads Detailed Inspection Schedule as it was no longer in use for vehicular traffic.⁴³ So far as is known, there have been no detailed inspections of the place since 2001, and no major works undertaken.

In March 2005, the signage indicating a gross load limit of 6 tonne remains in situ at *Asquith Bridge*, although the bridge has not been open to vehicular traffic since the 1990s. *Asquith Bridge* continues in use as a pedestrian bridge, and part of the Bibbulmun Track.

13.2 PHYSICAL EVIDENCE

Asquith Bridge is a 28 span, curved timber trestle railway bridge, 127.88 metres long, constructed across the Murray River. The bridge is located adjacent to Long Gully Road, Asquith, in the Shire of Boddington, and is approximately 130 kilometres south of Perth.

Asquith Bridge is constructed across the Murray River in an approximately north-south direction, some 20 km southwest of the town of Boddington. The bridge is located on a former railway alignment, now part of the Bibbulmun Track. The bridge is accessed from a series of unsealed roads and is approximately 1 km north of the Harvey-Quindanning Road and 9 km south of the Pinjarra-Williams Road. The GPS co-ordinates for the southern embankment of the bridge are 6347291N by 50 432218E.

The bridge is constructed over the Murray River at a point where the banks rise steeply above the river valley, affording spectacular views both of the Murray River below and of the surrounding forest. At the date of inspection in March 2005, the river was relatively low; however, high water marks on both embankments indicated that the river rises considerably from that level in the winter months. The surrounding area comprises native forest, with a dense under-storey of ferns and shrubs. The tops of the adjacent trees are approximately at the level of the top of the bridge.

Asquith Bridge is 127.88 metres long, 3.05 metres wide, and stands 10 metres above the river. There are 28 spans each approximately 4.57 metres long. The piers of the bridge are numbered along the bridge in ascending order from the southern abutment and the piles are numbered across the bridge in ascending order from left to right. Pile 2 of pier 13 has 'RFT 1949' engraved near the top on the side facing the northern abutment.

The abutment on the northern end of the bridge is constructed of timber logs and the southern abutment is constructed of concrete on a stone base. The

41 'Asquith (Long Gully) Bridge' in *Large Timber Structures*, Entry 1313.

42 Item No. B08, Shire of Boddington, Municipal Heritage Inventory, April 2000.

43 Memo. in 'Bridge Number 4559 over Murray River' MRDWA File 51-4559-15VB, 27 November 2001.

trestles each comprise three 400 millimetre diameter timber piles with cross bracing. The end piles are angled and the central piles are vertical. The six piers closest to the southern end of the bridge are constructed as silled piers with timber sills on concrete plinth footings 5.5 metres long, 600 millimetres wide and exposed to a depth of approximately 300 millimetres. Trestles towards the centre of the river and on the northern side are constructed of piles driven directly into the ground.

The decking on the top of the bridge is constructed of timber planking fixed to the top chords of the trestles. *Asquith Bridge* has a timber plank deck 2.8 metres wide constructed of sleepers 200 millimetres wide, with timber upstands 100 millimetres wide and 450 millimetres high along the edges of the bridge. The upstands are constructed of two sleeper widths interlocked and with slots to allow water overflow in the event of flooding. The timbers are generally connected using galvanized steel bolts.

A recent safety rail has been erected on the bridge as part of its adaptation for use by walkers. This is constructed of unpainted galvanised steel uprights, 1.1 metres apart and 900 millimetres high, with flanged base sections bolted to the decking. There are wires at 350 millimetres above the deck and at the top of the uprights.

There are no railway tracks extant on the bridge; however, sleepers from the previous railway are evident through the gravel surface to more recent road or track on the northern side of the bridge.

The alignment of *Asquith Bridge* is straight at the southern end but curves in an arc from about half way across towards the east as it approaches the northern embankment. This sets the bridge apart from others of its type and period.

Asquith Bridge remains largely as originally constructed. There is evidence that some of the timber decking has been replaced and repaired and some of the piles have been banded with steel for additional support. The safety rail is of recent origin. Timber remnants of the pedestrian platform lie below the bridge.

The condition of the bridge is fair to good as a result of regular inspection and repair in the past. There is some evidence of damage from termites that appears to have been arrested, and one of the piles at the northern end shows some evidence of deterioration and possible structural failure.

13.3 COMPARATIVE INFORMATION

HCWA's Database includes 10 timber railway bridges, of which two are in the Peel Region, *Asquith Bridge* (HCWA 15424) and *Old Railway Bridge, Byford* (HCWA 08478). None are listed on the Register of Heritage Places to date. The Assessment Backlog Program includes six such bridges, but *Old Railway Bridge, Byford* (HCWA 08478) is not among them. *Asquith Bridge* and *Nanson Railway Bridge and Siding* (HCWA 06370) are on the current assessment programme.

In the nineteenth and early twentieth century, timber trestle construction was common practice in bridge design and construction. A notable surviving example of this bridge building technique is the disused Tullis Bridge, which is located on the present day Tullis Walk Trail, in the vicinity of *Asquith Bridge*.

Built in the pre-World War One period, as part of the Pinjarra-Narrogin Railway, Tullis Bridge is shorter in length and lower in height than *Asquith Bridge*. Indeed, there are few surviving timber trestle railway bridges as substantial as *Asquith Bridge*. At 127.88 metres long and up to 10 metres high, it is reportedly 'One of the most impressive railway bridges ever built in Western Australia'⁴⁴, and an 'Exceptional example of timber tramway bridge'.⁴⁵ The most readily comparable surviving bridge is the Warren River Bridge, an integral part of the Pemberton Tramway (HCWA 4637), formerly the Pemberton-Northcliffe Railway (constructed in 1929-33), which is 127 metres long and also up to 10 metres high. Both these bridges are significant construction achievements. Each also has a very fine picturesque quality in its respective riverine settings.

From the 1930s onwards, steel and concrete construction became more common in bridge design and construction in Western Australia. In the post-World War Two period, very few large bridges utilising timber trestle construction were designed and built in this State. Built in 1949-52, *Asquith Bridge* is believed to be one of the last large timber trestle railway or road bridges built in Western Australia.⁴⁶

13. 4 KEY REFERENCES

'Bridge Number 4559 over Murray River' MRDWA Files 51-4559-22, 51-4559-15 and 51-4559-15VB

Asquith (Long Gully) Bridge over Murray River, Entry 1313 in *Large Timber Structures* in Engineering Heritage Panel, The Institution of Engineers, Australia, Western Australia Division, *Large Timber Structures in Western Australia* Perth, 1998.

13. 5 FURTHER RESEARCH

⁴⁴ Austin, J. National Trust of Australia (WA) Report, 1994, p. 21, quoted in *Large Timber Structures in Western Australia* op. cit.

⁴⁵ Entry 1313 in *ibid.*

⁴⁶ W. R. 'Bill' Larke, of Engineering Heritage Panel, The Institution of Engineers, Australia, Western Australia Division, conversation with Robin Chinnery, March 2005.