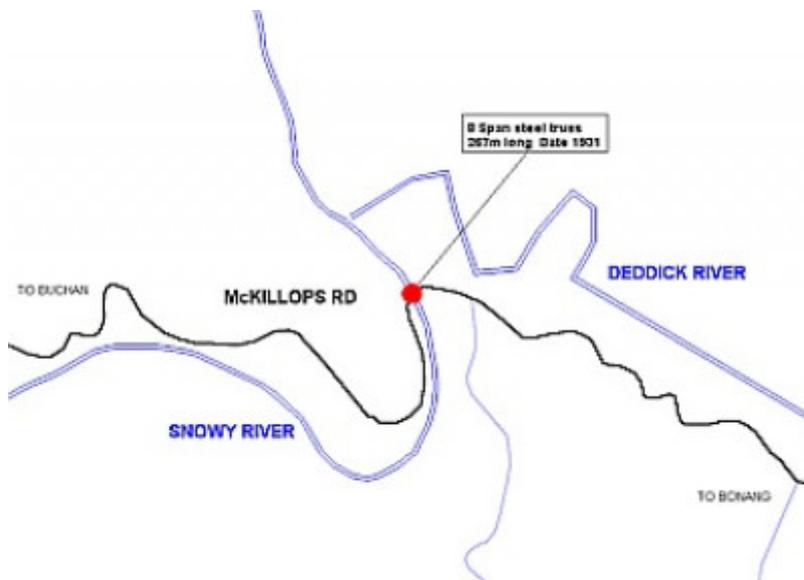


# MCKILLOPS BRIDGE



1 mckillops bridge ntv1996



mckillops bridge plan

## Location

OVER SNOWY RIVER, MCKILLOPS ROAD DEDDICK VALLEY AND MCKILLOPS ROAD WULGULMERANG EAST, EAST GIPPSLAND SHIRE

## Municipality

EAST GIPPSLAND SHIRE

## Level of significance

Registered

## Victorian Heritage Register (VHR) Number

H1849

## Heritage Overlay Numbers

HO301

## VHR Registration

November 18, 1999

## Heritage Listing

Victorian Heritage Register

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## Statement of Significance

Last updated on - September 3, 1999

What is significant?

McKillops Bridge is a road and live-stock bridge situated on the Bonang-Gelantipy Road across the Snowy River. It consists of welded-steel trusses seated on tall one-piece reinforced-concrete piers, supporting an elaborate timber stockbridge superstructure. That traditional colonial-style timber superstructure seated on crossheads above the trusses has shaped corbels, square-timbered stringers, spiking planks, transverse timber decking (now with running planks), gravel beams, and elaborate side rails. The deck is 255 metres long. The bridge was built by the Country Roads Board in two stages between 1931-36, during which its height was raised after the original bridge superstructure was washed away in record floods of January 1934, prior to its original official opening. In its reconstructed form the original concrete abutments were turned into additional piers and the welded-steel trusses were cantilevered back over them to meet the new higher road approaches. The bridge is approached through some of Victoria's grandest scenery, and spans a broad, deep and spectacular gorge of the upper Snowy near its junction with the Deddick River.

McKillops Bridge is of historical, scientific (technical), and aesthetic significance to Victoria.

It is of historical significance for its particular association with Victoria's long and important pastoral history. It is sited at 'McKillops Crossing', named after pioneer overlanding squatter George McKillop who crossed here in 1835. This was a stock crossing place for almost a century before the bridge was constructed, and many of the livestock that had been used to open up vast tracts of the Port Phillip District for pastoral occupation had come this way from the high Monaro of New South Wales. It had long been the site of the famous 'turnback' ferry. Built largely to allow the easy passage of livestock across the high country and between NSW and Victoria, it is a rare example of a major livestock bridge, and one of very few surviving timber bridges of this type. It is also significant as part of a Developmental Road scheme, wherein the catchments of the Upper Snowy River were opened up for closer settlement largely through the instrumentality of the CRB. McKillop's Road, built through remote forest lands to encourage rural settlement, and the bridge, represent the very essence of inter-war Developmental Road theory.

It is of scientific (technical) significance:- as an exceptionally long timber or part-timber bridge, and as the longest example of timber deck metal truss bridge in Victoria; as a bridge of exceptional height; for its elaborate timber stockbridge and horse-vehicle superstructure; for its excellent integrity and condition; and as a rare surviving example of a concrete, metal-truss and timber bridge. It combines a colonial era all-timber stockbridge with the (then) latest welded-steel technology. CRB experimentation with electric arc-welding, combined with the necessity for economic innovations during the Great Depression, resulted in the bridge being at the leading edge of world technology. The arc-welding technique was thought to be in advance of British technology at the time, and also created interest in America. It was claimed to be the longest arc-welded steel truss road bridge in the world, and regarded as one of the standing wonders of Australian road-bridge engineering.

The bridge is of aesthetic significance for its impressively long and handsome timber stock-bridge superstructure,

combined with modern bridge technology of grand proportions, viewed against a panoramic backdrop of mountain forest and a magnificent Alpine river-gorge. It is also a vantage point from which to appreciate something of the awe felt by pioneer pastoralists picking their way through rugged high-country mountain passes, and the landscape of the Snowy River which is at the core of much of Australia's balladry, folk-legend and mythology.

## 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 plans and alterations are to be carried out in a manner which prevents damage to the fabric of the registered place or object.
2. Should it become apparent during further inspection or the carrying out of alterations 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 alteration shall cease and the Executive Director shall be notified as soon as possible.
3. If there is a conservation policy or plan approved by the Executive Director, all works shall be in accordance with it.
4. Nothing in this declaration prevents the Executive Director from amending or rescinding all or any of the permit exemptions.
5. Nothing in this declaration exempts owners or their agents from the responsibility to seek relevant planning or building permits from the responsible authority where applicable.

### Specific Provisions/Exemptions

1. No permit is required for routine maintenance or minor repairs which replace like with like.

Construction dates	1931,
Heritage Act Categories	Registered place,
Hermes Number	5986
Property Number	

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## History

### Contextual History:History of Place:

When originally planned and constructed between 1931 and 1936, this bridge was regarded as being a world-leader in the application of welding techniques to the construction of substantial steel-truss river bridges. Indeed, when first built it was claimed by the Country Roads Board to be the longest welded-steel-truss road bridge in existence. Since McKillops Bridge was constructed largely for the passage of livestock travelling between Victoria and New South Wales on the historic route named after the pioneer overlander George McKillop, it did not have to be built to take massive highway loads.

Although the substructure of this bridge is composed of tall concrete piers topped by welded-steel deck trusses, it also provides our most authentic surviving example of the type of timber river-bridge superstructure built earlier this century by the Country Roads Board, primarily for livestock and horse-vehicle use. McKillops Bridge is an eccentric combination of what was most 'up-to-date' in Australian bridge-building technology circa 1935, with what was most conventional in timber river-bridge construction for a 'horse and buggy era' in the early decades of this century. This odd combination of structural forms sets McKillops Bridge apart from any other structure in Victoria.

The complete superstructure of a superior early-twentieth-century timber river bridge is firmly seated on a substructure composed of tall and strong concrete piers and lengthy welded-steel trusses. On no other substantial river bridge can one still find the full combination of shaped squared-timber corbels, the square-timbered stringers, the lengthy transverse-timbered deck devoid of 'running planks', and the impressive timber side-rails and kerbs of the standard turn-of-the-century timber river bridge built for horse-vehicles and stock use.

The visual impressiveness of this unusually long timber superstructure is further enhanced by the use of diagonal timber side-rail supports, carried by the extremities of cantilevered transverse deck timbers to stay the top side-rails of the bridge. McKillops Bridge provides a better example of this rare latter feature than does any other Victorian bridge. Because of its proud Country Roads Board history and its wonderful location on a Vic Roads route, the bridge is also unusually well-maintained.

McKillops Bridge has fascinating connections with Victoria's long-term historical development. The steep and winding mountain route on which it is situated is closely associated with the very earliest phase of Victorian pastoral history, when pioneer explorers and squatters were wending their way through the precipitous mountain passes down which livestock would be overlanded from the Monaro district of New South Wales. George McKillop was a cattle man from Van Diemen's Land who came this way in 1835, crossing the Snowy River somewhere in the vicinity of the bridge that takes his name, and passing on to Lake Omeo with his pastoral colleagues, Livingstone and McFarlane. This party was the first of many to pass this way into the Port Phillip District of New South Wales.

The Caledonian name evokes memories of numerous other Scottish pastoralists who pioneered the original settlement of much of the Monaro region, making of it a 'springboard' for launching new projects in the wildernesses of what became Victoria. That picturesque and perilous mountain stock route, with its government-subsidized 'Turnback' punt at the old river crossing close to the junction of the Deddick and Snowy Rivers, had changed little in the century that separated the original pastoral invasion of Aboriginal lands from the opening of the completed McKillop's Bridge.

Interestingly, though, this primitive unmade bush track was shown as the most easterly mail route in Victoria in the large 'Railway, Postal and Telegraph Map of Victoria' dated 1887, and published in The Picturesque Atlas of Australasia at that time. Orbost is clearly shown to be the end of the mail route in south-east Gippsland, but the

more northerly mail route via Buchan, Gelantipy, Wulgulmerung, Deddick, Tubbut, to Bonang and Bendoc is shown disappearing over the New South Wales border towards Delegate. The modern McKillop's Bridge is situated on a route with a long history.

Around the turn of the century there had been high hopes of Mt Deddick becoming a second Broken Hill of Australian mining history, with stories of rich lodes of silver and copper in the area. This period of mining exploration led to the construction of the first primitive 'made roads'. The new track cut by the Mines Department from Wulgulmerang to Mt Deddick in the late 1890s was considered 'a great improvement on the old bush road the distance being shorter and the grade easier'. George Mackillop would probably have appreciated the new route, but the Minister for Railways was unimpressed by it, when Mt Deddick mine proprietors wanted him to build a narrow-gauge railway via Buchan and Gelantipy and Wulgulmerang in 1898.

This route might have made a wonderful 'Puffing Billy' tourist trail, but the Minister was correct in thinking the idea impossible. Farmers around Gelantipy thought it a great idea, encouraging visions of vast fields of wheat waving across the Gippsland High Country, and Gelantipy butter being entrained to Melbourne markets. The first rugged ridge-top road from the upper Snowy River Valley at Mt Deddick to Bonang via Tubbut in the Deddick River Valley to the east, was made at that time by the Mines Department. The reason was the alleged discovery of rich copper ore at Tubbut.

The old squatter and miner pack-horse trails provided the only way across the upper Snowy River Valley before the CRB attacked the problem anew. In the terribly depressed years after 1932, Country Roads Board teams using old-fashioned horse-drawn scoops and traditional 'blasting' and pick-and-shovel techniques slowly formed a twisting dirt roadway for light vehicles, to connect Orbost and Delegate with Gelantipy via the already-planned new McKillops Bridge. During the later 1930s big teams of Victoria's 'unemployed' earned a spartan living wielding picks and shovels and pushing wheelbarrows, to slowly and painfully widen the new dirt road and straighten out its more ridiculous bends.

The original bridge plans for this difficult Snowy River Crossing were considerably less expensive than what was reconstructed after the initial attempt at bridging the Snowy River was contemptuously tossed aside by the record floods of January 1934, before the bridge had its official 'opening ceremony'. As early as August 1929, the Snowy River Mail had reported that under the new Federal Aid Road Grant scheme £2000 had been allotted for 'bridge and approaches Snowy River'. During 1931-32 the first bridge designs were completed, tenders called and work carried out.

Economy was the order of the day in that grim depression era, and the CRB was proud of its cost-cutting through the use of electric arc welding. Tenders had been called for rivetted trusses, like those used on the big Murchison Bridge over the Goulburn River in 1936, but up on the Snowy River welding was much cheaper than the rivetted alternative. Lap welding rather than butt welding was employed, power being supplied on site by a portable petrol-driven three-phase generator. The original substructure cost £3,350, the trusses £6,508, and the simple transverse-timber deck £2,100, making a grand total of £11,950 or approximately £1 per square foot. The high cost of transport, over difficult mountain tracks from a railhead eighty miles distant, contributed one quarter of the total cost.

Innovations in steel welding practice in Victoria aroused great interest in depression years. Articles in the Melbourne press during July 1932 claimed that £18,200 had been saved on the original £30,000 bridge estimate, and the use of electric welding was credited with much of this saving. The Victorian Railways Construction Branch's use of electric welding in reconstructing the Echuca rail bridge over the Murray River in 1924 was claimed to be 'the first example in the world of an electrically welded bridge'. M.M.B.W. electric-welding works on the Hawthorn and Victoria bridges over the Yarra were also pioneering efforts in this field. But these early efforts could not compare with the 750 feet length of the CRB high-level structure at McKillop's crossing.

The techniques used were claimed to be much in advance of contemporary structural practice in the United Kingdom. The Country Roads Board had been early into experimentation with electric arc welding. Two main advantages were claimed over traditional riveted-steel technology. One was the significant reduction in weight of steel members used, because the lack of weakening rivet holes allowed the use of lighter-weight components. The other major advantage claimed was in long-term bridge maintenance, where painting costs were substantially reduced because of the absence of lines of rivets. The CRB had successfully tried out its new welded-steel-truss technology, in conjunction with concrete superstructures, at the Pykes Creek Bridge on the Western Highway in 1928-9 and at the Sunday Creek Bridge on the newly-reconstructed and newly-named Hume Highway in 1930-31, before beginning the very different long steel-truss-and-timber structure at McKillop's

crossing.

If the construction techniques were very advanced for the time (and therefore historic today), ideas of the bridge's function were in line with the earliest European history of the area: [it] 'will be used chiefly as a stock route connecting the rich grazing country on the upper Snowy River and the Bombala district with the fertile basaltic plains on the western bank of the Snowy River'.

All the self-congratulation received a major setback when this first innovative structure was washed down the gorge by the Snowy River in a freak cloud-burst of January 1934. The volume of flood waters on that memorable day was twice that of any Snowy flood recorded over the previous 43 years. The bridge had been designed to rise ten feet above the height of any known flood at the site, but the reconstructed bridge would have to be built eleven feet higher than the 1934 flood level.

The earlier concrete piers were re-usable, but even these had to be modified and strengthened by concreting-in the original open sections of pier, as well as raising the height considerably. Given the big rise in bridge elevation, the original concrete abutments became concrete piers in the reconstructed version, with new sections of the welded-steel trusses cantilevered back over those abutment/piers to meet the new higher bridge approaches. Modifications were also made to the original welding technique in the light of study of bridge wreckage. Heavier weld joints were used, and the joins in the steel-truss structure were moved off the piers, rather than placed directly above the concrete piers as originally.

The reconstruction with its complex timber superstructure obviously added considerably to the bridge's cost, as well as extending the bridge's claim to fame by bringing the length of transverse-timber decking to 840 feet. The only noticeable difference between the photographs of 1936 and what exists today, is that the prominent timber fences originally built along the approaches to the bridge (presumably to keep livestock on the bridge) have vanished (and the recent addition of running planks). Doubtless the bridge's creators thought it had enjoyed enough publicity, and prayed for drought on the Snowy's catchments in their lifetimes. The construction of the mighty Snowy River irrigation and hydro-electric scheme after World War 2 deviated water from some headwater tributaries into the Murrumbidgee River, and it is now hard to imagine that the broad and very deep gorge at the site could ever fill. The bridge over this broad gorge remains a scenic highlight, on a spectacularly scenic high-country motor route.

## **Assessment Against Criteria**

Criterion The historical importance, association with or relationship to Victoria's history of the place or object.

It is particularly expressive of Victoria's long and important pastoral history. It is sited at 'McKillops Crossing', named after pioneer overlanding squatter George McKillop who crossed here in 1835. This was a stock crossing place for almost a century before the bridge was constructed, and many of the livestock that had been used to open up vast tracts of the Port Phillip District for pastoral occupation had come this way from the high Monaro of New South Wales. This was also the site of the famous government subsidized 'turnback' ferry.

Built largely to allow the easy passage of livestock across the high country and between NSW and Victoria, the bridge is a rare example of a major livestock bridge, and one of very few surviving timber bridges of this type.

It is also significant for its association with the early twentieth century Developmental Road scheme, when the catchments of the Upper Snowy River were opened up for closer settlement largely through the instrumentality of the CRB. McKillop's Road, built through remote forest lands to encourage rural settlement, and the bridge, represent the very essence of inter-war Developmental Road theory.

CRB experimentation with electric arc-welding, combined with the necessity for economic innovations during the Great Depression, resulted in the bridge being at the leading edge of world technology in its time.

Criterion B.

The importance of a place or object in demonstrating rarity or uniqueness.

It is an exceptionally long timber or part-timber bridge, and as the longest example of timber deck metal truss bridge in Victoria. It is also of exceptional height.

It has a uniquely elaborate and intact timber stockbridge and horse-vehicle superstructure.

It is also a rare surviving example of a concrete, metal-truss and timber bridge.

It combines a colonial era all-timber stockbridge with the (then) latest welded-steel technology.

The bridge was claimed to be the longest arc-welded steel truss road bridge in the world at the time, and was regarded as one of the standing wonders of Australian road-bridge engineering.

#### Criterion C.

The place or object's potential to educate, illustrate or provide further scientific investigation in relation to Victoria's cultural heritage.

It has the potential to educate on the historical role of stock movement in Victoria, and in particular of the role of New South Wales in Victoria's pastoral settlement.

It has the potential to educate on the pioneering era of electrical arc welding, and the role that Victorian State Government utility agencies played in this.

It illustrates the construction of timber stock-bridges, which are now rare in Victoria, and metal truss and timber bridges.

#### Criterion D.

The importance of a place or object in exhibiting the principal characteristics or the representative nature of a place or object as part of a class or type of places or objects.

#### Criterion E.

The importance of a place or object in exhibiting good design or aesthetic characteristics and/or in exhibiting a richness, diversity or unusual integration of features.

The bridge consists of a classical colonial style timber deck combined with tall concrete piers and electric arc welded steel truss spans. It is an exceptionally large and historically outstanding example of this combination of materials and technology.

#### Criterion F.

The importance of a place or object in demonstrating or being associated with scientific or technical innovations or achievements.

New techniques of electric arc welding were pioneered on the bridge. The arc-welding technique was thought to be in advance of British technology at the time, and also created interest in America.

#### Criterion G.

The importance of a place or object in demonstrating social or cultural associations.

The place is directly linked with pioneer/explorer George McKillop; with the stocking of Victoria by New South Wales overlanders; and with the Developmental Road philosophy of early twentieth century Victoria government and the Country Roads Board.

#### Criterion H.

Any other matter which the Council considers relevant to the demonstration of cultural heritage significance.

The bridge is an impressive spectacle, and vantage point from which to observe the East Gippsland high mountain setting and the Snowy River, which are of aesthetic significance and have played an important role in Australia's cultural history.

## **Extent of Registration**

All the Bridge marked B1, including its abutments and land five metres either side of the bridge and its abutments, as marked on Diagram Number 1849 , held by the Executive Director, being part of the land described as government road (McKillops Rd), part in the Parish of Deddick and part in the Parish of Woongulmerang East.

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*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/>*