

# Railway locomotive and rollingstock drawings



DR2182 - Carriage Depot, Mayne Junction, ca. 1936

Research Guide to railway locomotive and rollingstock drawings records at Queensland State Archives

Queensland State Archives (QSA) is the official repository for Queensland Government records selected for permanent retention because of their continuing value. The archived public records are from state government departments, state courts, local government authorities and statutory authorities. The records are in our facility at [Runcorn, Brisbane](#), and open records are available for viewing in the Reading Room, free-of-charge.

This research guide provides an overview of the drawings produced by or for the Chief Mechanical Engineer's Branch (or Locomotive Branch) of the Railway Department. These railway drawings trace the development of Queensland railway locomotive and rollingstock from 1864. Not all drawings proposed for or adopted by Queensland Rail (QR) were transferred to QSA. Most of the drawings consist of general arrangement and working drawings for the construction of rollingstock.

The main finding aid for records held at QSA is the [Queensland State Archives' online catalogue](#) (known as ArchivesSearch).

The following citation abbreviations are used throughout our catalogue:

ITM	QSA Item (describes the item)
PR	Physical Representation (generally the original or microfilm copy)
DR	Digital Representation (for a digital image)
S	Series ID (for a series of records)
A	Agency ID (for the creating or responsible agency).

**Aboriginal and Torres Strait Islander readers are advised that our catalogue contains images, names and voices of people who have died.**

## Queensland Rail Heritage Collection

The Queensland Rail Heritage Collection consists of 72 series of records transferred to Queensland State Archives from the Workshops Rail Museum, Ipswich, in 2019 and spans the years 1864 to 2007. In addition to the key series listed below, they also give us a glimpse into Queensland's past with railway brass bands, railway refreshment rooms and clock repair registers.

This heritage collection includes a series of glass plate and cellulose acetate negatives:

### Railway Glass Plate Negatives

Circa 1/1/1864 – 31/12/1997

[S21495](#)

Digital copies of these glass plate negatives can be viewed online by following the series link to *Browse all items in series*. The negatives depict various subjects relating to rail travel and infrastructure and include images of locomotives, carriages and wagons, stations, bridges and bridge construction, sections of track and special events. Negatives titled with 'E Series' are tourism and scenic images of Queensland. The glass plate negatives in this series have been carefully cleaned and restored by the Queensland State Archives Conservation team to allow them to be digitised.

To find all series of records in this heritage collection, search of our catalogue using title "Queensland Rail Heritage Collection". Each series has a Queensland Rail/Queensland Museum catalogue number. A complete list in numerical order by catalogue numbers is in the [Research Guide to railway records](#).

### Locomotive and rollingstock drawings

#### **Railway Rollingstock Drawings**

Circa 1/1/1867 – 31/12/1954

[S17732](#)

This is the main series of QR rollingstock drawings and covers the general arrangement and detail drawings of various carriages and wagons which operated on Queensland railways from 1867. Included are drawings of rollingstock supplied by contractors (including Charles Fox of London), as well as those constructed by Ipswich railway workshops. All types of coaching, goods and departmental stock are represented in this series including First class, Second class and composite passenger carriages; saloons and parlour cars; passenger and composite brake vans; travelling post office; covered wagons; open wagons; refrigerated wagons; livestock wagons; fruit wagons; tank wagons; timber wagons; and coal/ballast hoppers. Detail drawings for each class of vehicle include brake gear; bogies or wheel sets; buffing and draw gear; underframes; bodies; carriage windows and doors; lighting; fittings; and furnishings. There are also a small number of miscellaneous and locomotive drawings, eg. locomotive cylinders, coal handling, indicator diagrams. See Microfilms Z2269-Z2270 available in the Reading Room.

#### **Rollingstock Diagrams (Queensland Rail Heritage Collection)**

Circa 1/1/1880 – 31/12/1996

[S21584](#)

This series comprises Queensland Rail diagrams of rollingstock. The diagrams include wagons, carriages, rail tank cars, gang cars, Diesel Electric (DE) Locomotives, inspection cars and trikes. The diagrams for the Vice Regal Car, Chillagoe Railway wagon and an AEC Railmotor are included in this series. In addition to rollingstock diagrams are diagrams for workshop cranes, fixed gantry cranes and workshop machinery. The series was originally managed as part of the Queensland Rail Heritage Collection, previously located at the Workshops Rail Museum at Ipswich. After the establishment of Queensland as a separate State, the new government used the railway system as a way of connecting the State and of promoting economic development. The Queensland Rail heritage collection spans the period from 1864-2007 and gives us a glimpse into Queensland's past with railway brass bands, refreshment rooms and clock repair registers (to keep those trains running on time). With thousands of plans, drawings, photographs and other audio-visual material, there are many treasures of Queensland history to be found within this collection. The Queensland Rail/Queensland Museum catalogue number for these records was Series 148 and Series 148A.

#### **Railway Department, Chief Mechanical Engineer's Branch Numerical index to Rollingstock drawings**

Circa 1/1/1864 – 31/12/1955

[S8602](#)

This is a list of rollingstock plans drawn by or supplied to the Locomotive Branch. It includes the number of the plan and a description. The drawings at QSA are marked with an 'A'. The index incorporates all types of rollingstock except locomotives and rail motors. Furnishings within passenger carriages are also included. See Microfilms Z2269-Z2270 available in the Reading Room.

#### **Steam Locomotive Drawings**

Circa 1/1/1864 – 31/12/1966

[S17695](#)

These working drawings for most of the QR steam locomotives that have operated since 1865. A set of drawings exist for each class (type) of locomotive comprising general arrangement drawings and numerous detail drawings for each locomotive component, eg. motion gear, axles and bogies, boiler and firebox, brake gear). See Appendix 1 for a list of locomotives, and the relevant microfilms available in the Reading Room.

### **Drawings of Proposed Rail Motors**

Circa 1/1/1884 – 31/12/1928

[S17698](#)

These drawings of rail motors and including rail motor trains, rail motor cars, inspection cars, motor coaches, steam rail coaches, small internal combustion rail tractors/locomotives. See Microfilms Z2282; Z2285 available in the Reading Room.

### **Renard Road Train Drawings**

Circa 1/1/1906 – 31/12/1908

[S17699](#)

This series consists of copies of the working drawings for the Renard road train operated by QR in the 1910s. It consisted of a petrol engine tractor hauling two or three trailers with power being transmitted from the engine to each trailer. The drawings in the series are mostly blueprints supplied by the Daimler Motor Company of Coventry, England. See Microfilms Z2282; Z2285 available in the Reading Room.

### **Diesel Mechanical Locomotives – Two Feet Gauge**

Circa 1/1/1951 – 31/12/1976

[S17700](#)

QR operated the two feet gauge Innisfail Cane Tramway system serving Mourilyan Mill from 1914 to 1977 when the system was sold to Howard Smith Limited. The Diesel Mechanical Locomotives (DL12 to DL20) were introduced in 1951 and sold to Howard Smith Limited in 1977. The original plans were drawn by Commonwealth Engineering Qld Pty Ltd and Baguely Company, England. See Microfilms Z2282, Z2284 and Z2285 available in the Reading Room.

### **Drawings of Prescott Mill at Ipswich Railway Workshops**

Circa 1/1/1917 – 31/12/1919

[S17701](#)

This series consists of drawings of a band sawmill operating at Ipswich railway workshops during World War I. See Microfilms Z2282, Z2284 and Z2285 available in the Reading Room.

### **Miscellaneous Shop Drawings**

Circa 1/1/1884 – 31/12/1928

[S17702](#)

This series includes drawings of cranes, a water pump for the Interstate railway, choke block, standard mail arm, foundations for machines, saw bench, planing machine, circular moulder, band saw, cutting machine, sand papering machine, duplex pumps, a lathe, drilling machines, and a steam hammer. Prepared by Ipswich Railway Workshops or overseas companies, the series includes some plans of workshop buildings. Most of the series relates to steam locomotive proposals prior to 1923. See Microfilms Z2282, Z2284 and Z2285 available in the Reading Room.

Proposed classes represented included BB15 Garratt, Express Garratt, Goods Garratt, Mallet articulated, B15 Passenger, B19, B16, 6D16, 6D13 ½, C21, BB12 ½, Kitson Meyer, various Pacifics, PB16, Stanley Steam Car, 4-6-0 - Innisfail tramway, Diesel Mechanical and Brush Bagnall Diesel Electric.

### **Rail Motor Drawings**

Circa 1/1/1916 – 31/12/1951

[S17703](#)

This series consists of general arrangement drawings of rail motors and trailers which operated to the mid-1960s. See Microfilm Z2283 available in the Reading Room.

### **Innisfail Tramway - Two Feet Gauge - Open Goods H Wagon**

Circa 1/1/1914 – 31/12/1914

[S17706](#)

The three linen tracings (numbers 2944, 2961 and 2962) detail the bogies, frame and brake gear on the goods wagon of the Innisfail tramway system. See Microfilm Z2283 available in the Reading Room.

### **List of Rollingstock**

Circa 10/3/1865 – circa 20/11/1981

[S17707](#)

This list of rollingstock was compiled for a Railway Department publication. It lists the various types of rollingstock and the number of each operating on the different sections or divisions of QR.

### **Hospital Train**

Circa 1/1/1942 – circa 31/12/1944

[S17708](#)

This series consists of plans of a hospital train used during World War 2. Drawn at Ipswich Railway Workshops, from a design based on the American hospital train. See Microfilms Z2283 and Z2284 available in the Reading Room.

### **Drawings of Carriages for the 'Sunshine Express' Train**

Circa 1/1/1938 – 31/12/1938

[S17710](#)

This series consists of drawings of the dining car, parlour car, and First and Second class passenger carriages for the 'Sunshine Express' train which operated from Brisbane to Cairns until replaced by the air-conditioned 'Sunlander' train in the 1950s. See Microfilms Z2283 and Z2284 available in the Reading Room.

### **Drawings of Proposed Seven Feet Wheelbase Bogie**

Circa 1/1/1948 – 31/12/1948

[S17712](#)

This series consists of drawings of a proposed bogie, seven feet in wheelbase, to be used for heavy duty wagons. The design was never constructed. See Microfilms Z2283 and Z2284 available in the Reading Room.

### **McKeen Car Drawings**

Circa 1/1/1912 – 31/12/1918

[S17713](#)



This series consists of plans including those supplied by the McKean Motor Car Company, and those drawn at Ipswich Railway Workshops. See Microfilms Z2283 and Z2284 available in the Reading Room.

### **Innisfail Tramway - Two Feet Gauge Tramway - Brake and Draw Gear Arrangements**

Circa 1/1/1966 – 31/12/1970

[S17714](#)

This series consists of drawings prepared at Ipswich Railway Workshops for brake and draw gear arrangement on the DL locomotives of the Innisfail tramways. See Microfilms Z2283 and Z2284 available in the Reading Room.

### **Miscellaneous Tracings and Prints**

Circa 1/1/1918 – 31/12/1918

[S17715](#)

Tracings and prints of various machines constructed for use in railway workshops including rivet making machines and bolt heading machines. Includes a plan of the Westinghouse automatic brake for tenders, a blueprint of the plan of Ipswich Workshops dining room and a 25-ton VH hopper car. See Microfilm Z2284 available in the Reading Room.

### **Prints of Preparations for Decoration of the Royal Train for the Prince of Wales Visit**

Circa 1/1/1920 – 31/12/1920

[S17716](#)

This series consists of three prints of the Royal Crests to be carried on the front of the Royal Trains. See Microfilm Z2284 available in the Reading Room.

## Queensland Railway Classification System

Records at QSA are referenced by the QR standard classification of locomotives and rollingstock. Each different class or type of locomotive or rollingstock was allocated a unique alpha or alpha-numeric classification which identified the type of stock, and many variations exist within each class.

### **Locomotive Classification**

Initially, locomotives were classified by a single letter with each new type of locomotive introduced taking the next letter in the alphabet from A through to G. By 1890, the alpha-numeric classification system of steam locomotives was introduced. The primary alpha character denotes the number of wheels available for traction, that is:

- A four coupled driving wheels (two axles)
- B six coupled driving wheels (three axles)
- C eight coupled driving wheels (four axles)
- D 'tank' engine, e.g., a locomotive without a separate coal and water tender

A secondary (prefixed) alpha character was sometimes necessary to denote a variation within the primary classification system, that is:

- A American locomotive to distinguish from an existing local product of the same classification

**P** Passenger locomotive to indicate a conversion from an existing locomotive class

In addition, a duplication of the primary alpha character was applied to new designs of an existing classification of locomotives.

The numerical value in the classification system is the diameter of the locomotive's cylinders in inches. For example, AC16 class locomotive is a locomotive with a six coupled driving wheels and 16-inch (400mm) diameter cylinders and is an American variation of an existing C16 class.

Variations from the standard classification system include:

- Articulated locomotives referred to as the 'Garratt' or 'Beyer-Garratt' class
- Tank locomotives, where the letter 'D' was prefixed together with a number denoting the number of coupled wheels eg. 6D17

Later development of some classes did not carry the duplication of the primary alpha character and classes were identified by the year of introduction, eg. PB15 - 1924 type.

### Rail Motor Classification

Rail motors (driving units of rail motor sets) were classified by horsepower and engine type, eg. 100 hp AEC Petrol. They were also referenced by the letters RM followed by the number of the unit eg. RM34.

Motor Trailers (non-driving units) were known by their QR telegraphic code (TP), with a variation of TPL indicating a trailer with luggage accommodation, and TG, a goods trailer.

With the introduction of the modern generation cars from 1952, the numerical classification of 1800, 1900 and 2000 series was adopted, with the last two digits being the number of the car.

### Wagon Classification

Queensland railway wagon classification evolved from a primary alpha character representative of the type of wagon in each of the four, six and eight wheel configurations. The initial classification was:

Type of wagon	Number of wheels		
	4	6	8
Covered goods	A	B	C
High-sided open goods	D	E	-
Open goods	F	G	H
Cattle	I	J	K
Sheep	L	M	N
Platform	-	O	P
Timber	Q	R	S
Ballast	T	-	U
Hopper	V	-	-
Rail wagons	W	X	Y

Alpha prefixes and suffixes were applied to the primary character to denote variations in the type of construction and/or the type of traffic for which the wagons were used or adapted. Examples of prefixes used are 'B' for baggage and 'E' for elephant or excursion vehicles.

Suffixes used to denote the type of construction include:

<b>A</b>	Bar frames bogies	<b>N</b>	Nitrogen refrigeration
<b>B</b>	Insulated	<b>O</b>	15.5 ton axle load wagons
<b>B</b>	Brakevan	<b>R</b>	Runner wagons
<b>C</b>	Converted from a carriage	<b>R</b>	Refrigerated
<b>E</b>	Extra large	<b>S</b>	Steel
<b>G</b>	'Grover's' type bogie	<b>T</b>	Converted from tenders
<b>G</b>	Fitted with grids for fruit	<b>T</b>	Fitted with transition couplings
<b>H</b>	Fitted with hurdles	<b>V</b>	Hopper
<b>I</b>	Fitted with ice compartments	<b>W</b>	Well wagon
<b>J</b>	Jumbo	<b>X</b>	Bogie exchange capability
<b>L</b>	Louvered	<b>Y</b>	12 ton axle load wagons
<b>M</b>	Insulated		

Suffixes used to denote the type of traffic include:

<b>A</b>	Butter	<b>O</b>	Oils
<b>C</b>	Cream, Cane, Cattle, Cement	<b>P</b>	Perishables, pineapples
<b>F</b>	Freight	<b>P</b>	Passenger trains
<b>L</b>	Lime	<b>T</b>	Tallow
<b>M</b>	Meat, Motor Cars	<b>W</b>	Water

In addition, wagons were suffixed by a letter to indicate ownership of the wagon.

For example, CMIST uses these 3 suffixes: C to represent an eight wheeled steel insulated covered wagon; MI to indicate an insulated ice compartment; and T to indicate it was fitted with transition couplings.

The wagon classification system is not entirely consistent however. The same suffix letter may have a different meaning in different wagon classifications. The diversification of wagon types means that some wagon classifications do not comply with the original system.

### Coaching Stock (Passenger Carriages) Classification

Wooded coaching stock is generally referenced by its QR telegraphic abbreviation. This is a combination of alpha codes with the relevant indications listed below:

Primary Characters:

- A First Class
- B Second Class
- C Composite carriage (both First and Second class)

Prefixes:

A to J (with some exceptions) indicates variations in carriage configuration.



### Suffixes:

L	with lavatory
O	'Ordinary' cars
S	Sleeping car
U	Suburban car
V	with Guards' compartment
X	Corridor suburban car

### Ancillary Vehicles in The Coaching Stock Register:

BC	Baggage car
DC	Dining car
GV	Goods brake van
MV	Mail brake van

Using these codes, BUV was a second class suburban coach fitted with a guards' compartment.

### Further information about railway locomotive and rollingstock

#### **Numbering of Locomotive and Rollingstock**

Individual locomotives, rail motors, wagons and carriages are identified by their class with the number of the item. There are separate series of numbers for locomotives, rail motors, wagons and carriages. Within these numbering systems, some duplicated numbers exist. Initially, each of the railway systems employed independent numbering systems. In about 1890, Queensland Railways locomotives and rollingstock were combined into common registers. As items were withdrawn from service, some new stock was allocated a previously used number.

#### **Steam Locomotive Sets**

Drawings of steam locomotives were grouped in sets with each drawing of each set given the class identification and number. There are instances of a drawing in one set being applicable to another class of locomotive, and this is usually noted on the drawing. The number of drawings in a set varies from class to class, eg. the C16 locomotive has 92 drawings in the set, the DD17 has 122, and the Beyer-Garratt has 242 drawings. There are exceptions to this standard, eg. class BB18 1/4 drawings from the locomotive builders (Vulcan Foundry) carried set numbers, but were allocated a drawing number in the general series by QR. Although many of the class PB15 set drawings apply also to the PB15-1924 type locomotive, other drawings which apply to the 1924 type exclusively have been given numbers in the general series.

#### **Diesel Mechanical Locomotives**

Drawings of these locomotives, both of 3'6" (1067mm) gauge and 2'0" (610mm) were allocated a number prefixed with the letter 'M'.

#### **Rail Motors - Rail Cars**

Drawings of rail cars were allotted a number preceded by the letter 'M', however, there were some drawings of early railcars which did not carry the prefix 'M'.

#### **Wagons - Outside Manufacture**

Generally, for drawings designed and manufactured by outside firms, QR retained the numbering system. Later drawing numbers were allocated by the Railways Department using the general numbering system.

#### **Drawings of Plant in Workshops**

Drawings including workshop plant, machinery, tools and engine sheds were allocated a complex number referred to as the 'over number system'. For example: 'X/1': where 'X' represents a distinguishing alpha character for the different type of plant and '1' represents the identifying drawing number for each of the drawings within the series.

#### **Sketches or Suggestions**

Drawings accompanying inventions or suggestions for improvement of plant were allotted a number preceded by two alpha characters, the first of which is 'S' and the second letter indicates the subject matter of the suggestion e.g. 'C' carriage, 'L' locomotive, 'I' invention.

## Appendix 1: Steam Locomotive Drawings, S17695

Name of locomotive	Microfilm number
A12 Class locomotives	Z2270
A14 Class locomotives	Z2270
AC16 Class locomotives	Z2271; Z2284; Z2285
Beyer-Garratt locomotives	Z2271
Australian Standard Garratt	Z2272; Z2285
B13 Class locomotives	Z2272
B13 Class locomotives (Dubbs)	Z2272
B15 Class locomotives (Walkers)	Z2272
B15 Class locomotives (Yorkshire)	Z2272
B15 Class locomotives (Naysmyth Wilson)	Z2273
B15 Class locomotives (B15 Converted)	Z2271; Z2273
B16 1/2 Class locomotives	Z2273; Z2274
B17 Class locomotives	Z2274
B18 1/4 Class locomotives	Z2274; Z2275; Z2285
BB18 1/4 Class locomotives	Z2275
C16 Class locomotives	Z2275; Z2276; Z2285
C17 Class locomotives	Z2276; Z2277; Z2285
C18 Class locomotives	Z2277
C19 Class locomotives	Z2277; Z2278
CC17 Class locomotives	Z2278
D13 1/2 Class locomotives	Z2278; Z2285
B13 1/2 Class locomotives	Z2278; Z2285
6D13 1/2 ABT Class locomotives	Z2278; Z2285
D16 Class locomotives	Z2279
D17 Class locomotives	Z2279; Z2280; Z2285
DD17 Class locomotives	[Missing]
PB15 Class locomotives	Z2280
PB15 Class locomotives – 1924 type	Z2280
B9 1/2 Class locomotives	Z2280; Z2281; Z2285
Various early locomotives 1880-1912 viz: C13; 4D10; 8D15; C15; 6D15; B12 (Kitson); C16 (Baldwin); B16D; Crane Loco; B11 classes	Z2281
Miscellaneous vintage loco arrangement & detail drawings 1886 – Neilson & Co., Glasgow	Z2281
Miscellaneous vintage loco arrangement and detail drawings 1886 – Neilson & Co., B & C Class loco boiler details	Z2281
Suggested locomotive designs 1913-1957	Z2280; Z2281
Miscellaneous early locomotive drawings - C13, 1883-1913	Z2281
Locomotive wheel arrangements 1890-1920	Z2281
Locomotive tests, indicator diagrams	Z2281
Miscellaneous locomotive drawings 1893-1953	Z2281

### Other sources of information

- [Research Guide to Railway records](#)
- *Railway Department 1863–1991, Departmental guide* on Reading Room computers under *Finding Aids by QSA, Other* tile
- *Queensland Government Railway indexes to staff records, 1878-1946*. This index was created by the Caloundra Family History Research from S9996, *Staff registers (staff books)* and is available on Reading Room computers under *Finding Aids by Others*.

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