

# HEAVY HARRY LOCOMOTIVE



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May 2007\_001



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May 2007\_002



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May 2007\_003



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May 2007\_004



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May 2007\_Driver  
Controls



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May  
2007\_Firebox and  
Mechanical Stoker



Heavy Harry\_Loco  
H220\_ARHS Museum  
Newport\_2 May  
2007\_Gearing



Heavy Harry\_Loco  
H220\_Working the Spirit of  
Progress\_Approaching  
Spencer Street  
Station\_August 1948

## Location

2-78 CHAMPION ROAD NEWPORT, HOBSONS BAY CITY

## Municipality

HOBSONS BAY CITY

## Level of significance

Registered

## Victorian Heritage Register (VHR) Number

H2163

## VHR Registration

April 10, 2008

## Heritage Listing

Victorian Heritage Register

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## Statement of Significance

Last updated on - June 9, 2023

### What is significant?

The H Class Locomotive H220 also known as *Heavy Harry*, was built in 1941 and was the only one built of three H class locomotives originally planned. It was the largest and heaviest steam locomotive in the Victorian Railways fleet, the largest steam locomotive built in Australia and the heaviest non-articulated steam locomotive in the southern hemisphere.

*Heavy Harry* incorporated a number of innovations including conjugated lever gearing; three cylinders; distinctive twin chimneys; an all steel boiler, operating at 220psi which was the highest pressure of any locomotive operating in Australia at the time and a mechanical screw conveyor stoker with fuel distribution controlled by set of steam valves operated by the fireman in the cab. The mechanical stoker was the first to be used in Victoria. *Heavy Harry's* tender was designed with sufficient capacity to avoid the need for refuelling over long routes, such as Melbourne to Ararat.

*Heavy Harry* was withdrawn from service in 1958 as steam power was replaced by diesel electric motive power in the Victorian rail system.

### How is it significant?

*Heavy Harry* is of historic and technical (scientific) significance to the State of Victoria

### Why is it significant?

*Heavy Harry* is of technical significance (scientific) for representing the peak of steam motive power technology in Victoria.

*Heavy Harry* is of technical significance (scientific) as the only example of its class built.

*Heavy Harry* is of historical significance in the history of rail transport in Victoria as the most powerful steam locomotive in the Victorian rail network.

## 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 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 object are revealed which relate to the significance of the object, then the exemption covering such works shall cease and Heritage Victoria shall be notified as soon as possible. General Conditions: 3.

If there is a conservation policy and plan endorsed by the Executive Director, all works shall be in accordance with it. Note: The existence of a Conservation Management Plan or a Heritage Action Plan endorsed by the Executive Director, Heritage Victoria provides guidance for the management of the heritage values associated with the object. 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 the owners or their agents from the responsibility to seek relevant planning or building permits from the responsible authorities where applicable.

\* All maintenance works that are directly related to the Australian Railway History Society (ARHS), Victorian Division Railway Museum management of the H Class Locomotive H220, *Heavy Harry*, as a museum exhibit, as part of the ARHS Railway Museum are permit exempt.

\*Temporary relocation of the H Class Locomotive H220, *Heavy Harry*, for maintenance is permit exempt.

\*Temporary relocation of the H Class Locomotive H220, *Heavy Harry*, for exhibition purposes is permit exempt.

### **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 may 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	1941,
Heritage Act Categories	Registered object,
Other Names	H220 ENGINE,
Hermes Number	23010

## History

H220 was the first of three H class locomotives designed specifically for the western line to Ararat, intended to replace the double headed A2 class locomotives that were required to pull passenger trains over the 10 mile (16 km) 1:48 grade of the Islington Bank west of Bacchus Marsh. The H class locomotives were designed to carry sufficient coal and water to run from Melbourne to Ararat non stop, having a tender capacity of 9 tons (9 tonnes) of coal and 14000 gallons (63645 litres) of water.

However by the time the H220 was built the Second World War had broken out and the expenditure required to upgrade the Western line infrastructure to carry the heavier axle loads of the H class locomotives was not available. The difficulty of running the H class locos was exacerbated by its length which severely restricted its versatility. The locomotive needed an 85 foot turntable to be turned on and there was only one turntable of this size in the state, in Ararat<sup>[1]</sup>. The most common size turntable at this time was 70 feet. In Melbourne H220 was turned on the North Melbourne balloon loop.

In response, further construction of H class locos was cancelled and H220 was put to work running express goods trains between Albury and Melbourne on the North Eastern line, being the only line that could carry the weight of the locomotive and which had provision to turn the locomotive at the down end. Even so the weight of the locomotive meant that its speed was restricted to 55 mph (88.5 kmh) to reduce damage to the tracks that resulted from the loco's weight, power and length. The locomotive was turned around in Albury for the return trip back up to Melbourne by travelling out and back on the Wodonga Triangle. H220 worked five trips a week between Wodonga and Melbourne and covered around 1875 miles (3017 km) each week, carrying a maximum load of 820 tons (833 tonnes) each journey. H220 established a reputation for its reliability, its vast steam generating capacity and its ability to be worked hard for long periods of time.

H220 was used on various occasion to haul passenger trains as originally intended, most notably the *Spirit of Progress* between Albury and Melbourne when no streamlined S class loco were available. Despite the 55 mph speed limit imposed on the locomotive, its power allowed it to climb over the Great Dividing Range better than the regular S class locomotives, enabling it to maintain or better its schedule.

H220 did make a number of test trips to Ararat hauling a dynamometer car with goods trains during 1949.

H220 operated until 1956 was eventually taken out of service in 1958 as steam power was replaced by diesel electric motive power which offered light powerful locomotives that required less maintenance and management and were cleaner and more economical to run. H220 represents the peak of steam motive power technology in Australia but also highlights the difficulties that railway infrastructure had in keeping pace with these technological developments of steam motive power.

[1] The 85 foot turntable was built in Ararat in 1928 when new locomotive sheds were built there as part of an intended program to standardise this length throughout Victoria. However like the H class locomotive, this program was never carried through and only this one 85 foot turntable was built.

## Plaque Citation

Built at Newport in 1941 as the only locomotive of its class, H220 was the largest and most powerful steam locomotive used on the Victorian Railways. It was taken out of service in 1958.

## Extent of Registration

1.All of the 4-8-4 H class heavy goods steam locomotive known as H220, 'Heavy Harry' and its tender.

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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/>*