HERITAGE COUNCIL VICTORIA

HERITAGE COUNCIL DETERMINATION

Determination Date	6 December 2018
Place/Object Name	Avon River Rail Bridge
Location	Avon River, Stratford, Wellington Shire
VHR Number	H2389
Category	Heritage Place

At a meeting of the Heritage Council of Victoria on 6 December 2018 it was determined that, in accordance with Section 49(1)(a) of the *Heritage Act 2017*, the above place is of cultural heritage significance to the State of Victoria and warrants inclusion in the Victorian Heritage Register, subject to the tracked changes in the below report. This decision was reached having considered the assessment against the Heritage Council's criteria, other information contained in the attached report and all submissions received in response to the Executive Director's recommendation.

The Heritage Council endorses and adopts the attached report for the purposes of making its decision.

Professor Stuart Macintyre AO
Chair, Heritage Council of Victoria

Recommendation of the Executive Director and assessment of cultural heritage significance under Part 3, Division 3 of the *Heritage Act 2017*

Name	Avon River Rail Bridge
Location	Avon River, Stratford, Wellington Shire
Provisional VHR Number	PROV VHR H2389
Provisional VHR Category	Registered Place
Hermes Number	201733
Heritage Overlay	No Heritage Overlay

Avon River Rail Bridge (August 2018)

EXECUTIVE DIRECTOR RECOMMENDATION TO THE HERITAGE COUNCIL:

- That the Avon River Rail Bridge be included as a Registered Place in the Victorian Heritage Register under the *Heritage Act 2017* [Section 37(1)(a)].

STEVEN AVERY
Executive Director
Recommendation Date: Friday 14 September 2018
Advertising Period: 21 September – 19 November 2018

This recommendation report has been issued by the Executive Director, Heritage Victoria under s.37 of the *Heritage Act 2017*. ~~It has not been considered or endorsed by the Heritage Council of Victoria.~~

EXTENT OF NOMINATION

Date that the nomination was accepted by the Executive Director
2 August 2018

Written extent of nomination
The Avon River Rail Bridge.

Nomination extent diagram

Is the extent of nomination the same as the recommended extent?
Yes

~~RECOMMENDED~~ EXTENT OF REGISTRATION

All the place (to be) shown hatched on Diagram 2389 encompassing part of Lot 1 on Title Plan and part of Crown Allotment 2005 Parish of Nuntin and represents a buffer of 12 metres from the centre line of the railway. (Note; the diagram will be completed in the usual manner for gazettal, in the meantime the extent is shown as a black line on an air photo.)

The extent of registration of the Avon River Rail Bridge in the Victorian Heritage Register affects the whole place shown on Diagram 2389 including all elements of the bridge structure.

RATIONALE FOR EXTENT

The proposed extent of registration for the Avon River Rail Bridge in the Victorian Heritage Register is twelve metres from the centreline of the bridge on either side. The extent at the south-western end is twelve metres from the junction of the viaduct and the embankment. The extent at the northern end is twelve metres from the junction of the bridge and the land. This extent includes all elements of the bridge and sufficient curtilage to protect its cultural heritage values.

BACKGROUND

WHAT IS AT THE PLACE?

The Avon River Rail Bridge is a railway bridge which crosses the Avon River at Stratford. The south-western approach comprises a curved viaduct across the river flats with a timber deck and trestles. The centre section of the bridge comprises steel girders supported by ~~oval~~rectangular with rounded ends ~~shaped~~ masonry and concrete piers. The northern section is constructed of iron girders supported by large timber pile piers with timber cutwaters designed to divert the water around the piers.

WHAT IS THE HISTORY OF THE PLACE?

The Stratford run was established in 1842 by William Odell Raymond and a township grew around the stock route ford across the Avon River. In 1856, Victorian Railways was established by the colonial government and construction of a rail network linking regional towns to Melbourne began. In 1888, the Gippsland line was extended to Bairnsdale which included the construction of the Avon River Rail Bridge. By 1896, the course of the Avon River had moved to the south, leaving the bridge raised over a dry river bed. After failed attempts to reroute the river, a new section of bridge supported by ~~oval~~rectangular with rounded ends ~~shaped~~ masonry piers was constructed. Rail services continued during construction, and apart from a period of closure between 1993 and 1999, the Avon River Bridge has been in continuous use since 1888. ~~A new rail bridge is soon to be constructed to the west of the existing bridge. The existing bridge will be retained but no longer used for rail services.~~

WHO ARE THE TRADITIONAL OWNERS/REGISTERED ABORIGINAL PARTY FOR THIS PLACE?

This site is part of the traditional land of the Gunai/Kurnai people. The Registered Aboriginal Party for the area is the Gunai/Kurnai Land and Waters Aboriginal Corporation.

STATEMENT OF CULTURAL HERITAGE SIGNIFICANCE

WHAT IS SIGNIFICANT?

The Avon River Rail Bridge including all elements.

HOW IS IT SIGNIFICANT?

The Avon River Rail Bridge is of historical and architectural significance to the State of Victoria. It satisfies the following criterion for inclusion in the Victorian Heritage Register:

Criterion A

Importance to the course, or pattern, of Victoria's cultural history.

Criterion D

Importance in demonstrating the principal characteristics of a class of cultural places and objects.

WHY IS IT SIGNIFICANT?

The Avon River Rail Bridge is significant at the State level for the following reasons:

The Avon River Rail Bridge is historically significant as an important part of the railway network constructed in the 1880s to provide links between cities and towns throughout Victoria. The Gippsland line was the first railway line in Victoria constructed to promote new colonial settlement rather than responding to existing needs. The Avon River Rail Bridge allowed for the extension of the Gippsland line to Bairnsdale, connecting the region with Melbourne and expanding trade and population growth in Victoria. [Criterion A]

The Avon River Rail Bridge is significant as a notable example of a nineteenth century rail bridge. It is fine and highly intact and exhibits a large number and range of the principal characteristics of a rail bridge. The large range of characteristics is a result of the construction of the bridge in two stages with the utilisation of large-scale timber piers and cutwaters in the first stage, and finely detailed masonry piers in the second stage. The bridge remains mostly unchanged from the time of construction apart from maintenance and replacement of some elements to allow for the ongoing use of the bridge. [Criterion D]

RECOMMENDATION REASONS

REASONS FOR RECOMMENDING INCLUSION IN THE VICTORIAN HERITAGE REGISTER [s.40]
Following is the Executive Director's assessment of the place against the tests set out in *The Victorian Heritage Register Criteria and Thresholds Guidelines (2014).*

CRITERION A

Importance to the course, or pattern, of Victoria's cultural history.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION A

The place/object has a *CLEAR ASSOCIATION* with an event, phase, period, process, function, movement, custom or way of life in Victoria's cultural history.

Plus

The association of the place/object to the event, phase, etc *IS EVIDENT* in the physical fabric of the place/object and/or in documentary resources or oral history.

Plus

The *EVENT, PHASE, etc* is of *HISTORICAL IMPORTANCE,* having made a strong or influential contribution to Victoria.

Executive Director's Response
The Avon River Rail Bridge has a clear association with the development of Victoria's rail network in the 1880s. The association is evident through the form and materials of the bridge which demonstrate its function. The association is also evident in documentary resources.

The development of the rail system in Victoria has made a strong contribution to Victoria by providing links between cities and towns for the efficient movement of goods and passengers. The Gippsland line was the first railway line in Victoria constructed to promote new settlement rather than responding to existing needs. The Avon River Rail Bridge allowed for the extension of the Gippsland line to Bairnsdale, connecting the region with Melbourne and expanding trade and population growth in Victoria.

Criterion A is likely to be satisfied.

STEP 2: A BASIC TEST FOR DETERMINING STATE LEVEL SIGNIFICANCE FOR CRITERION A

The place/object allows the clear association with the event, phase etc. of historical importance to be *UNDERSTOOD BETTER THAN MOST OTHER PLACES OR OBJECTS IN VICTORIA WITH SUBSTANTIALLY THE SAME ASSOCIATION.*

Executive Director's Response
The Avon River Rail Bridge allows the clear association with the development of Victoria's railway network to be understood better than most other places in Victoria with substantially the same association. It demonstrates the challenges which rivers and other geographical formations posed to the development of the rail network and the requirement for considered engineering solutions to changing geographical conditions. The Avon River Rail Bridge demonstrates this through its extensive viaduct across the river flats, the design of the 1888 timber piers and cutwaters, and through the 1896 extension which was constructed in response to the altered river course.

Criterion A is likely to be satisfied at the State level.

CRITERION B

Possession of uncommon, rare or endangered aspects of Victoria's cultural history.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION B

The place/object has a *clear ASSOCIATION* with an event, phase, period, process, function, movement, custom or way of life of importance in Victoria's cultural history.

Plus

The association of the place/object to the event, phase, etc *IS EVIDENT* in the physical fabric of the place/object and/or in documentary resources or oral history.

Plus

The place/object is *RARE OR UNCOMMON*, being one of a small number of places/objects remaining that demonstrates the important event, phase etc.

OR

The place/object is *RARE OR UNCOMMON*, containing unusual features of note that were not widely replicated

OR

The existence of the *class* of place/object that demonstrates the important event, phase etc is *ENDANGERED* to the point of rarity due to threats and pressures on such places/objects.

Executive Director's Response

The Avon River Rail Bridge has a clear association with the development of Victoria's rail network in the 1880s which has made a strong contribution to Victoria by providing links between cities and towns. This association is evident in the physical fabric of the place and in documentary resources.

The Avon River Rail Bridge comprises many different materials and construction methods, but none are rare or uncommon. It demonstrates a variety of construction methods including foundations built with curbs with cutting edges, ~~oval~~rectangular with rounded ends masonry piers and a trolley system was used to move the 1896 girders into place. These techniques and processes are of interest but were widely replicated and are not rare or uncommon.

It is likely that the Avon River Rail Bridge is one of the longest rail bridges in Victoria, but there are others of similar span length and overall length. Many bridges in the VHR demonstrate uncommon methods of construction due to the way in which they were designed and constructed to suit their particular location.

Criterion B is not likely to be satisfied.

CRITERION C

Potential to yield information that will contribute to an understanding of Victoria's cultural history.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION C

The:
- visible physical fabric; &/or
- documentary evidence; &/or
- oral history,

relating to the place/object indicates a likelihood that the place/object contains *PHYSICAL EVIDENCE* of *historical interest* that is *NOT CURRENTLY VISIBLE OR UNDERSTOOD*.

Plus

From what we know of the place/object, the physical evidence is likely to be of an *INTEGRITY* and/or *CONDITION* that it *COULD YIELD INFORMATION* through detailed investigation.

Executive Director's Response

There is no likelihood that the Avon River Rail Bridge contains physical evidence of historical interest that is not currently visible or understood. Its construction and history is well documented.

Criterion C is not likely to be satisfied.

CRITERION D

Importance in demonstrating the principal characteristics of a class of cultural places and objects.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION D

The place/object is one of a *CLASS* of places/objects that has a *clear ASSOCIATION* with an event, phase, period, process, function, movement, important person(s), custom or way of life in Victoria's history.

Plus

The *EVENT, PHASE, etc* is of *HISTORICAL IMPORTANCE,* having made a strong or influential contribution to Victoria.

Plus

The principal characteristics of the class are *EVIDENT* in the physical fabric of the place/object.

Executive Director's Response

The Avon River Rail Bridge is one of the class of 'rail bridge' which has a clear association with the development of Victoria's rail network. The principal characteristics of the class of 'rail bridge' is evident in the construction methods and materials, including timber, masonry and concrete piers, cutwaters and viaducts, timber decks and iron girders and tracks.

Criterion D is likely to be satisfied.

STEP 2: A BASIC TEST FOR DETERMINING STATE LEVEL SIGNIFICANCE FOR CRITERION D

The place/object is a *NOTABLE EXAMPLE* of the class in Victoria (refer to reference Tool D).

Executive Director's Response

The Avon River Rail Bridge is a notable example of the class of 'rail bridge' in Victoria. It is fine and highly intact and displays a large number and range of characteristics that are typical of the class. The large range of characteristics is a result of the construction of the bridge in two stages with the use of timber piers supporting girders, cutwaters and trestle piers in the first stage and finely detailed brick piers supporting girders in the second stage. The bridge remains mostly unchanged from the time of construction apart from maintenance and replacement of elements to allow for the ongoing use of the bridge. The Avon River Rail Bridge displays the principal characteristics of the class of rail bridge in a way that allows the class to be easily understood and appreciated.

Criterion D is likely to be satisfied at the State level.

CRITERION E

Importance in exhibiting particular aesthetic characteristics.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION E

The *PHYSICAL FABRIC* of the place/object clearly exhibits particular aesthetic characteristics.

Executive Director's Response

The physical fabric of the Avon River Rail Bridge clearly exhibits aesthetic characteristics through its materials, design, scale and setting. It is a visually impressive bridge, of substantial length and height. The combination of masonry ~~oval~~rectangular with rounded ends shaped brick piers with fine detailing, the tall timber piers and cutwaters, and its setting in a rural landscape above the Avon River contributes to its aesthetic values.

Criterion E is likely to be satisfied.

STEP 2: A BASIC TEST FOR DETERMINING STATE LEVEL SIGNIFICANCE FOR CRITERION E

The aesthetic characteristics are *APPRECIATED OR VALUED* by the wider community or an appropriately-related discipline as evidenced, for example, by: • *critical recognition* of the aesthetic characteristics of the place/object within a relevant art, design, architectural or related discipline as an outstanding example within Victoria; or • wide public *acknowledgement of exceptional merit* in Victoria in medium such as songs, poetry, literature, painting, sculpture, publications, print media etc.

Executive Director's Response

The aesthetic characteristics of the Avon River Rail Bridge are appreciated and valued by the wider community but there has been no critical recognition of the place within a relevant art, design, architectural or related discipline as an outstanding example within Victoria. There has also been no wide public acknowledgement of exceptional merit in Victoria in any medium. L H Chase, the engineer of the 1896 section gave a presentation to the Victorian Institute of Engineers, but referenced the bridge's construction techniques rather than its aesthetic characteristics.

Criterion E is not likely to be satisfied at the State level.

CRITERION F

Importance in demonstrating a high degree of creative or technical achievement at a particular period.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION F

The place/object contains *PHYSICAL EVIDENCE* that clearly demonstrates creative or technical *ACHIEVEMENT* for the time in which it was created.

Plus

The physical evidence demonstrates a *HIGH DEGREE OF INTEGRITY*.

Executive Director's Response

The Avon River Rail Bridge demonstrates a creative solution to the extension of a rail bridge in a geographically challenging location. In 1891 the original 1888 timber bridge was damaged by flooding which had become a regular occurrence. The course of the Avon River had shifted and the southern side of the river bank was being eroded away. In 1896 an extension to the bridge was constructed across the altered river course using foundations with cutting edges or curbs to create a stable footing for the brick piers. Once the piers were completed, custom designed trolleys rolled the steel girders and rails into place. The physical evidence of the Avon River Rail Bridge demonstrates a high degree of integrity.

Criterion F is likely to be satisfied.

STEP 2: A BASIC TEST FOR DETERMINING STATE LEVEL SIGNIFICANCE FOR CRITERION F

The nature &/or scale of the achievement is *OF A HIGH DEGREE* or 'beyond the ordinary' for *the period in which it was undertaken* as evidenced by:

- *critical acclaim* of the place/object within the relevant creative or technological discipline as an outstanding example in Victoria; or
- wide *acknowledgement of exceptional merit* in Victoria in medium such as publications and print media; or
- recognition of the place/object as a *breakthrough* in terms of design, fabrication or construction techniques; or
- recognition of the place/object as a successful solution to a technical problem that *extended the limits* of existing technology; or
- recognition of the place/object as an outstanding example of the *creative adaptation* of available materials and technology of the period.

Executive Director's Response

The technical achievements associated with the 1896 extension are innovative and technically interesting but they are not of a high degree or 'beyond the ordinary' for the period in which they were undertaken.

Rail bridges were constructed in difficult and challenging terrains throughout Victoria. Each one required a different engineering solution and like the Avon River Rail Bridge, relied on the adaptation of existing methods, construction techniques and materials to suit the specific conditions.

The design and construction of the Avon River Rail Bridge was not breakthrough in terms of design, fabrication or construction techniques but relied on existing processes which were adapted to suit the location and conditions. The creative adaptation applied to the construction of the Avon River Rail Bridge was applied to many other bridges constructed throughout Victoria at the same time.

The nature of the achievement was not of a high degree or beyond the ordinary for the period in which it was created.

Criterion F is not likely to be satisfied at the State level.

CRITERION G

Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to indigenous people as part of their continuing and developing cultural traditions.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION G

Evidence exists of a *DIRECT ASSOCIATION* between the place/object and a *PARTICULAR COMMUNITY OR CULTURAL GROUP*. (For the purpose of these guidelines, *'COMMUNITY or CULTURAL GROUP'* is defined as a sizable group of persons who share a common and long-standing interest or identity).

Plus

The *ASSOCIATION* between the place/object and the community or cultural group is *STRONG OR SPECIAL,* as evidenced by the regular or long-term use of/engagement with the place/object or the enduring ceremonial, ritual, commemorative, spiritual or celebratory use of the place/object.

Executive Director's Response

There is no evidence of a direct association between the Avon River Rail Bridge and a particular community or cultural group.

Criterion G is not likely to be satisfied.

CRITERION H

Special association with the life or works of a person, or group of persons, of importance in Victoria's history.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION H

The place/object has a *DIRECT ASSOCIATION* with a person or group of persons who have made a strong or influential *CONTRIBUTION* to the course of Victoria's history.

Plus

The *ASSOCIATION* of the place/object to the person(s) *IS EVIDENT* in the physical fabric of the place/object and/or in documentary resources and/or oral history.

Plus

The *ASSOCIATION*: • directly relates to *ACHIEVEMENTS* of the person(s) at, or relating to, the place/object; or • relates to an *enduring* and/or *close INTERACTION* between the person(s) and the place/object.

Executive Director's Response

The Avon River Rail Bridge has a direct association with Archibald Fram, L H Chase and Mephan Ferguson, designer, engineer and manufacturer respectively of the 1896 extension.

There is no known evidence that Archibald Fram designed any other infrastructure in Victoria. L H Chase was an assistant engineer with the Victorian Railway and appears to have worked between the UK and Australia. There are no other known projects by L H Chase in Victoria.

Mephan Ferguson made a strong contribution to Victoria through the manufacture of ironworks for many significant projects including rail bridges, engine sheds, the Newport railway workshops, and pipes for Victoria's water supply systems.

Fram, Chase and Ferguson all have a direct association with the Avon River Rail Bridge. The association is evident in the physical fabric of the place and in documentary resources. Mephan Ferguson has made a strong contribution to the course of Victoria's history, but on the available evidence, Fram and Chase have not.

Criterion H is likely to be satisfied for the association with Mephan Ferguson.

STEP 2: A BASIC TEST FOR DETERMINING STATE LEVEL SIGNIFICANCE FOR CRITERION H

The place/object allows the clear association with the person or group of persons to be *READILY APPRECIATED BETTER THAN MOST OTHER PLACES OR OBJECTS IN VICTORIA*.

Executive Director's Response

The Avon River Rail Bridge is one of Mephan Ferguson's smaller projects and there are others including the Former Newport Railway Workshops (VHR H1000) which allow his contribution to the State of Victoria to be more readily appreciated.

Criterion H is not likely to be satisfied at the State level.

~~PROPOSED~~ PERMIT POLICY

Preamble
The purpose of the Permit Policy is to assist when considering or making decisions regarding works to a registered place. It is recommended that any proposed works be discussed with an officer of Heritage Victoria prior to making a permit application. Discussing proposed works will assist in answering questions the owner may have and aid any decisions regarding works to the place.

The extent of registration of the Avon River Rail Bridge in the Victorian Heritage Register affects the whole place shown on Diagram 2389 including all elements of the 1888 viaduct and bridge and all elements of the 1896 bridge extension. Under the *Heritage Act 2017* a person must not remove or demolish, damage or despoil, develop or alter or excavate, relocate or disturb the position of any part of a registered place or object without approval. It is acknowledged, however, that alterations and other works may be required to keep places and objects in good repair and adapt them for use into the future.

If a person wishes to undertake works or activities in relation to a registered place or registered object, they must apply to the Executive Director, Heritage Victoria for a permit. The purpose of a permit is to enable appropriate change to a place and to effectively manage adverse impacts on the cultural heritage significance of a place as a consequence of change. If an owner is uncertain whether a heritage permit is required, it is recommended that Heritage Victoria be contacted.

Permits are required for anything which alters the place or object, unless a **permit exemption** is granted. Permit exemptions usually cover routine maintenance and upkeep issues faced by owners as well as minor works or works to the elements of the place or object that are not significant. They may include appropriate works that are specified in a conservation management plan. Permit exemptions can be granted at the time of registration (under s.38 of the Heritage Act) or after registration (under s.92 of the Heritage Act). It should be noted that the addition of new buildings to the registered place, as well as alterations to the interior and exterior of existing buildings requires a permit, unless a specific permit exemption is granted.

Conservation management plans
It is recommended that a Conservation Management Plan is developed to manage the place in a manner which respects its cultural heritage significance.

Aboriginal cultural heritage
If works are proposed which have the potential to disturb or have an impact on Aboriginal cultural heritage it is necessary to contact Aboriginal Victoria to ascertain any requirements under the *Aboriginal Heritage Act 2006.* If any Aboriginal cultural heritage is discovered or exposed at any time it is necessary to immediately contact Aboriginal Victoria to ascertain requirements under the *Aboriginal Heritage Act 2006*.

Other approvals
Please be aware that approval from other authorities (such as local government) may be required to undertake works.

Archaeology
Any works that may affect historical archaeological features, deposits or artefacts at the place is likely to require a permit, permit exemption or consent. Advice should be sought from the Archaeology Team at Heritage Victoria.

Cultural heritage significance
Overview of significance
The cultural heritage significance of the Avon River Rail Bridge lies in all the elements of the bridge structure including the 1888 viaduct, the 1888 original section and the 1896 extension.

~~PROPOSED~~ PERMIT EXEMPTIONS (UNDER SECTION 38 OF THE HERITAGE ACT)

It should be noted that Permit Exemptions can be granted at the time of registration (under s.38 of the Heritage Act). Permit Exemptions can also be applied for and granted after registration (under s.92 of the Heritage Act).

General Condition 1
All exempted alterations are to be planned and carried out in a manner which prevents damage to the fabric of the registered place or object.

General Condition 2
Should it become apparent during further inspection or the carrying out of works that original or previously hidden or inaccessible details of the place or object are revealed which relate to the significance of the place or object, then the exemption covering such works shall cease and Heritage Victoria shall be notified as soon as possible.

General Condition 3
All works should ideally be informed by Conservation Management Plans prepared for the place. The Executive Director is not bound by any Conservation Management Plan, and permits still must be obtained for works suggested in any Conservation Management Plan.

General Condition 4
Nothing in this determination prevents the Heritage Council from amending or rescinding all or any of the permit exemptions.

General Condition 5
Nothing in this determination exempts owners or their agents from the responsibility to seek relevant planning or building permits from the relevant responsible authority, where applicable.

Specific Permit Exemptions
Generally

Maintenance
- Maintenance and repairs which allow for the safe operation of rail services to occur.
- The repair, maintenance or replacement of missing, damaged or deteriorated fabric that is beyond further maintenance, which matches the existing fabric in form, material and method of affixing, and does not involve damage to or the removal of significant fabric. NOTE: This exemption is not intended to allow for the cumulative replacement of large amounts of the fabric of an item. A permit will be required if the replacement of large amounts of fabric is necessary. If there is uncertainty about the requirement for a permit, advice should be sought from Heritage Victoria.

- Any new materials used for repair must not exacerbate the decay of existing fabric due to chemical incompatibility, obscure existing fabric or limit access to existing fabric for future maintenance. Repair must maximise protection and retention of fabric and include the conservation of existing details or elements.
- Maintenance, replacement and installation of electrical and fire services and security lighting.
- Painting of previously painted elements.
- Repairs to and replacement of railway tracks and sleepers.
- Modifications and repairs to and replacement of any electric or electronic signalling equipment.
- Removal, replacement, repairs and installation of safety barriers.

Public safety and security

- The erection of temporary security fencing, scaffolding, hoardings or surveillance systems to prevent unauthorised access or secure public safety which will not adversely affect the significant fabric of the place provided that temporary structures are removed within 30 days of erection.
- Emergency stabilisation works necessary to secure safety where a site feature has been irreparably damaged or destabilised and represents a safety risk. Urgent or emergency site works are to be undertaken by an appropriately qualified specialist such as a structural engineer, or other professional or tradesperson with appropriate heritage experience.
- The Executive Director must be notified of such works within seven days.

Signage

- Removal, installation, repair or replacement of non-commercial and non-illuminated signage provided the works do not involve the removal or destruction of any significant fabric.
- Signage must be located and be of a modest size so as not to obscure or damage significant fabric of the place. It must be able to be later removed without causing damage to the significant fabric of the place.

Landscape

Parkland is included in the extent of registration but is not of State level cultural heritage significance. The following permit exemptions are for existing landscape elements. The creation of any new landscape elements requires a permit.

- The process of gardening, including mowing, removal of dead shrubs and replanting, disease and weed control, and maintenance to care for existing plants.
- The removal of dead or dangerous trees and emergency tree works to maintain safety.
- Repairs, conservation, and maintenance to hard landscape elements, such as steps, paths, gutters, drainage and irrigation systems, edging, fences and gates.
- Management of trees in accordance with Australian Standard; Pruning of Amenity Trees AS 4373-1996.
- Management of trees in accordance with Australian Standard; Protection of Trees on Development Sites AS 4970-2009.
- Removal of plants listed as noxious weeds in the *Catchment and Land Protection Act 1994*.
- Vegetation protection and management of possums and vermin.

Fire suppression duties

Fire suppression and fire-fighting duties provided the works do not adversely affect heritage fabric.

Weed and vermin control

Weed and vermin control activities provided the works do not adversely affect heritage fabric.

RELEVANT INFORMATION

Local Government Authority	Wellington Shire
Heritage Overlay	No
Other Overlays	No
Victorian Aboriginal Heritage Register	No. The Avon River Rail Bridge is included in an area of Aboriginal cultural heritage sensitivity associated with the Avon River.

HISTORY

Establishment of Stratford

The first runs in the Gippsland area were established in the 1840s following Angus McMillan's exploration of a route to the coast from the Monaro Plains (now in southern New South Wales). McMillan established a station on the Avon River and in 1842 the Stratford run was established by William Odell Raymond. By 1844 there were forty stations in the area. Raymond opened a number of businesses including a blacksmith and hotel near where the stock route forded the Avon River and the township of Stratford was officially surveyed in 1854. In 1865, the Avon Shire was proclaimed, with Stratford as the centre of local government. The surrounding land was primarily used for cattle and sheep grazing, and crops including hops, tobacco, maize and flax were planted in the late nineteenth century. A failed attempt to establish a sugar beet industry was attempted in 1896 with a processing factory to be serviced by the new railway station proposed for nearby Maffra. Other industries such as tanneries and a flour mill, were also developed at Stratford.

Victoria's rail system

Rail systems in Victoria were privately owned until 1856 when the colonial government established Victorian Railways. Construction of a rail network linking regional towns to Melbourne commenced and increased significantly in the 1880s in response to an increasing population. Between 1882 and 1892 line mileage in Victoria almost doubled.

The Avon River Rail Bridge

The Avon River Rail Bridge was constructed in 1888 as part of the Gippsland line which was the first line constructed to encourage the development of new country for settlement rather than to meet existing needs. The line was completed to Sale in 1878 and an additional branch to Maffra was constructed in the 1880s to serve the rich farming and timber producing areas in the region. In 1888, the branches were extended to reconnect south of Stratford, pass across the newly constructed Avon River Rail Bridge and continue on to Bairnsdale.

The southern western approach was by a long, curved timber viaduct across the river flats which connected to a bridge of iron girders supported on timber piers. By this time, logging and agricultural development in the region had impacted on the flow and course of the Avon River. The river regularly flooded and vegetation clearance, swamp draining and bushfires contributed to substantial erosion. In 1891 the bridge was damaged by flooding and the course of the river was substantially and permanently altered. The original bridge was left raised above a dry river bed and the southern edge of the river bank under the viaduct was significantly eroded. After a number of unsuccessful attempts to re-route the river back to its original course the Victorian Railway Department decided to extend the bridge across the new river course using steel girders on brick and concrete piers.

The extension was built in 1896 and was designed by Archibald Fram. Construction was supervised by engineer L H Chase. The new section measured 300 ft (91.4 metres) in length and comprised a superstructure of steel girders and longitudinal timber planking supported by four brick piers.

The foundations of the 1896 piers were constructed with wrought iron oval curbs with a cutting edge. The soil from the centre of the curbs was extracted, allowing the curbs to sink and eventually settle on a bed of strong clay. The centres were filled with concrete and the brick piers were built on top to a height of 18 ft (5.5 metres) and surmounted with concrete imposts above decorative brickwork. The steel superstructure was manufactured and delivered by Mephan Ferguson and consisted of two pairs of plate girders, each 110 ft (33.5 metres) and a pair of hanging girders of different lengths to accommodate the curvature of the bridge. A system of trolleys was designed by Chase to move the girders into place above the existing wooden bridge. They were then lowered and fixed into place and the earlier wooden structure was removed.

The construction of the bridge extension had to be completed without any disruption to the railway traffic. Work commenced at 3.30pm on a Saturday afternoon and the structure was completed by 11am the following Monday. The new line was laid and completed just before the next train was due to arrive.

L H Chase, the engineer in charge of the extension to the Avon River Rail Bridge, provided an account of the construction of the bridge extension to the Victorian Institute of Engineers. Discussions by his peers recorded at the end of the article described it as a 'very nice operation requiring very careful arrangements'; 'renewing bridges without interrupting the traffic, arose now and then' and 'the Railway Department are to be congratulated upon having accomplished the work without any hitch or trouble', suggesting that the project was of interest but not out of the ordinary.

Some alterations and replacement of elements of the Avon River Rail Bridge has occurred, including the replacement of a section of the timber viaduct with an earthern embankment in the 1920s, replacement of one of the brick piers in 1937 and replacement of timber elements such as beams. Apart from a period of closure between 1993 and 1999 the Avon River Rail Bridge has been in continuous use since its construction. As part of the Regional Rail Revival Gippsland, Rail Projects Australia is constructing a new rail bridge to allow for increased train speed. The new bridge will be located to the west of the existing bridge. The existing bridge will remain in place but will not be used for rail services.

CONSTRUCTION DETAILS

Designer:	Unknown (1888 section) Archibald Fram (1896 section)
Supervising engineer:	Unknown (1888 section) L H Chase (1896 section)
Builder:	Unknown (1888 section) Mephan Ferguson (1896 superstructure)
Construction started date:	1888 (northern section)
Construction ended date:	1896 (extended section)

VICTORIAN HISTORICAL THEMES

03 Connecting Victorians by transport and communications

3.3 Linking Victorians by rail

06 Building towns, cities and the garden State

6.4 Making regional centres

PHYSICAL DESCRIPTION

The Avon River Rail Bridge is a railway bridge which crosses the Avon River at Stratford. It can be divided into two sections.

The 1888 section

This section comprises:

- the curved timber viaduct across the river flats from the south-western approach. It has 45 spans, each 4.5 m in length. It is constructed primarily of timber with the deck supported by timber trestles. Some timber elements have been replaced with steel equivalents.
- The northern section spans the now dry river bed and comprises six 18 m spans and one 4.5 m span. It has iron girders supported by large scale timber piles and timber cutwaters designed to divert floodwaters around the piles.

The 1896 section

This section of the bridge is located between the 1888 viaduct and bridge. It comprises steel girders supported by masonry and concrete piers which are ~~oval~~rectangular with rounded ends in plan and capped with concrete imposts above finely detailed brickwork.

ARCHAEOLOGY

There is no identified archaeology of State level significance at this place.

INTEGRITY/INTACTNESS

Intactness – The intactness of the place is very good. Some elements have been replaced for safety and maintenance purposes, particularly timber elements, but the structure is largely intact. The most substantial change has been the replacement of one of the masonry piers in 1937. (August 2018).

Integrity – The integrity of the place is excellent. The Avon River Rail Bridge is still being used for its original purpose and retains most of its original fabric. The cultural heritage values of the place can be easily read in the extant fabric. (August 2018).

CONDITION

The place is in very good condition. It has been maintained to allow its ongoing use as a rail bridge. (August 2018).

COMPARISONS

Thomson River Rail Bridge, Walhalla (VHR H1443)

The Thomson River Rail Bridge was completed in 1909 and is of historical and social significance at a State level. It is of historical importance for its role in connecting the gold mining town of Walhalla with Moe and Melbourne after Walhalla had been isolated by distance and topography for most of its productive years. The line's re-opening in 1994 as a tourist railway is of social importance in demonstrating the interest historic railways generate in the community. The Thomson River Rail Bridge is significant as the largest structure built on the narrow gauge lines and is representative of railway engineering practice of the early twentieth century where difficult engineering solutions were achieved in isolated and difficult locations. The bridge is important as a significant section of the Moe to Walhalla line which, clinging to sheer slopes and spanning thirteen bridges beyond Erica, attracted international attention as a minor masterpiece of innovative engineering. The bridge is of significance for its unusual construction type, using a combination of structural materials including recycled mild steel girders and a lattice girder as well as concrete piers, timber trestle piers and timber abutment piers.

Thomson River Rail Bridge, Walhalla (VHR H1443)

Sandridge Railway Line Bridge (VHR H0994)

The Sandridge Railway Line Bridge was completed in 1888 and is of historical, technical and architectural significance at a State level. It is the third bridge at this location and is of historical significance as a surviving link of Australia's first passenger railway line across the Yarra River and for its association with the Port Melbourne and St Kilda railway lines which played a vital role in facilitating the economic, suburban and demographic development of Melbourne. It is also significant as a notable example of the work of engineer, speculator and contractor David Munro, whose other work included Queens Bridge and Princes Bridge. The Sandridge Railway Line Bridge is technically significant as possibly the earliest example of the use of steel bridge girders on the Victorian railway system, for its unusual skewed angle and for its considerable size, both in terms of length and maximum span. It is significant as an intact and rare example of a building type, and as the only known example of a railway bridge in Victoria carrying substantial ornamentation including classical decorative schemes in its piers, columns, pediments, fanlight motifs and arched braces across the piers.

Sandridge Railway Line Bridge (VHR H0994)

Rail Bridge, Broken River, Benalla (VHR H1061)

The Broken River Bridge was completed in 1875 and is of scientific and historical significance at a State level. It is of historical significance as part of Victoria's third main trunk line, the North Eastern railway and connected the goldfields, the New South Wales Riverina, and the Murray River trade with the Port of Melbourne. It is of scientific significance as the second bridge of its type built in Victoria and is believed to be the first metal railway bridge designed and fabricated in the colony. It demonstrates the change in construction techniques adopted by the Victorian Railways following the opening of the first trunk lines. The intact flying lateral braces on the main span girders are a distinctive characteristic of the major bridges on the North Eastern railway.

Rail Bridge, Broken River, Benalla (VHR H1061)

SUMMARY OF COMPARISONS

There are more than ninety bridges in the Victoria Heritage Register and more than twenty of them are rail bridges.

Like the three comparator bridges, the Avon River Rail Bridge is significant for the role it played providing links between cities and towns for the efficient movement of goods and passengers. The Gippsland line was the first aimed at new settlement rather than responding to existing needs and the Avon River Rail Bridge allowed for the main Gippsland line to be extended to Bairnsdale. Like the three comparator bridges, the Avon River Rail Bridge demonstrates the principal characteristics of the class of 'rail bridge' and is a notable example through it fine and intact features.

KEY REFERENCES USED TO PREPARE ASSESSMENT

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The Argus, Wednesday 9 May 1888, pg 5 *Opening of Country Railway Lines.*

Australian Dictionary of Biographies, Mephan Ferguson http://adb.anu.edu.au/biography/ferguson-mephan-3511 (retrieved 18 August 2018).

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Chase, L H (1900) *Extension of the iron railway bridge over the Avon river at Stratford (Paper & Discussion)* in *Various Papers and Discussions of the Victorian Institute of Engineers vol. II 1892-1899* https://digitised-collections.unimelb.edu.au/handle/11343/24249 (retrieved 18 August 2018).

Context 2005a Wellington Shire Heritage Study: Stage 1, Volume 2: Environmental History. Report to the Wellington Shire.

Context 2005b Wellington Shire Heritage Study: Stage 1. Volume 1: Study methods and results. Report to the Centre for Gippsland Studies and Wellington Shire.

Heritage Intelligence (2016) Wellington Shire Heritage Study: Stage 2.

ADDITIONAL IMAGES

2018, Timber cutwaters and piers of the 1888 section. The 1896 section is at the right of the image.

2018, Timber cutwaters and piers of the 1888 section, looking south-west.

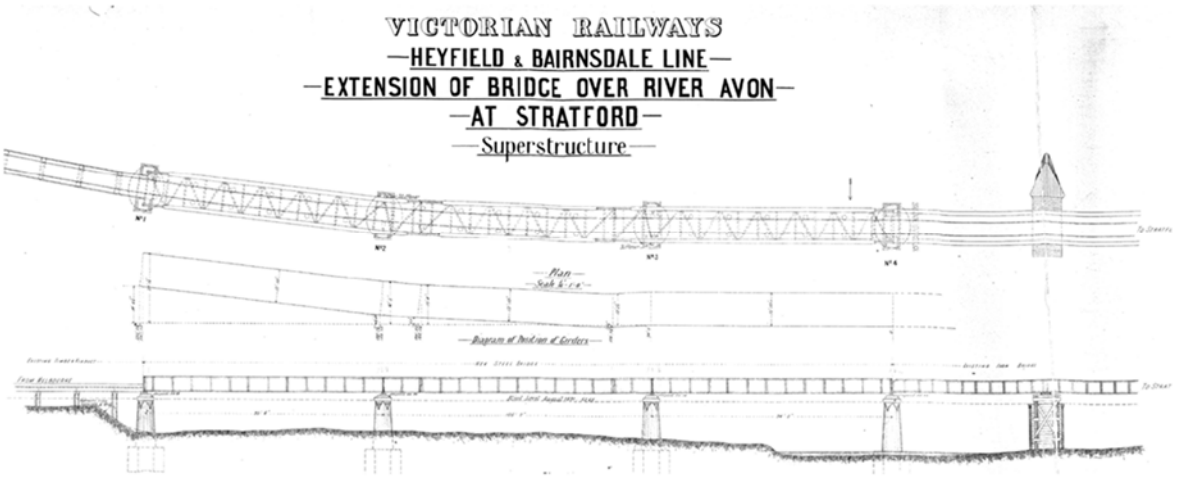
2017, Northern approach, 1888 section (Stratford side of the Avon River) showing timber piers with protective planking.
Source: AJM Joint Venture

2018, The extension over the new course of The Avon River (1896 section).

2018, Masonry pier to the 1896 section showing brick detailing to tops.

2017, Masonry pier supported 1888 girder (at left) and 1896 girder (at right).
Source: AJM Joint Venture

2017, Section of 1888 bridge showing timber piers and iron girder above.
Source: AJM Joint Venture



c.1896, Plans for 1896 section of bridge.
Source: AJM Joint Venture

1896, Construction of the masonry piers.
Source: Public Records Office of Victoria

1896, Girders being moved into place with trolleys.
Source: State Library of Victoria

1896, The girders being lowered into place.
Source: University of Melbourne