OVOID SEWER AQUEDUCT OVER BARWON RIVER

OVOID SEWER AQUEDUCT OVER BARWON RIVER SOHE 2008

OVOID SEWER AQUEDUCT OVER BARWON RIVER SOHE 2008

OVOID SEWER AQUEDUCT OVER BARWON RIVER SOHE 2008

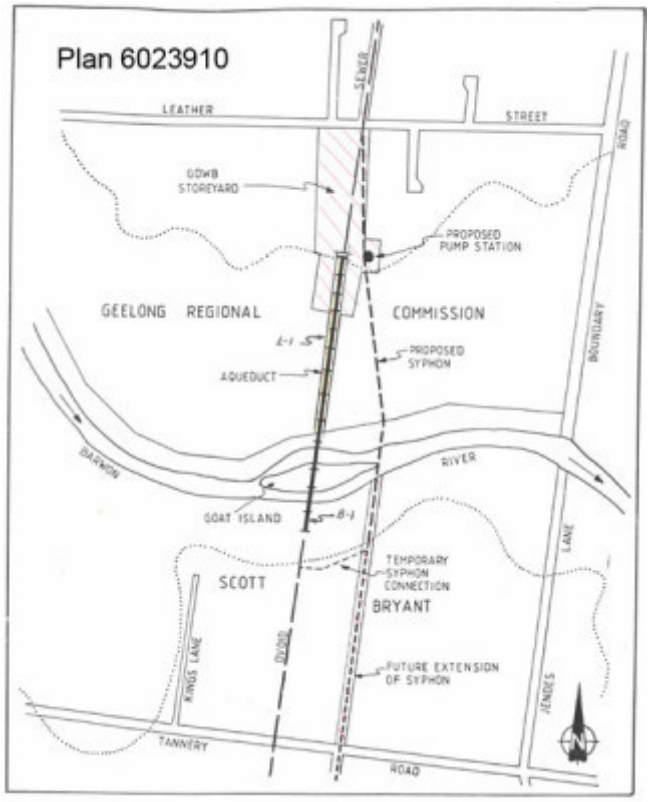
1 barwon river ovoid sewer aqueduct barwon river geelong side view

barwon river ovoid sewer aqueduct barwon river geelong site view publication

barwon river ovoid sewer aqueduct barwon river geelong view of bottom

barwon river ovoid sewer aqueduct barwon river geelong view of top aug1988

h00895 ovoid sewer aqueduct over barwon river south barwon geelong distant view she project 2004



Plan 6023910 20 April 2023

Location

140 TANNER STREET BREAKWATER AND 91-97 TANNERY ROAD CHARLEMONT, GREATER GEELONG CITY

Municipality

GREATER GEELONG CITY

Level of significance

Registered

Victorian Heritage Register (VHR) Number

H0895

Heritage Overlay Numbers

HO56

VHR Registration

October 23, 1991

Amendment to Registration

April 20, 2023

Heritage Listing

Victorian Heritage Register

Statement of Significance

Last updated on - April 19, 2023

What is significant?
The Ovoid Sewer Aqueduct, designed and constructed by the Tasmanian engineers Edward Giles Stone and Ernest J. Siddeley, and constructed in 1913-15 for the Geelong Waterworks and Sewerage Trust. Objects integral to the manufacture of the concrete sewer pipes, including various moulds and gantries, are still in place at the former factory site nearby, adjacent to Marshall Station.

How is it significant?
The Ovoid Sewer Aqueduct is of historical, architectural, aesthetic, and scientific (technical) significance to the State of Victoria. It satisfies the following criteria 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

Criterion E
Importance in exhibiting particular aesthetic characteristics

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

Why is it significant?
The Ovoid Sewer Aqueduct is of historical significance for its association with the inaugural work of the Geelong sewerage scheme in 1912-15. Geelong was one of the first regional Victorian cities to implement plans for the construction of a sewerage system. [Criterion A]

The Ovoid Sewer Aqueduct is of architectural significance for its association with the engineers Edward Giles Stone and Ernest J Siddeley, who undertook a number of marine projects in southern and eastern Australia, including reinforced concrete ships and pontoons. Stone was a highly innovative and creative engineer whose daring structural systems challenged the limits of construction technology in the early twentieth century. His advanced work in reinforced concrete, the Considere system in particular, is of great importance and his design derivation from the steel Firth of Forth Bridge in Scotland is of particular note. [Criterion D]

The Ovoid Sewer Aqueduct is of aesthetic significance as a major landscape feature. Its dramatic setting in the Barwon River floodplain near Breakwater, Geelong is of great importance. [Criterion E]

The Ovoid Sewer Aqueduct is of scientific (technical) significance as an example of pioneering concrete work of structural ingenuity and monumental scale. The early and innovative use of reinforced concrete in the Considere system, which was the most innovative form of reinforcement used in Victoria, is of great significance. The aqueduct remains as a rare example of this type of concrete construction. Its method of construction is demonstrated by the associated objects located at the former factory site. It is also of scientific (technical) significance for its overall length and the maximum span length, both of which appear to be in excess of that of any other Victorian reinforced concrete structure at the time of construction. [Criterion F]

Permit Exemptions

General Exemptions:

General exemptions apply to all places and objects included in the Victorian Heritage Register (VHR). General exemptions have been designed to allow everyday activities, maintenance and changes to your property, which don't harm its cultural heritage significance, to proceed without the need to obtain approvals under the Heritage Act 2017.

Places of worship: In some circumstances, you can alter a place of worship to accommodate religious practices without a permit, but you must notify the Executive Director of Heritage Victoria before you start the works or activities at least 20 business days before the works or activities are to commence.

Subdivision/consolidation: Permit exemptions exist for some subdivisions and consolidations. If the subdivision or consolidation is in accordance with a planning permit granted under Part 4 of the *Planning and Environment Act 1987* and the application for the planning permit was referred to the Executive Director of Heritage Victoria as a determining referral authority, a permit is not required.

Specific exemptions may also apply to your registered place or object. If applicable, these are listed below. Specific exemptions are tailored to the conservation and management needs of an individual registered place or object and set out works and activities that are exempt from the requirements of a permit. Specific exemptions prevail if they conflict with general exemptions.

Find out more about heritage permit exemptions here.

Specific Exemptions:

General Conditions: 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 Conditions: 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. Note: All archaeological places have the potential to contain significant sub-surface artefacts and other remains. In most cases it will be necessary to obtain approval from the Executive Director, Heritage Victoria before the undertaking any works that have a significant sub-surface component.

General Conditions: 3. If there is a conservation policy and planall works shall be in accordance with it. Note:A Conservation Management Plan or a Heritage Action Plan provides guidance for the management of the heritage values associated with the site. It may not be necessary to obtain a heritage permit for certain works specified in the management plan.

General Conditions: 4. Nothing in this determination prevents the Executive Director from amending or rescinding all or any of the permit exemptions. General Conditions: 5. Nothing in this determination exempts owners or their agents from the responsibility to seek relevant planning or building permits from the responsible authorities where applicable. Minor Works : Note: Any Minor Works that in the opinion of the Executive Director will not adversely affect the heritage significance of the place may be exempt from the permit requirements of the Heritage Act. A person proposing to undertake minor works must submit a proposal to the Executive Director. If the Executive Director is satisfied that the proposed works will not adversely affect the heritage values of the site, the applicant may be exempted from the requirement to obtain a heritage permit. If an applicant is uncertain whether a heritage permit is required, it is recommended that the permits co-ordinator be contacted.

Construction dates	1913,
Architect/Designer	Stone, Edward,

Heritage Act Categories	Registered place, Registered object integral to a registered place,
Other Names	BARWON SEWER AQUEDUCT, BARWON AQUEDUCT,
Hermes Number	518
Property Number	

History

The Ovoid Sewer Aqueduct was constructed over the Barwon River at Breakwater in 1913-15 for the Geelong Waterworks and Sewerage Trust as part of a sewerage scheme to serve Geelong. The sewer extended south from the urban centre of Geelong to the coast at Black Rock to discharge into Bass Strait at the shoreline. The outfall sewer, which comprised a reinforced concrete pipe of ovoid shape, crossed the Barwon River at Breakwater and was conveyed across the flood plain by means of a long reinforced concrete aqueduct of innovative design.

The aqueduct and sewer were designed and constructed by Tasmanian engineer Edward Giles Stone and his partner Ernest J. Siddeley. A purpose-built factory was established nearby, adjacent to the railway, to manufacture the sections of sewer pipe, with production commencing in 1912.

One of the most innovative forms of concrete reinforcement used in Australia, the Considere system, was used in the construction of the aqueduct. Heavy spiral reinforcing bars were used to increase the compressive strength of the concrete core. E. G. Stone was the greatest individual exponent of this system and his design of the Dennys Lascelles Austin wool store at Geelong in 1909 (now demolished) was an excellent example of the application of this system. Stone was also a great innovator and this is evident in his application for a number of patents from 1908.

Cracks began to appear in the concrete work of the aqueduct as early as 1922 and initial repairs were made in 1923-24. Other repair works have been made since this time. The aqueduct was decommissioned in 1992 following the construction of a new sewer main under the river however the structure has been retained.

The draft statement of significance and the above history were produced as part of an Online Data Upgrade Project 2009. Sources were as follows:

References:
Concrete and Constructional Engineering Vol XI no 1 January 1916, pp 49-51
Various reports in the *Geelong Advertiser* and *Geelong Waterworks and Sewerage Trust Minutes*
A.W. Cooke, "Sewering Geelong', I*nvestigator*, June 1981, p 55
A. Willingham, 'The Ovoid Sewer Aqueduct at Breakwater Geelong Victoria, Assessment of Cultural Significance and Preparation of a Conservation Plan', 1991 [extract on file 602391 part1]

Assessment Against Criteria

The Ovoid Sewer Aqueduct, designed and constructed by the Tasmanian engineers Edward Giles Stone and Ernest J. Siddeley, and constructed in 1913-15 for the Geelong Waterworks and Sewerage Trust. Objects integral to the manufacture of the concrete sewer pipes, including various moulds and gantries, are still in place at the former factory site nearby, adjacent to Marshall Station.

Extent of Registration

NOTICE OF REGISTRATION

As Executive Director for the purpose of the **Heritage Act 2017**, I give notice under section 53 that the Victorian Heritage Register is amended by modifying a place in the Heritage Register:

Number: H0895

Category: Registered Place, Registered Objects Integral to a Registered Place
Name: Ovoid Sewer Aqueduct Over Barwon River
Location: 140 Tanner Street, Breakwater and 91-97
Tannery Road, Charlemont
Municipality: City of Greater Geelong

All of the place as identified on Plan 6023901 including the whole of the structure known as the ovoid sewer aqueduct, marked B1 on the plan; that part of Lot A on Plan of Subdivision 809812 being the land 10 metres either side of the structure and 10 metres from the northern end of the structure, marked L1 on the plan; and the objects integral to the place listed in the inventory dated January 2023 held by the Executive Director.

Dated 20 April 2023
STEVEN AVERY
Executive Director

This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 2017. Check the Victorian Heritage Database, selecting 'Heritage Victoria' as the place source.

For further details about Heritage Overlay places, contact the relevant local council or go to Planning Schemes Online http://planningschemes.dpcd.vic.gov.au/