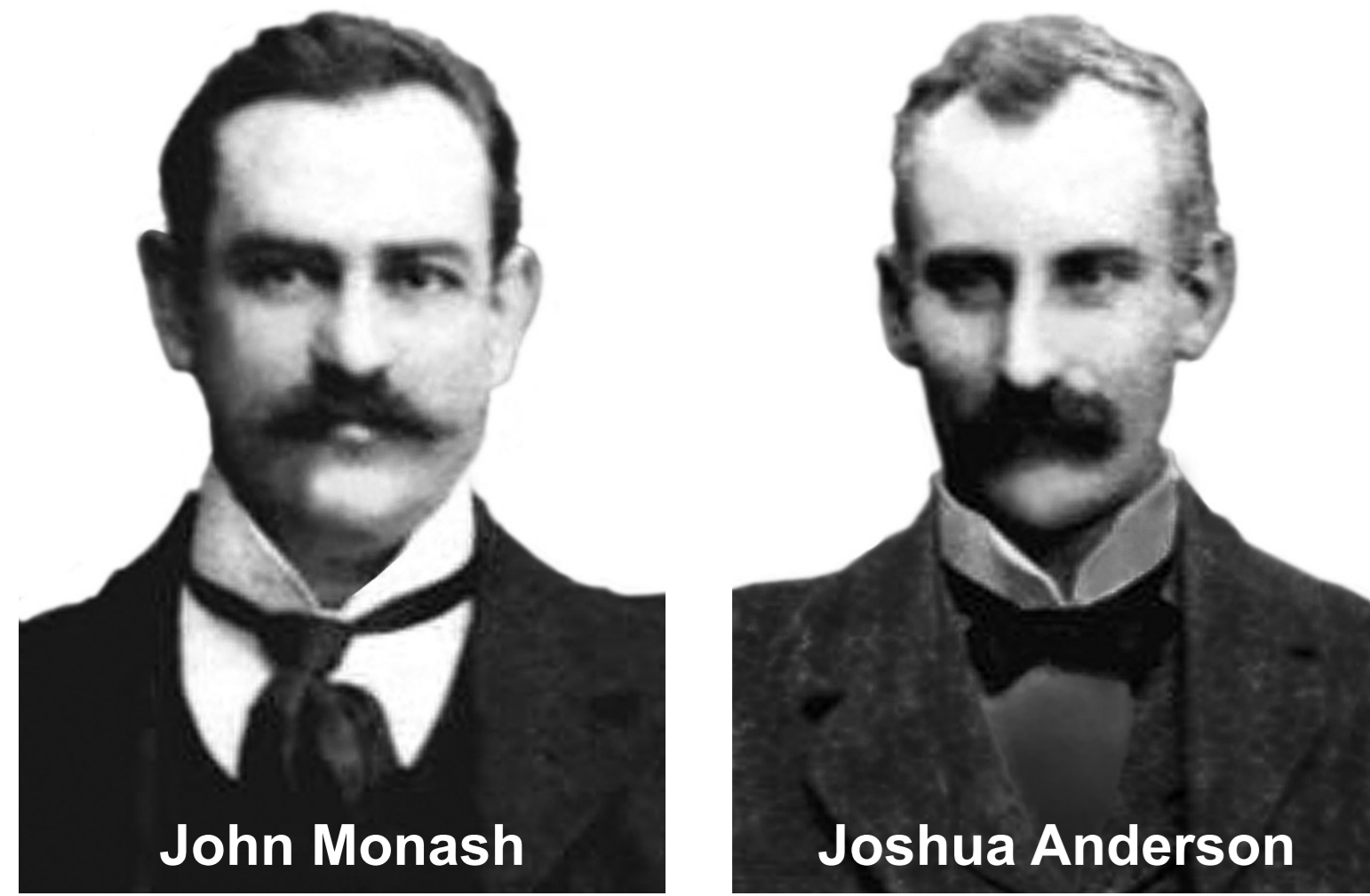


Fyansford Monier Arch Bridge



Monash & Anderson

The Fyansford bridge was designed and built by the Melbourne consulting engineers Monash & Anderson who started in 1894.

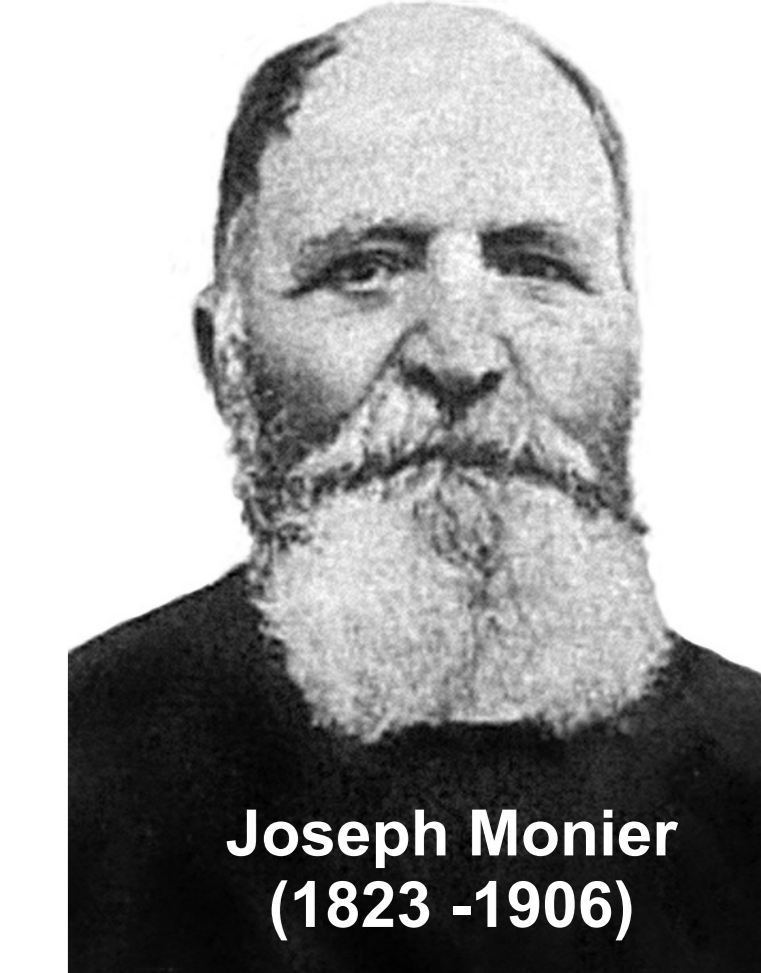
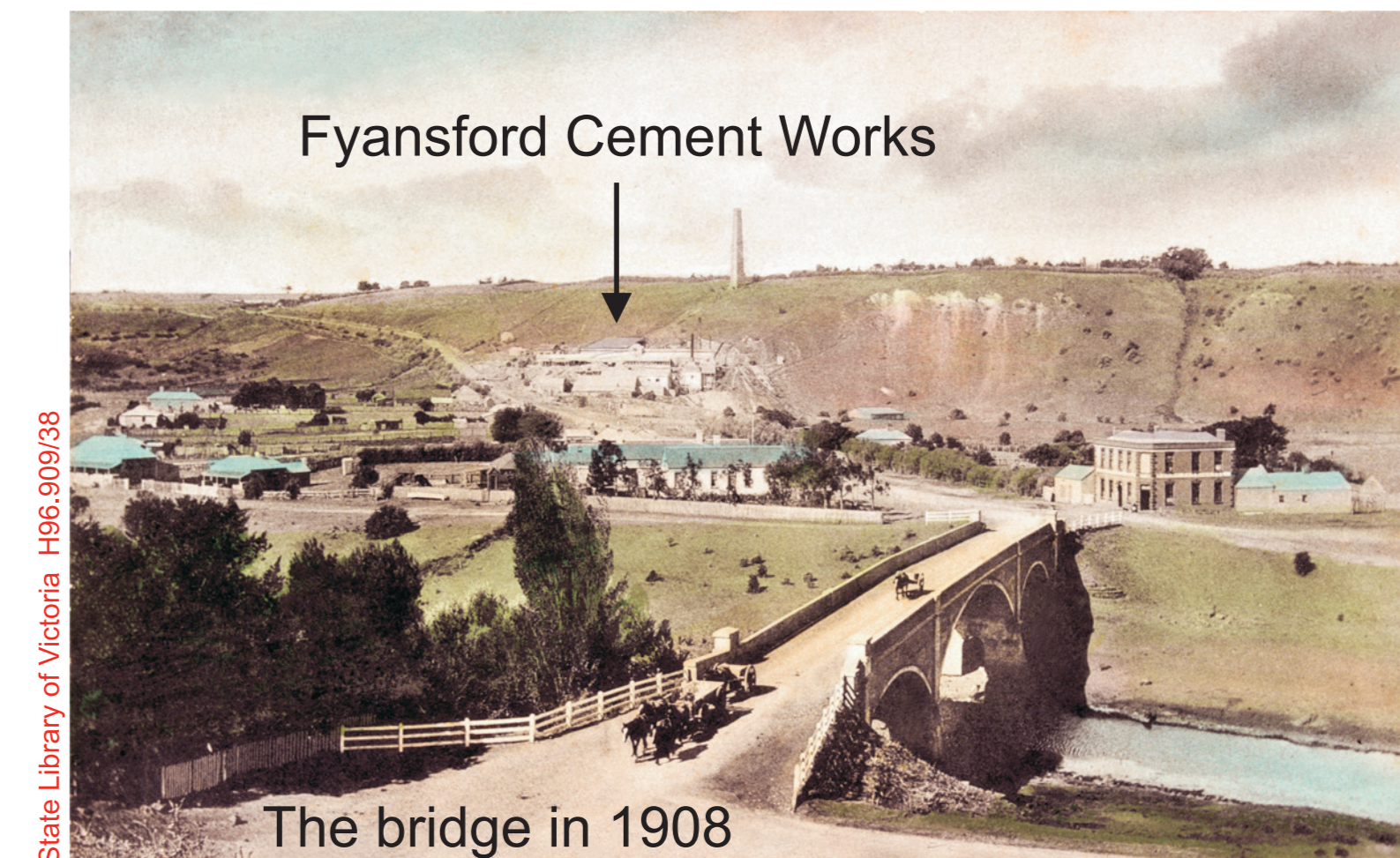
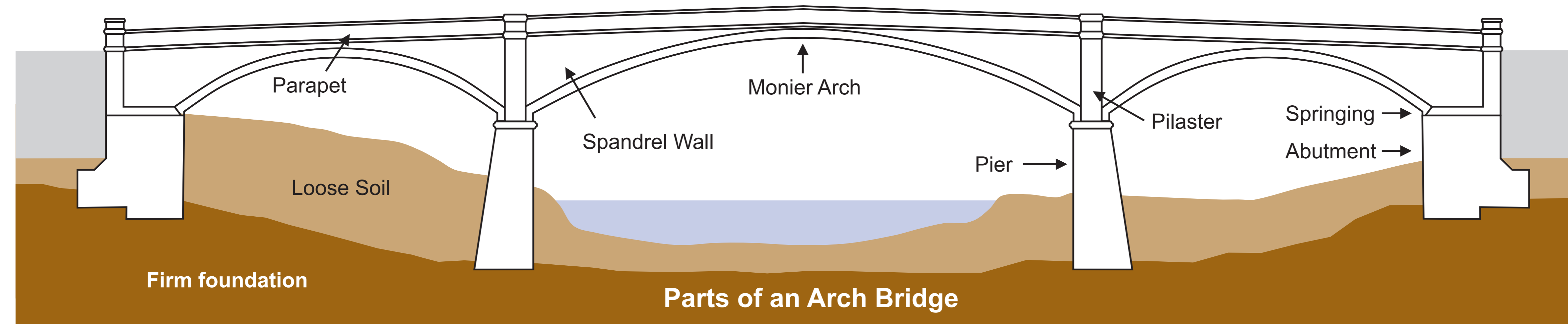
General Sir John Monash (1865 - 1931)

In 1905 John Monash started the Reinforced Concrete & Monier Pipe Construction Co which continued to develop the use of reinforced concrete in Victoria. Following a brilliant military career in World War I Monash became Chairman of the State Electricity Commission of Victoria and led the effort to use Latrobe Valley brown coal to generate electricity.

Joshua Anderson (1865 - 1949)

Joshua Anderson's engineering career has been overshadowed by Monash's military fame. Anderson worked in various disciplines, then went to New Zealand, and later worked as a municipal and consulting engineer in Victoria.

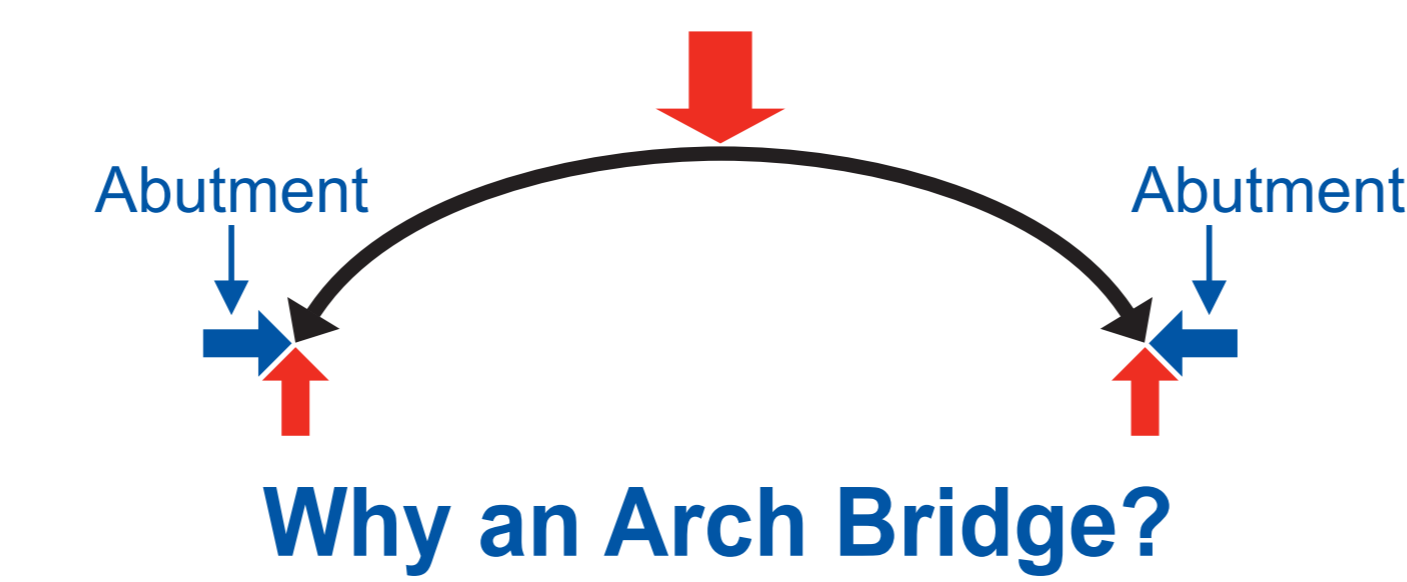
An Early Use of Reinforced Concrete in Victoria



Building the Bridge

Negotiations between Monash & Anderson and the Shire Councils of Corio and Bannockburn, which shared responsibility for the bridge across the Moorabool River, commenced in 1897. Construction began in February 1899 and proceeded quickly despite some difficulties in finding good foundations for the piers and abutments.

The reinforced concrete arches on the downstream side of the bridge were cast in August 1899 and the upstream side in October 1899. The bridge was nearing completion in December 1899 and traffic started to use it; however, its ability to carry loads was not tested until February 1900.



Why an Arch Bridge?
The graceful curve of an arch bridge transfers some of the weight of the bridge and its traffic into a horizontal force resisted by the abutments. Longer bridges may have several arches supported by piers in the middle.

People have been building arch bridges for thousands of years. They're simple, they work, and they can be quite pleasing in appearance. To build a Monier arch bridge, timber formwork was erected and steel reinforcement put in place. Then the concrete was poured into the form – in 1899 they used wheelbarrows. (The cement for this bridge was made by the local works.) When the concrete had gained sufficient strength, the formwork was removed.



Highway to the West

In the 1850s, this place became an important crossing point to the Goldfields and Western Victoria. A ford here was named after the district's first Police Magistrate, Captain Foster Fyans – hence the name, "Fyan's Ford". The Monier arch bridge replaced a wooden bridge built in 1854 and marks the change to this new type of construction in Victoria. It carried the Hamilton Highway over the Moorabool River from 1899 until 1970. The new bridge, also of reinforced concrete but using prestressed I-beams rather than arches, was built on the site of the old wooden bridge.

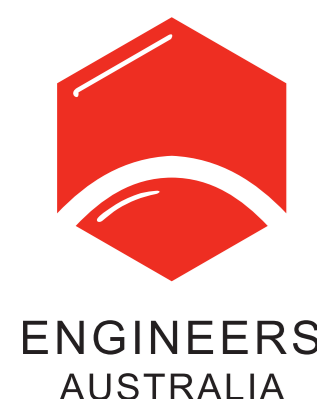
From Pots to Ponts

French horticulturalist Joseph Monier devised a method of making flower pots and garden furniture by using a mesh of thin iron rods to reinforce concrete. He took out a patent in 1867 and continued to find new uses for the method which makes the best use of each material.

The technique was soon applied to other structures and in 1875 Monier designed the first iron-reinforced concrete bridge (*pont* is the French word for *bridge*).

In the early 1890s the Sydney firm of Carter Gummow & Co acquired the rights to build Monier bridges in Australia.

In 1897 Monash & Anderson forged a link with them and obtained sole rights to the Monier patent in Victoria.



Engineering Heritage National Marker placed on 12 October 2012 during the Year of the Regional Engineering Team
Engineers Australia Victoria Division – City of Greater Geelong – VicRoads

