

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

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Name	Walmer Street Bridge
Location	Walmer Street Kew and Walmer Street Richmond, Boroondara City and Yarra City
Provisional VHR Number	PROV VHR H2401
Provisional VHR Category	Registered place
Hermes Number	202835
Existing Heritage Overlay	No



Walmer Street Bridge (December, 2019)

EXECUTIVE DIRECTOR RECOMMENDATION TO THE HERITAGE COUNCIL:

- That the Walmer Street 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: Monday 20 January 2020

Advertising Period: Friday 24 January 2020 - Monday 23 March 2020

This recommendation report has been issued by the Executive Director, Heritage Victoria under s.37 of the *Heritage Act 2017*.

EXTENT OF NOMINATION

Date that the nomination was accepted by the Executive Director

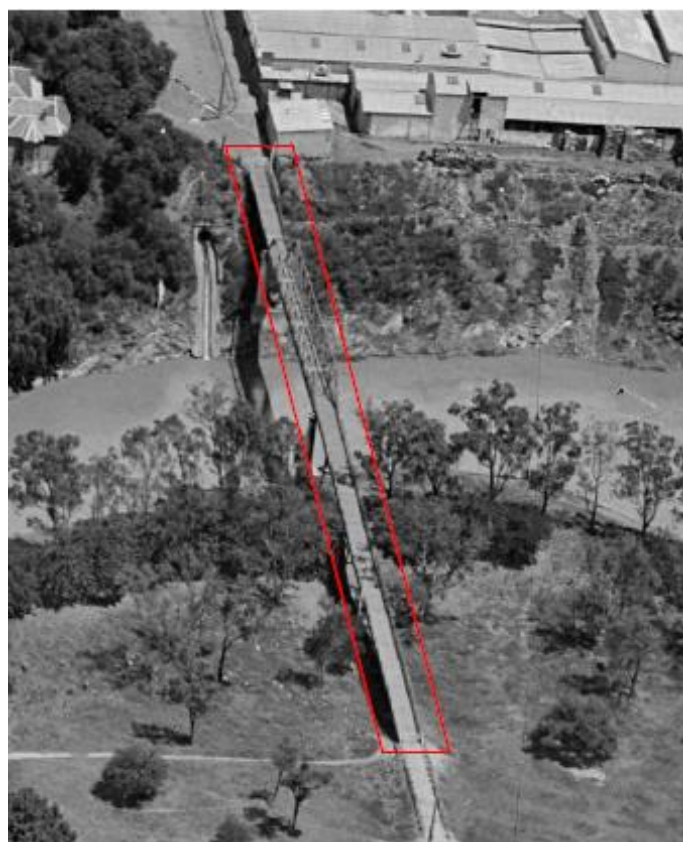
22 August 2019

Written extent of nomination

This written extent was provided by the nominator:

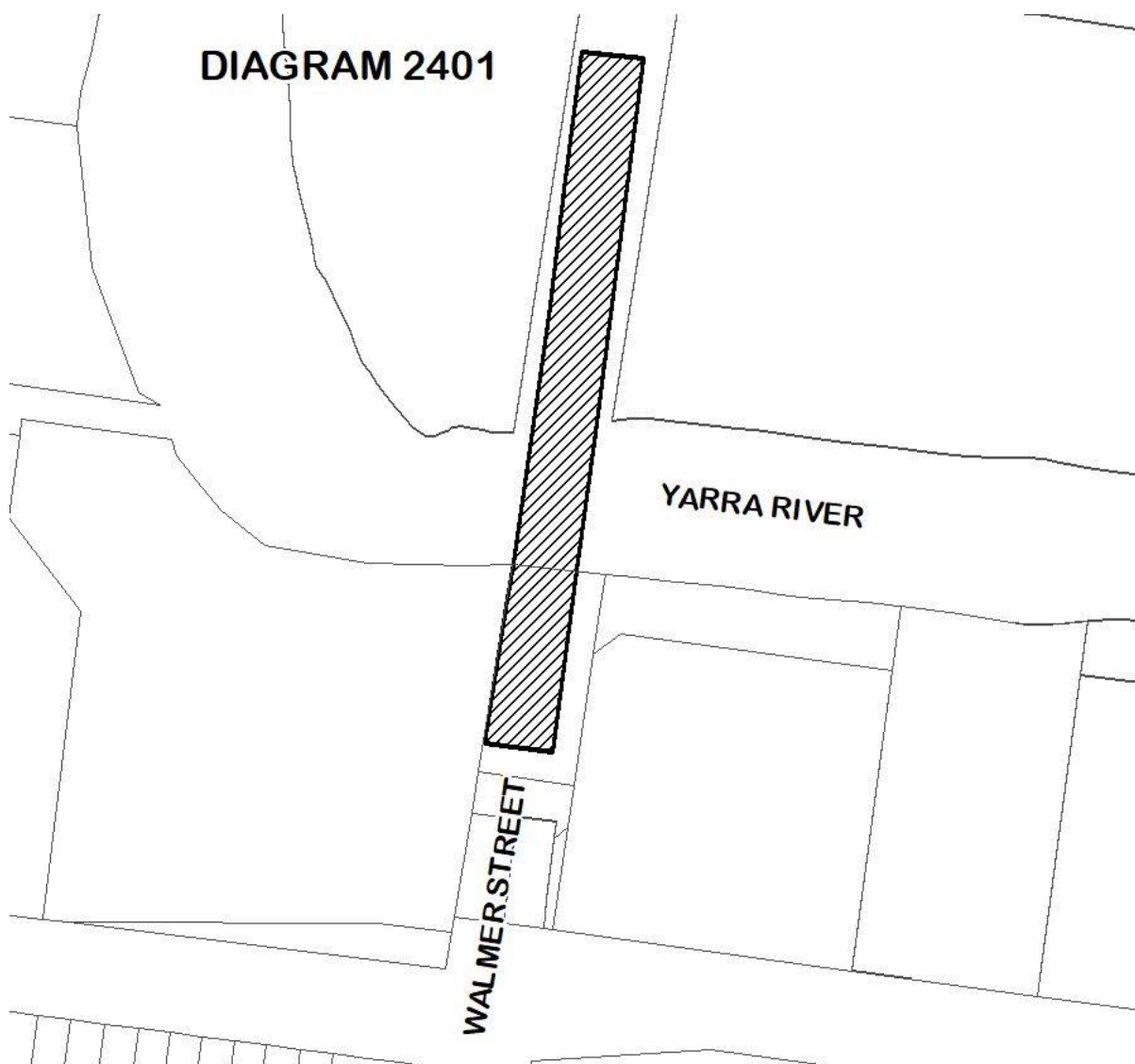
“Metal bridge structure, brick piers, wrought iron riveted pipe suspended under bridge.
Arbitrary allowance of 1m either side of bridge” [it is noted that the diagram subsequently provided by the nominator includes 5m to either side of the bridge].

Nomination extent diagram



RECOMMENDED REGISTRATION

All of the place shown hatched on Diagram 2401 encompassing part of Crown Allotment 2812 Parish of Jika Jika and part of the reserves for Walmer street and the Yarra River representing a buffer of 5 metres on either side of the centreline of the footbridge and from the abutments of the bridge.



The recommended extent of registration of the Walmer Street Bridge in the Victorian Heritage Register affects the whole place shown on Diagram 2401 including the truss bridge, brick piers, wrought iron pipe, the approach spans on both sides of the river, and the land.

RATIONALE FOR EXTENT

The proposed extent of registration includes all features of significance associated with the bridge and the approaches to the bridge on either side of the river. It includes sufficient land around the bridge to understand, protect and conserve the place.

EVIDENCE OF CULTURAL HERITAGE VALUES AT THE PLACE

The cultural heritage values of the place are expressed in its surviving original fabric including the truss bridge, brick piers and 18-inch wrought iron pipe suspended under the bridge. All these

elements are associated with the construction of the bridge in 1892 primarily for the purpose of conveying fresh water from Dight's Falls to the Royal Botanic Gardens.

AERIAL PHOTO OF THE PLACE SHOWING PROPOSED REGISTRATION



WHAT IS AT THE PLACE?

The Walmer Street Bridge provides a crossing between the Richmond and Kew sides of the Yarra River. It consists of a metal Pratt truss bridge span supported on brick piers and approach spans on both sides of the river. The approach span on the Kew side is the longer and is largely constructed of timber. The approach on the Richmond side is of steel construction with timber decking. An 18-inch (46cm) diameter wrought iron riveted pipe emerges from underground on the Kew side and is suspended under the length of the bridge. The pipe has been disconnected on the Richmond side. An additional, narrower pipe runs alongside the original pipe.

WHAT IS THE HISTORY OF THE PLACE?

The Walmer Street Bridge was constructed in 1892 primarily for the purpose of conveying fresh water from the Yarra River near Dight's Falls to the Royal Botanic Gardens (VHR H1459). At this time, the Gardens could not access the mains water supply, and the waters of the Yarra River near the Gardens had become too saline for irrigation. The Public Works Department devised a system, known as Dight's Falls Scheme, to provide the Gardens with fresh water drawn from the area near Dight's Falls. The scheme also provided water for the Melbourne Hydraulic Power Company and the Brookes and Currie Paper Mill near Princes Bridge in central Melbourne. The Walmer Street Bridge carried the water pipe for the Dight's Falls Scheme across the Yarra River and was an important and substantial part of the scheme. The bridge also provided a crossing point for pedestrians. The first bridge was washed away in 1891 before it was complete. The present bridge dates from 1892.

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

This site is part of the traditional land of the people of the Kulin Nation. Traditional owners have not been formally recognised for this area. A Registered Aboriginal Party under the *Aboriginal Heritage Act 2006* has not been appointed.

STATEMENT OF CULTURAL HERITAGE SIGNIFICANCE

WHAT IS SIGNIFICANT?

The Walmer Street Bridge including the central Pratt truss bridge span, brick piers on both sides of the river and all the surviving 18-inch wrought iron pipe. The fabric associated with the north and south approach spans is not significant.

HOW IS IT SIGNIFICANT?

The Walmer Street Bridge is of historical 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.

WHY IS IT SIGNIFICANT?

The Walmer Street Bridge is significant at the State level for the following reasons:

The Walmer Street Bridge is historically significant as a surviving remnant of the Dight's Falls Scheme which conveyed fresh water from the Yarra River near Dight's Falls to the Royal Botanic Gardens. The Dight's Falls Scheme was the Garden's primary source of fresh water from the 1890s to the 1930s and was key in ensuring the survival of the Gardens when other sources proved unreliable. The scheme also supplied water for other important purposes including powering hydraulic lifts in central Melbourne. The Walmer Street Bridge was constructed as an integral part of the scheme and is a substantial and highly visible surviving remnant. [Criterion A]

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 (2019)*.

CRITERION A

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

STEP 1: A 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 Walmer Street Bridge has a clear association with water supply systems. Water supply systems are of historical importance, having provided water for a variety of vital purposes. The majority of water supply systems were constructed to provide water for domestic and agricultural purposes. Unlike many water supply systems, the Walmer Street Bridge was part of a system constructed in the 1890s primarily for a very specific purpose – conveying fresh water to the Royal Botanic Gardens (VHR H1459).

The system, known as the Dight's Falls Scheme, conveyed fresh water over six kilometres from the Yarra River near Dight's Falls to the Botanic Gardens. It was necessary because the Botanic Gardens was not permitted to access the mains water supply and with the removal of 'the Falls' near Queens Bridge the Yarra River had become too saline to use for irrigation. The Dight's Falls Scheme ensured the survival of the Botanic Gardens when access to other sources of fresh water had become problematic. Supplying fresh water from the 1890s to the 1930s, the Dight's Falls Scheme enabled the important horticultural, research and recreational purposes of the Botanic Gardens to continue. The Walmer Street Bridge was a key part of the scheme, conveying the fresh water across the Yarra River from Kew to Richmond.

The Dight's Falls Scheme also supplied fresh water to the Melbourne Hydraulic Power Company, which powered passenger lifts in buildings in central Melbourne from the 1890s. Building heights had generally been limited to several storeys before the introduction of passenger lifts. Their introduction during the building boom of the 1880s made greater building heights possible, although their use was limited to buildings that could accommodate expensive, in-house hydraulic power systems. The accessibility of a public water supply to power passenger lifts provided by the Melbourne Hydraulic Power Company helped enable the construction of a greater number of buildings in central Melbourne of four storeys and above. This was a marked change in Melbourne's built environment. The Dight's Falls Scheme also provided water to the Brookes and Currie paper mill in central Melbourne.

The Walmer Street Bridge's association with the supply of water for these purposes is evident in the physical fabric of the place, including the original central span of the bridge, brick piers and 18-inch

wrought iron pipe suspended beneath the bridge. It is also evident in the documentary sources, including drawings, plans, photographs and newspaper articles.

Criterion A is likely to be satisfied.

STEP 2: STATE LEVEL SIGNIFICANCE TEST 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 Walmer Street Bridge allows the association with water supply systems, specifically the Dight's Falls Scheme, to be understood better than most other places in Victoria. The bridge was constructed as an integral part of the scheme and remains a substantial and highly visible surviving remnant. Other major components of the scheme, including the pumping station at Dight's Falls and the reservoir at Studley Park, no longer exist.

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 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 Walmer Street Bridge has a clear association with water supply systems. This association is evident in the physical fabric and in documentary resources. However, there are many extant water supply systems of different types and the Walmer Street Bridge cannot be considered rare on the basis of this association.

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 TEST FOR SATISFYING CRITERION C

<p>The:</p> <ul style="list-style-type: none"> • visible physical fabric; &/or • documentary evidence; &/or <ul style="list-style-type: none"> • oral history, <p>relating to the place/object indicates a likelihood that the place/object contains <i>PHYSICAL EVIDENCE</i> of <i>historical interest</i> that is <i>NOT CURRENTLY VISIBLE OR UNDERSTOOD</i>.</p>

Plus

From what we know of the place/object, the physical evidence is likely to be of an <i>INTEGRITY</i> and/or <i>CONDITION</i> that it <i>COULD YIELD INFORMATION</i> through detailed investigation.
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Executive Director's Response

The Walmer Street Bridge does not have the potential to yield information that is not currently visible or understood (such as archaeological information) that will contribute to an understanding of Victoria's cultural history. Its significant elements are visible, and its design and construction are well documented. It is unlikely that further investigation of the Walmer Street Bridge will yield new information.

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 TEST FOR SATISFYING CRITERION D

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

The <i>EVENT, PHASE, etc</i> is of <i>HISTORICAL IMPORTANCE</i> , having made a strong or influential contribution to Victoria.

Plus

The principal characteristics of the class are <i>EVIDENT</i> in the physical fabric of the place/object.

Executive Director's Response

The Walmer Street Bridge is in the class of pipe bridges. This class has a clear association with water supply systems, which are of historical importance to Victoria. The principal characteristics of the class are evident in the wrought-iron pipe, truss bridge structure and brick piers.

Criterion D is likely to be satisfied.

STEP 2: STATE LEVEL SIGNIFICANCE TEST CRITERION D

The place/object is a <i>NOTABLE EXAMPLE</i> of the class in Victoria (refer to Reference Tool D).
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Executive Director's Response

The Walmer Street Bridge is not a notable example of a pipe bridge in Victoria. Pipe bridges were a common way of conveying water and many exist in Victoria. Pipe bridges are a feature of water

supply systems already included in the VHR such as the Yan Yean Water Supply System (VHR H2333), Maroondah Water Supply System (VHR H2381) and Coliban Water Supply System (VHR H1021). The bridge structure itself, being a metal truss supported on brick piers, was a common form of construction and is not notable for the period.

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

CRITERION E

Importance in exhibiting particular aesthetic characteristics.

STEP 1: A TEST FOR SATISFYING CRITERION E

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

Executive Director's Response

The aesthetic characteristics of the place lie in the industrial appearance achieved by the Pratt truss bridge span, wrought iron pipe and solid brick piers. Its setting above the banks of the Yarra River contributes to its aesthetic qualities.

Criterion E is likely to be satisfied.

STEP 2: STATE LEVEL SIGNIFICANCE TEST 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

Although the aesthetic characteristics of the place may be appreciated and valued by some people and groups, there has been no critical recognition or wide public acknowledgement of its exceptional merit in Victoria.

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 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 Walmer Street Bridge does not contain physical evidence that clearly demonstrates creative or technical achievement for the time it was created. There are earlier, more substantial and complex examples of water supply systems in Victoria, as indicated in the Comparisons section of this report. These systems all contain similar elements to those used in the Dight's Falls Scheme. The component

of the Dight's Fall Scheme evident at the Walmer Street Bridge comprises an 18-inch (46cm) diameter wrought iron riveted pipe which is suspended under the length of the bridge. These types of pipes were commonly used in water supply systems, and their suspension beneath bridges was a standard method of traversing waterways.

The Walmer Street Bridge was constructed using the Pratt truss system which was patented in the 1840s. Although the system was less commonly used in Victoria than it was in other states, it was well established by the time the Walmer Street Bridge was constructed in 1892. Bridges in the VHR which use the Pratt truss system include the Rail Bridge over the Maribyrnong River (VHR H1213) and the Bethanga Bridge across the Hume Dam (VHR H0989).

The Walmer Street Bridge exhibits no other physical evidence that clearly demonstrates creative or technical achievement for the time in which it was created.

Criterion F is not likely to be satisfied.

CRITERION G

Strong or special association with a particular present-day community or cultural group for social, cultural or spiritual reasons.

STEP 1: A BASIC TEST FOR SATISFYING CRITERION G

Evidence exists of a community or cultural group.
(A community or cultural group is a group of people who share a common interest, including an experience, purpose, belief system, culture, ethnicity or values.)

Plus

Evidence exists of a strong attachment between the COMMUNITY OR CULTURAL GROUP and the place/object in the present-day context.

Plus

Evidence exists of a time depth to that attachment.

Executive Director's Response

Several community groups exist with an interest in the Walmer Street Bridge and development in its immediate vicinity. The interest of these groups is in the functionality of the bridge rather than its historical use. The attachment is not to the existing bridge, but to the provision of improved access across the Yarra River. These groups are recent in origin and there is no evidence of time depth.

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 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 Walmer Street Bridge has a direct association with accomplished engineer and administrator William Thwaites and manufacturer Mephan Ferguson. Thwaites devised the Dights Falls Scheme while working for the Victorian Public Works Department and Ferguson's firm produced the pipe. The association is evident in the physical fabric of the place.

Criterion H is likely to be satisfied.

STEP 2: STATE LEVEL SIGNIFICANCE TEST 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 Walmer Street Bridge does not allow the association with Thwaites or Ferguson to be appreciated better than most other places in Victoria. Thwaites's achievements are better demonstrated by other projects he played an important role in such as the establishment of Melbourne's sewage system. Ferguson contributed to more substantial and complex projects, some of which are included in the VHR, including the Avon River Rail Bridge (VHR H2389) and Former Newport Railway Workshops (VHR H1000).

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

INTRODUCTION TO PERMIT EXEMPTIONS

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 Walmer Street Bridge in the Victorian Heritage Register affects the whole place shown on Diagram 2401 including the land, all structures, trees and other features.

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 Walmer Street Bridge lies in the original physical fabric, including the Pratt truss bridge span, the brick piers and 18-inch wrought iron water pipe. Fabric that has been gradually replaced over time, such as timber decking and handrails, is not significant. The approaches on both sides of the bridge were added in the latter part of the twentieth century and are not significant.

EXECUTIVE DIRECTOR RECOMMENDATIONS FOR EXEMPTED WORKS OR ACTIVITIES (PERMIT EXEMPTIONS)

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).

Under s.38 of the *Heritage Act 2017* the Executive Director may include in his recommendation categories of works or activities which may be carried out in relation to the place or object without the need for a permit under Part 5 of the Act. The Executive Director must not make a recommendation for any categories of works or activities if he considers that the works or activities may harm the cultural heritage significance of the place or object. The following permit exemptions are not considered to cause harm to the cultural heritage significance of Walmer Street Bridge.

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

General

- Minor repair and maintenance which replaces like with like. Repairs and maintenance must maximise protection and retention of existing fabric and include the conservation of existing details or elements. Any repairs and maintenance must not exacerbate the decay of existing

fabric due to chemical incompatibility of new materials, obscure existing fabric or limit access to such fabric for future maintenance.

- Painting of previously painted surfaces in the same colour, finish and type provided that preparation or painting does not remove or obscure earlier paint finishes.
- Works or activities, including emergency stabilisation, necessary to secure safety in an emergency where a structure or part of a structure has been irreparably damaged or destabilised and poses a safety risk to its users or the public. The Executive Director, Heritage Victoria, must be notified within seven days of the commencement of these works or activities.
- Cleaning including the removal of surface deposits, organic growths or graffiti by the use of low pressure water (less than 100 psi at the surface being cleaned) and neutral detergents and mild brushing and scrubbing.

Landscape elements

- The processes of landscape maintenance including pruning, mulching, removal of dead shrubs, planting, disease and weed control and maintenance to care for existing plants.
- Subsurface works involving the installation, removal or replacement of drainage systems or other services provided there are no visible above ground elements.
- Works and activities associated with the management of possums and vermin.
- Maintenance and care of trees and removal or pruning of dead or dangerous trees to maintain safety.
- Maintenance and repair of existing paving and other hard landscaping elements.

RELEVANT INFORMATION

Local Government Authority	City of Boroondara; City of Yarra
Heritage Overlay	No
Other Overlays	Public Acquisition Overlay (PAO2) Significant Landscape Overlay (SLO1) Land Subject to Innovation Overlay (LSIO)
Victorian Aboriginal Heritage Register	The bridge is in an area of Aboriginal cultural heritage sensitivity associated with the Yarra River.
Other Listings	No
Other Names	Walmer Street Footbridge

HISTORY

Irrigation of the Royal Botanic Gardens

Supply of fresh water to irrigate the Melbourne Botanic Gardens (the Royal designation was added in the 1950s) had been a challenge since they were established in 1846. Initially, water was hand carted from the Yarra River near the Gardens. In the 1850s Ferdinand von Mueller, Director of the Gardens, established rudimentary systems to draw water from the Yarra River near the Gardens. In 1864, the Gardens were permitted to draw water from Melbourne's main metropolitan supply provided by the Yan Yean system. This supply was unreliable and the demands placed on the system by the Gardens impacted on the domestic supply for the surrounding suburbs. In the late 1860s, a steam engine was installed on the banks of the Yarra River near the Gardens to draw water for the purpose of irrigation. Access to the Yan Yean supply was cut off. In the 1870s, William Guilfoyle, newly appointed Director of the Gardens, installed a system with a more powerful steam engine which filled a reservoir within the Gardens. With the removal of falls and reefs along the lower reaches of the Yarra River in the 1880s the river water became increasingly saline. A source of fresh water could no longer be found close to the Gardens and the saline water damaged the Garden's

plants. In 1889, the government agreed to a scheme to draw fresh water from near Dight's Falls to supply the Gardens as well as several private businesses.

Dight's Falls Scheme

A system to bring fresh water from the Yarra River near Dight's Falls was chosen as the preferred scheme to supply the Botanic Gardens with fresh water. Engineer William Thwaites of the Public Works Department designed the scheme. In 1889 construction of the system began. It included a pumping station on the Kew side of Dight's Falls, that drew water from just below the falls, and a rising main that carried water to a reservoir on the natural rise of Studley Park. A gravity fed system took water from the reservoir on a route that passed through Kew, across the Yarra via the Walmer Street Bridge, underground through Richmond, across the river at Anderson Street and on to the reservoir in the Botanic Gardens that had been established by Guilfoyle. By May 1891 the system was largely complete, though the Walmer Street Bridge was yet to be finished. The pumping station was inaugurated at a ceremony in May 1891. The system was not fully operational until 1892. It provided a reliable supply of water to the Botanic Gardens until the 1930s when the system was attached to the mains supply at Richmond. Parts of the system including the reservoir and pipes remained in use until the 1950s. In the 1960s the Pumping Station at Dight's Falls was demolished and the reservoir at Studley Park was filled in.

Construction of Walmer Street Bridge

A river crossing by punt was in use in the vicinity of Walmer Street from the 1850s. When Walmer Street was chosen as the point at which the water pipe for Dight's Falls Scheme would cross the Yarra River, it was proposed to provide a footbridge as well. The cost was shared between Kew and Richmond Councils and the Public Works Department. The 18-inch wrought iron pipe and bridge truss were produced by prominent local manufacturer Mephan Ferguson. In July of 1891, when almost complete, the original bridge was washed away by flooding. After a period of debate between the councils and the Minister of Public Works, who for a time refused to re-erect the bridge, it was re-built in 1892 and the Dight's Falls System became operational. The piers of the second bridge were built further back from the river banks and it was built to a greater height.

Melbourne Hydraulic Power Company

Hydraulic powered lifts and hoists appeared in Melbourne from the 1870s. The price of land in central Melbourne increased with the boom of the 1880s and provided an incentive for building taller buildings. The Otis Elevator company had a presence in Melbourne in the 1880s and encouraged owners to install hydraulic passenger lifts in new buildings, pushing building heights to eight floors and beyond. The Yan Yean water supply was insufficient to power the lifts and they were generally powered by expensive in-house systems. The Melbourne Hydraulic Power Company (MHPC) was established in 1887 with the aim of providing an alternative public source of hydraulic power. Several pumping stations were established across Melbourne and water was drawn from the Yarra River near Queens Bridge. The increasing salinity of the river was deemed to impact on the MHPC's riparian rights and the company was offered access to fresh water supplied by the Dight's Falls Scheme. MHPC was connected in 1893 and by 1897 the scheme was powering hydraulic lifts in over a hundred buildings in central Melbourne. Hydraulic lifts continued to dominate in Melbourne until World War I, after which electric lifts came to dominate. There are very few surviving physical elements of the MHPC's system. The Overhead Water Tank (VHR H2117) on Spencer Street, Melbourne was used to generate power for the system and is included in the VHR.

Brookes and Currie Paper Mill

The Dights Falls Scheme also supplied the Brookes and Currie paper mill near Princes Bridge. The mill, first established by Samuel Ramsden in the 1860s, was reliant on a supply of fresh water drawn from the Yarra River near its Flinders Street location. A concern that the government had infringed

the firm's riparian rights by removing the Falls near Queens Bridge resulted in a proposal that they be connected to the Dight's Falls Scheme.

VICTORIAN HISTORICAL THEMES

04 Transforming and managing land and natural resources

4.7 Transforming the land and waterways

06 Building towns, cities and the garden state

6.2 Creating Melbourne

6.3 Shaping the suburbs

PHYSICAL DESCRIPTION

The Walmer Street Bridge is a footbridge that crosses the Yarra River, connecting Richmond on the south bank and Kew on the north bank. The bridge consists of a truss bridge span supported on brick piers and approach spans on both sides of the river. The truss is the Pratt type and the central span is approximately 43 metres long and 2.4 metres wide. Its timber decking is paved with asphalt. The approach span on the north side is constructed of timber and the approach from the south is of steel construction with timber decking. An 18-inch (46cm) diameter wrought iron riveted pipe emerges from underground on the north side and is suspended under the length of the bridge. On the south side the pipe is visible but has been disconnected. An additional, narrower pipe runs alongside the original pipe.

Archaeology

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

INTEGRITY/INTACTNESS

Intactness – The intactness of the place is very good. Significant elements such as the 18-inch wrought iron water pipe, truss and brick piers survive. On the Richmond side, the pipe has been disconnected. Some fabric of the bridge, such as hand rails and decking, have been replaced over time. The bridge approaches on both have been replaced and the current spans both date from the latter part of the twentieth century (December 2019).

Integrity – The integrity of the place is very good. The cultural heritage values of the place can be read in the extant fabric (December 2019).

CONDITION

Significant elements of the Walmer Street Bridge such as the truss, wrought-iron water pipe and brick piers are in good condition. The approach span on the Kew side has deteriorated.

COMPARISONS

The Walmer Street Bridge has been recommended for inclusion in the VHR based on its historical significance as part of a water supply system. It has therefore been compared to other water supply systems in the VHR and other separate components of water supply systems in the VHR. As it is not recommended on the basis of being a notable example of a bridge (Criterion D), it has not been compared to other bridges in the VHR.

Water supply systems in the VHR

Yan Yean Water Supply System, Clonbinane – Fitzroy North (VHR H2333)

The Yan Yean Water Supply System is of cultural heritage significance to the State of Victoria. Constructed from 1853 it is the oldest surviving water supply system in Victoria and remained the major source of water supply to Melbourne for 30 years. It consists of a series of catchment weirs and reservoirs connected by aqueducts and pipe track which extend from north of the Great Dividing Range to the Merri Creek, 5 kilometres north of the Melbourne Central Business District. It is one the best representative examples of a metropolitan water supply system not only in Victoria, but also Australia. Its design and construction was innovative for the period and influenced subsequent systems.



Yan Yean Water Supply System (VHR H2333)

Coliban Water Supply System, Tylden – Big Hill (VHR H1021)

The Coliban Water Supply System is of cultural heritage significance to the State of Victoria. It was designed to deliver water to Bendigo for both domestic and irrigation purposes and commenced operation in 1877. The largely open channel system was a technical achievement for the time it was constructed. It is important for the role it played in maintaining Bendigo as a mining centre and supporting the development of the city more broadly.



Coliban Water Supply System (VHR H1021)

Maroondah Water Supply System (upper and central sections), Fernshaw – Reservoir (VHR H2381)

The Maroondah Water Supply System is of historical significance to the State of Victoria. The first stage of the Maroondah Water Supply System was constructed between 1886 and 1891 after it became apparent that the Yan Yean Water Supply System (VHR H2333) could no longer meet demand. The Maroondah Water Supply System is historically significant as one of Victoria's earliest major infrastructure projects which contributed to the continued growth and development of Melbourne and continues to provide water to Melbourne via the Sugarloaf Reservoir. The Maroondah Water Supply System harvested water from the Watts River catchment which was gazetted in 1886 as a closed catchment which ensured water purity and the reduction of water borne diseases such as typhoid.



Maroondah Water Supply System (upper and central sections) (VHR H2381)

Separate components associated with water supply in the VHR

There are many individual places associated with water supply in the VHR. This is a representative selection of different types of places.

Torrumbarry Weir Lock Chamber, Steam Boiler And Steam Winch Complex, Patho (VHR H0993)

The Torrumbarry Weir Complex is of historical and scientific significance to the State of Victoria. The Torrumbarry Weir Complex incorporates the original lock constructed in 1924 and a concrete-reinforced rubble wall surviving from the former weir. The Torrumbarry Weir is one of the fourteen weirs and locks built to control the waters of the Murray. It was the culminating development which gave full effect to the Torrumbarry Irrigation System which was created in the later part of the nineteenth century and the early part of the twentieth century and is historically significant for helping establish the Goulburn Murray Irrigation District as 'Victoria's Food Bowl'.



Torrumbarry Weir Lock Chamber, Steam Boiler And Steam Winch Complex (VHR H0993)

Overhead Water Tank, Melbourne (VHR H2117)

The overhead water tank at the former Spencer Street Power Station is of historical and scientific (technical) significance to the State of Victoria. It is the only major surviving element of the system that was used to generate and supply hydraulic power to the city of Melbourne from 1889 to 1967. It is a prefabricated cast iron water tank which was one of two originally built in 1889 for the Hydraulic Power No 1 Pumping Station. It was relocated to its current location in 1927. It is of scientific (technical) significance as an early and rare surviving example of the use of imported prefabricated cast iron plates. The prefabricated construction of the original tank allowed for its reuse, at a reduced size, to suit the different pumping arrangements at the Spencer Street site.



Overhead Water Tank (VHR H2117)

Lock Nine Pumping Station, Cullulleraine (VHR H0549)

Lock Nine Pumping Station is of cultural heritage significance to the State of Victoria. It was one of the various pumping stations constructed by the Chaffey brothers near Mildura as part of their vast irrigation scheme built after 1887. Psyche Bend and Nichols Point pumping stations are also included in the VHR. The Lock Nine Pumping Station is the most complete with the original boiler surviving as well as the pumps and channelling.



Lock Nine Pumping Station (VHR H0549)

Benalla Water Supply Depot, Benalla (VHR H1048)

The Benalla Water Supply Depot is of cultural heritage significance to the State of Victoria. It comprises a 6-metre diameter riveted iron tank, a steel tank, a reinforced concrete tower and various buildings. It demonstrates the evolving nature of a municipal water supply expanding to cope with the increasing demands of a growth in population in a country town. The sequence of water tanks and the existence of workshops designed to build and repair all the machinery needed to provide town water supply illustrates the level of independence needed to maintain such structures in rural Victoria. It is an intact example of a complex which demonstrates the changes in water tower design since the 1880s.



Benalla Water Supply Depot (VHR H1048)

SUMMARY OF COMPARISONS

Water supply systems in the VHR

Several water supply systems are included in the VHR. These places are associated with large scale supply of water for generalised use, providing significant amounts of water to meet mains and irrigation requirements. In contrast to these systems, the Dight's Falls System, of which the Walmer Street Bridge was a part, was constructed primarily for a singular specific purpose – to supply the Royal Botanic Gardens with fresh water, securing its continued scientific, horticultural and recreational role. The Walmer Street Bridge is a remnant of a significant water supply system, and is of a different scale to the more extensive systems already included in the VHR. Its smaller scale speaks to the specific purpose for which it was designed.

Separate components associated with water supply systems in the VHR

Many separate components associated with water supply are included in the VHR. These include water tanks, water towers, pumping stations, tunnels and weirs. Many are included because they demonstrate particular parts of larger systems, or the importance of the supply of water for particular needs. The Walmer Street Bridge also demonstrates part of a larger system and the importance of water supply for a highly significant purpose. The Walmer Street Bridge is of equivalent or greater significance than other individual places associated with water supply already included in the VHR.

KEY REFERENCES USED TO PREPARE ASSESSMENT

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- Lamb, Rohan (1996) “Under Pressure: The Evolution of the Water Supply System of the Royal Botanic Gardens” *Victorian Historical Journal* 67:1.
- Pierce, Miles (2009) “The Melbourne Hydraulic Power Company and public hydraulic power systems in Australia” *Australian Journal of Mechanical Engineering* 7:2.

ADDITIONAL IMAGES

2019, Walmer Street Bridge viewed from the east.



2019, Walmer Street Bridge viewed from the Richmond side of the river. The disconnected end of the 18-inch wrought iron pipe is visible at the lower right.



2019, brick pier on Richmond side.



2019, approach span on the Richmond side.



2019, bridge span looking towards the Kew side.



2019, approach span on the Kew side.



2019, view of the bridge span looking toward the Richmond side.



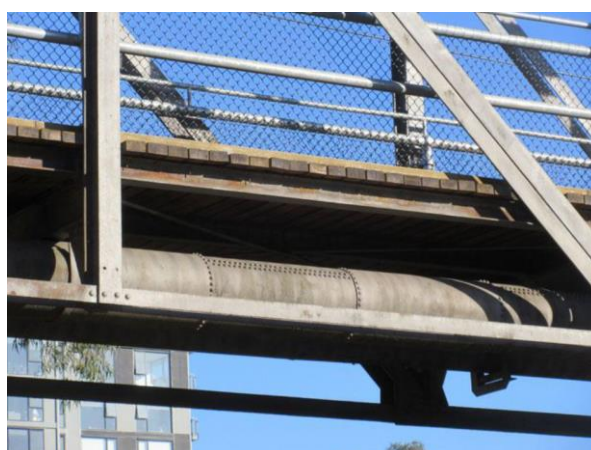
2019, 18-inch wrought iron pipe (left) on the Kew bank.



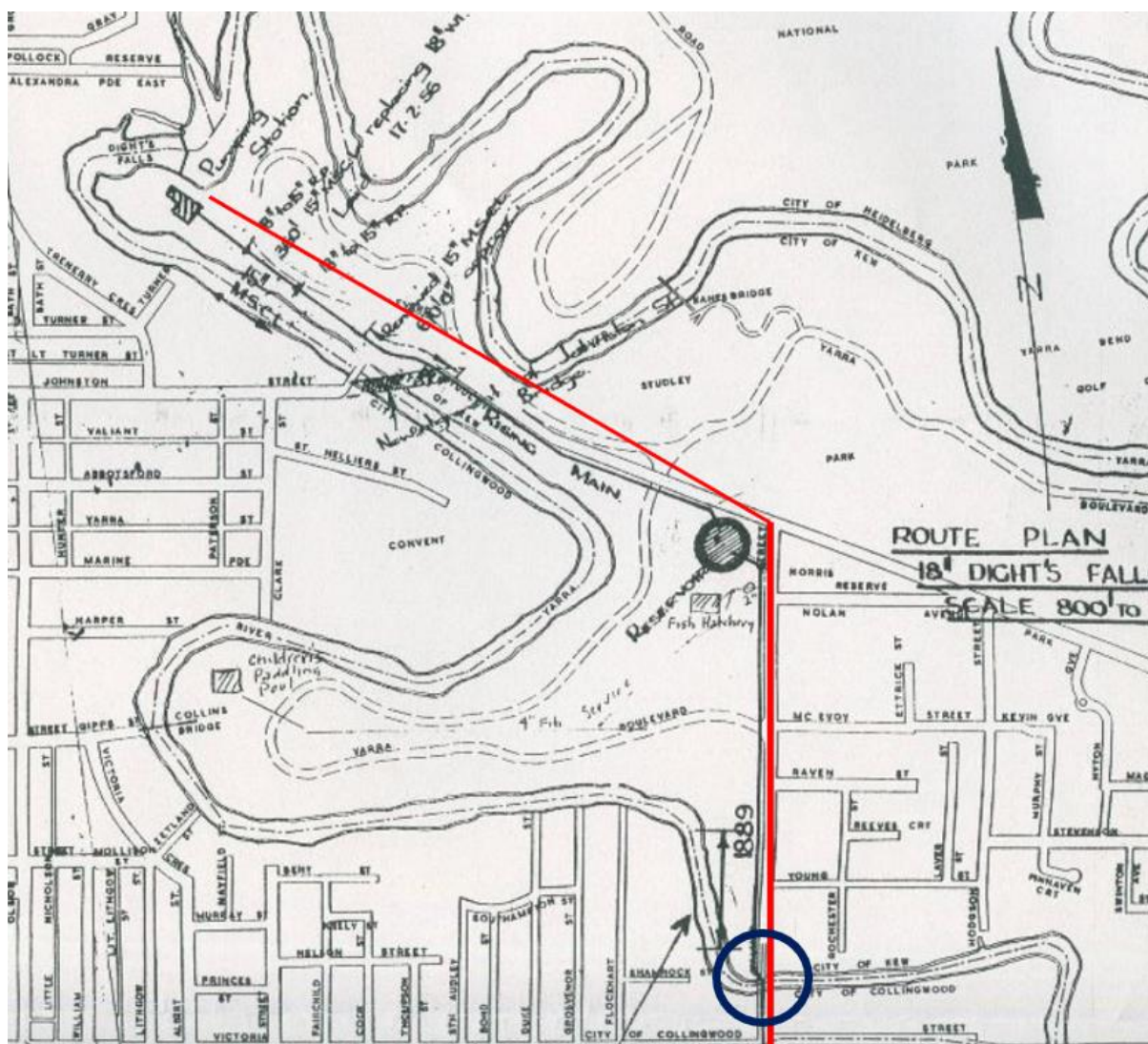
2019, view from Kew side showing wrought iron pipe suspended below bridge.



2019, approach span on the Kew side.



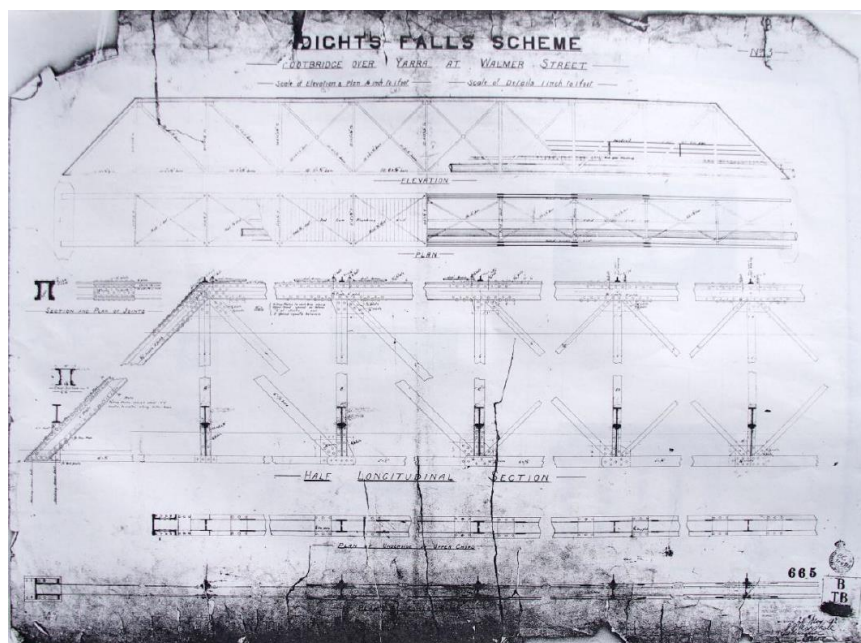
2019, Views of 18 inch wrought iron pipe under bridge.



Map showing the rising main from the Dights Falls pumping station to the reservoir, and the pipe from the reservoir crossing Walmer Street Bridge (circled in black).

Source: Supplied with the nomination

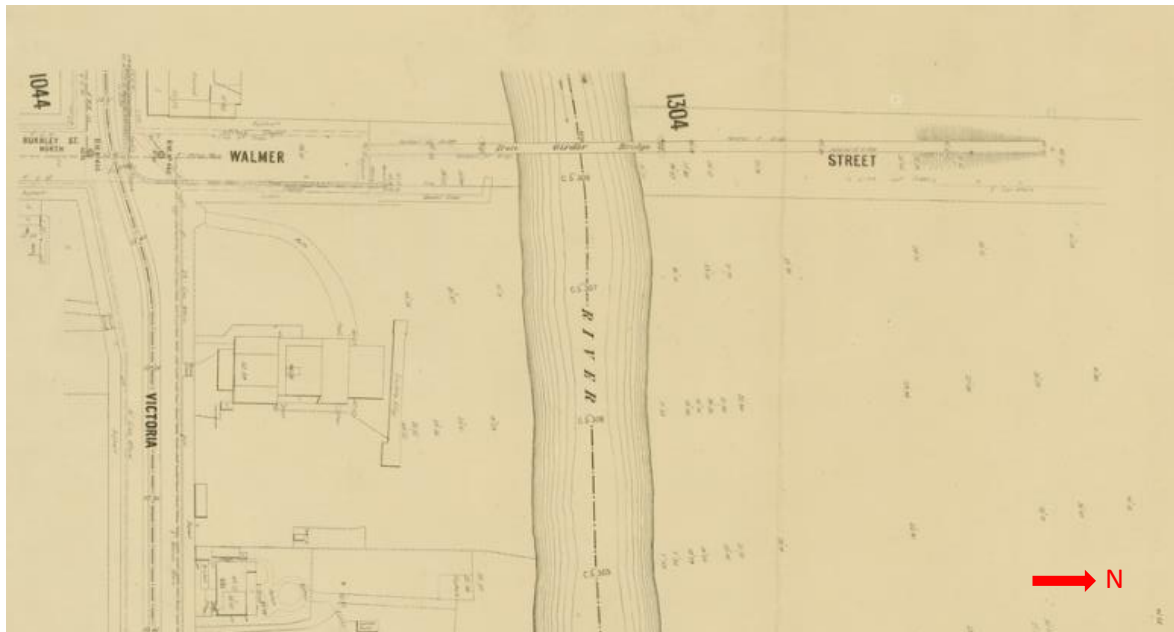
HISTORICAL IMAGES



1892, Public Works Department design drawing for Walmer Street Bridge
Source: Public Record Office Victoria (provided with nomination).



1891, first Walmer Street Bridge after being destroyed by flooding.
Source: State Library of Victoria



1901, Detail of MMBW plan showing Walmer Street Bridge and approaches.

Source: State Library of Victoria



1926, Walmer Street Bridge.

Source: *The Argus*



c1920s, Walmer Street Bridge.

Source: Melbourne Water (provided with nomination).