

SOMERSAULT

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SIGNALLING RECORD SOCIETY OF VICTORIA INC



This curious collection of apparatus at points at the Up end of Mittyack (Korong Vale - Kulwin) had me puzzled for a while. The points are secured for the main line by a Plunger Lock; the plunger of which is secured in by a Master Key Lock. The position of the plunger is detected by the McK&H electric detector on the end of the right hand point timber. The answer lies in the adjacent Calder Highway level crossing which was equipped with Flashing Lights on 1 November 1990. The equipment shown in the photo is the equivalent of a Master/Annett Key Exchange Apparatus (which can be found on this line at Teddywaddy and Wycheproof GEB Siding). Inserting the Master Key in the Master Key lock frees the plunger. Withdrawal of the plunger frees the points and also disables the normal control of the Flashing Lights by the track circuits. The locomotive of the shunting train can then operate as required without triggering the Flashing Lights; if necessary the Flashing Lights can be manually operated by a 5P keyswitch adjacent to the W5a lever.

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MINUTES OF MEETING HELD FRIDAY MAY 18, 2001,

AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS

Present: - J.Black, B.Cleak, G.Cleak, G.Cumming, C.Gordon, W.Johnston, K.Lambert, D.Langley, J.McLean, T.Murray, A.Ratcliffe, B.Sherry, P.Silva, A.Wheatland & R.Whitehead.

Apologies: - W.Brook, G.Candy, I.Chan, A.Hinde, G.O'Flynn & A.Waugh.

The President, Mr. David Langley, took the chair & opened the meeting @ 20:12 hours.

Minutes of the March 2001 Meeting: - Accepted as published. J.McLean / W.Johnston. Carried.

Business Arising: - Nil.

Correspondence: - The Annual Return for Incorporated Associations had been sent to the Department of Business Affairs.

A letter was received from member John Fitzgerald in Hamilton, New Zealand advising that he would not be renewing his membership after having retired & he was reducing the number of organisations he was a member of. A.Ratcliffe / P.Silva. Carried.

Reports: - Tours. Glenn Cumming asked for suggestions for future tours in view of the declining number of signal boxes available to visit. Discussion took place regarding the possibility of operating signal box tours on normal working days provided that suitable notice of the intention to do so is given to the members. Further investigation into these matters will take place.

General Business: - Badge / Logo for the SRSV. Following the request for feedback in the recent mailout, much discussion was devoted to this matter. The general feeling of the meeting was not in favour of a lapel badge that had been proposed in the recent mailout but the need for a logo for the SRSV was recognised. Suggestions for a logo for the SRSV will be called for.

Moved Bob Whitehead, seconded Alex Ratcliffe, that the SRSV does not proceed with producing a lapel badge. Carried.

The subject of name badges for the SRSV was then discussed however it was agreed that a logo was needed first before a name badge could be developed.

Museum. Following the request for feedback in the recent mailout, this matter was discussed in depth. Little response to the request had been received so far. The general feeling of the responses received so far was that the SRSV needs to consider the establishment of a railway signalling museum as a co-operative effort, not stand alone. The example of the effort in New South Wales at Hornsby was given. Mention was made of the efforts of the Castlemaine & Maldon Railway with Castlemaine "A" Box.

Issues that were discussed included would the museum be in a static environment or an operating environment eg. a tourist or preserved railway & would the museum be for the enthusiasts or for the general public. It was suggested that a static museum should have to house a collection to demonstrate the development & evolution of Victorian railway signalling. It was suggested that interactive displays were the minimum standard for present day museums. It was stated that a proposed museum should "aim high".

The physical location of a proposed museum was discussed. It was noted that the SRSV needs a plan for action to be ready for when an opportunity becomes available. The feasibility study of the "Newport" proposal is continuing. Questions were asked about other museums around the world & what do they have?

Hardware versus archival material was discussed. Mention was made of the display at the 25th Anniversary Dinner & the ability for the SRSV to mount displays at exhibitions. Private collections & individuals

versus group efforts were discussed. The leasing of property from either Victrack or private organisations was considered, as was the availability of suitable locations. The Treasurer warned against imposing costs on the members.

The suggestion of a need for a plan of action needs to be considered.

David Langley tabled an ARTC proposal for SG works between Melbourne - Sydney - Brisbane & an RIC heritage report on the railway signalling in the Illawarra.

Keith Lambert reported that the commissioning of the new crossovers at Franklin Street had been deferred until mid - June.

Circular SW.1019/2001 describing the power operation of the Lydiard Street gates at Ballarat was tabled.

Keith Lambert noted that the final report from the Glenbrook Inquiry had been released.

Alex Ratcliffe reported on developments at the Zig Zag Railway including the opening a signal box at Bottom Points.

Chris Gordon noted that LED signals & marker lights were on trial at various Connex locations including signal No.L665 between Nunawading - Mitcham.

Brett Cleak reported on work at the Monbulk Road level crossing at Puffing Billy.

Graeme Cleak advised that the East Malvern pit would be renewed next weekend involving a weekend occupation & plant trains.

Bill Johnston asked if anybody had seen a diagram of the new arrangements at Sydenham. The answer was no, but it was believed that the arrangements would be similar to St. Albans.

David Langley noted that the "A" light on the up repeater at St. Albans had recently been converted from style "R" to style "GEC".

Chris Gordon advised that Alstom had been contracted to do the signalling work between St. Albans - Sydenham & that the control equipment could possibly involve the use of VDU's.

Tom Murray mentioned the bracketed Down Distant Signals at Ararat & asked if there had been any other similar posts. The following locations were mentioned as having once had a similar signal: - Linton Junction, Moe, Eaglehawk, Carlsruhe, East Ballarat, Stawell "B" Box, Traralgon & Heathcote Junction.

Ararat was interesting because at one stage in its life, the post had an up distant alongside a down distant on the same post.

Meeting closed @ 21:43 hours.

The next meeting will be on Friday 20 July, 2001 at the Surrey Hills Neighbourhood Centre, 1 Bedford Street, Surrey Hills, commencing at 20:00 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 14/01 to WN 22/01. The alterations have been edited to conserve space.

Dates in parenthesis are the dates of publication, which may not be the date of the alteration.

05.03.2001 **Alterations to Rail Safety Management in Victoria** (SWD 2001)

Commencing 0001 hours Monday, 5.3., the responsibility for rail safety management vested in the Manager Rail Safety - Vic Track Access will be transferred to the four access providers: Freight Australia, Bayside Trains, Connex Trains, and the Australian Rail Track Corporation. The Victorian Rail Safety Committee will be established to co-ordinate all aspects relating to rail safety management within Victoria. The members of this committee will be the Rail Safety Managers of the access providers.

The 1994 Book of Rules and Operating Procedures will continue to be in force.

Each access provider will be responsible for:

- Management of the Book of Rules and Operating Procedures (including Addendas etc)
- 24x7 contact for advice and interpretation of the Book of Rules and Operating Procedures.
- Management of all SWP Safeworking Policy Documents
- Management of all Signalling Diagrams
- Management and issue of Safeworking Keys. V5PSW keys will be the responsibility of Freight Australia.
- Formal sign-off of all Safeworking Training course material
- Issue of Safeworking Certificates and maintenance of records
- Issue of the Weekly Operational Notice (published by Bayside Trains from WON 1/2001)
- Authority for the use of portable Train Radio equipment.
- Management of the Signal Sighting Committee.
- Signalbox reclassification.

01.04.2001 **Ballarat** (SW 1019/01)

On Sunday, 1.4., the interlocked gates at Lydiard Street were disconnected from Ballarat B signalbox and will be worked from the Ballarat panel.

Traffic lights were provided at the level crossing. The traffic lights are controlled by Lever 17 on the panel. A CCTV is provided to allow the Signaller to check that the crossing is clear before closing the gates. The gates and gatestops are operated by separate electric motors controlled by 'Open' and 'Close' push buttons on the panel. A 5P keyswitch labelled 'Local' and 'Remote' is provided on the panel.

When it is necessary to open the gates for the passage of a train the Signaller will reverse Control 17

which will place a call on the traffic lights. When the lights have been detected at red the rotating lights on the gate posts, the warning bells will commence to operate, the gate stops will lift above the road surface, and the 'Close' button on the panel will illuminate. After viewing the CCTV to check that the crossing is clear the gates can be closed by pressing and holding the 'Close' button. When the gates are fully closed and the gate stops detected up the 'Close' indicator on the panel will illuminate and the required signal may be cleared.

To close the gates across the railway the Signaller must restore Control 17 to normal (once all signals over the crossing are detected normal). This will lower the gate stops and the 'Open' button on the button will illuminate. The gates will be opened by pressing and holding the 'Open' button (releasing the button will stop the gate movement).

The Signaller must continuously observe the crossing on the CCTV during operation of the gates.

If the traffic lights go to a flashing yellow indication when Control 17 is reversed the Signaller must arrange for a competent employee to attend the crossing and advise the Signaller when road traffic has come to a stand. The gates may then be closed from the panel but must remain closed until the fault is rectified.

If the electric motors, CCTV, or traffic lights fail, the gates can be operated manually by a technician from a cabinet located near the Down end of Ballarat B Box. The Signaller will operate the keyswitch to the 'local' position which will force the traffic lights to flashing yellow and disable the electric motors. A competent employee will direct traffic. The gates will remain closed to road traffic until the fault is fixed.

If signal maintenance staff cannot promptly attend, the Signaller can operate the gates manually. The Signaller must place the keyswitch on the panel to 'local'. The Signaller will then disconnect the gates from the electric motor and swing them by hand. The gates are to be secured by a chain.

If the failure is of longer duration, the gates and gatestops can be reconnected to the frame in Ballarat B Box. Prior to the Signaller proceeding to Ballarat B to operate the gates the Signaller must reverse Control 17 to place the traffic lights at Stop. After the gates have been closed across the road the required signal may be cleared. After the passage of the train and the gates opened, Control 17 is to be restored to clear the traffic lights.

06.04.2001 **Diamond Creek** (SW 505/01, WN 14/01)

On Friday, 6.4., the Down Home was converted to a LED signal.

07.04.2001 **Broadford - Tallarook** (SW 1023/01, WN 14/01)

On Saturday, 7.4., Boom Barriers were provided at Dockerys Road (85.433 km) and Sharps and Taylors Road (87.397 km). The Boom Barriers are controlled by a HXP Level Crossing Predictor and operate automatically for all Broad Gauge and Standard Gauge moves.

08.04.2001 **Tallarook - Seymour** (SW 1024/01, WN 14/01)

On Sunday, 8.4., Boom Barriers were provided at Schoolhouse Lane (94.433 km). The Boom Barriers are controlled by a HXP Level Crossing Predictor and operate automatically for all Broad Gauge and Standard Gauge moves. Diagrams 04/01 (Beyond Somerton Loop to Seymour Loop) and 06/01 (Seymour) replaced 32/99 and 26/07.

11.04.2001 **Westall** (WN 14/01)

On Wednesday, 11.04., pedestrian gates were commissioned at Westall Road.

(07.05.2001) **Spencer Street No 1** (TS 45/01, WN 17/01)

The provision of facing point locks on Points 86 and 132 and the conversion of Dwarfs SST 517, 153, and 155 to Home signals allows an Up passenger train to be routed along the Down Main Country Line. However, Dwarf 532 has not yet been converted to a Home signal. It is not normal practice to route passenger trains on the main line from a Dwarf signal, nor route Up passenger trains along the Down Main Country line. However, in the case of a point failure or an emergency it is allowed to route an Up passenger train along the Down Main Country line.

(07.05.2001) **Carrum** (SW 5/01, WN 17/01)

When an Up train arrives at Home 18 while it is at Stop while Carrum is switched in the Driver must immediately contact the Signaller via the post phone. If the points are correctly detected for the movement the Signaller must sleeve the point levers and complete a Signaller's Caution Order (2377) and dictate it to the Driver. The Driver must take down the details and repeat them back. If the points are defective, the Signaller must arrange for them to be secured prior to verbally issuing a Caution Order.

Amend Procedure 45A, Section 34, Book of Rules.

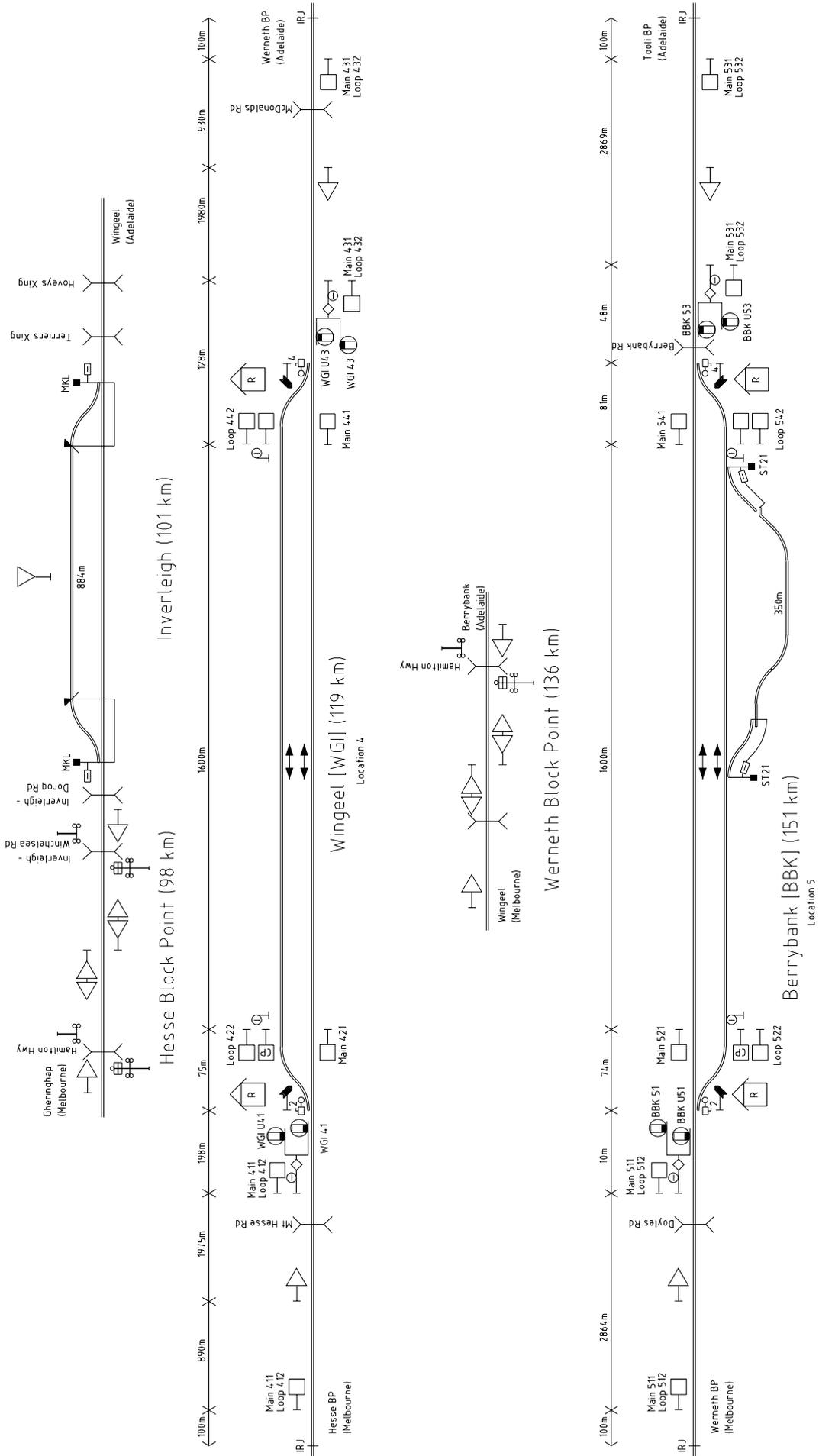
21.05.2001 **Train Order Territory - Unattended Terminal Stations** (SW 1031/01, WN 19/01)

The following locations are classified as Unattended Terminal Stations: Yaapect, Hopetoun, Yelta, Kulwin, Robinvale, Piangil, Moulamein, Deniliquin, Tocumwal, Dookie, and Oaklands.

Normally, only one train is scheduled to work at an Unattended Terminal Station and a Signaller is not in attendance. When it is necessary two trains to work at an Unattended Terminal Station at the same time, the Train Controller must inform the Driver of the second train that another train is operating at the station. When passing the location board the Driver of the second train must contact the Driver of the first train and come to an understanding of the movements which are to be performed. Both train crews must have a clear understanding of the movements which are to be made at the station whilst both trains are in operation.

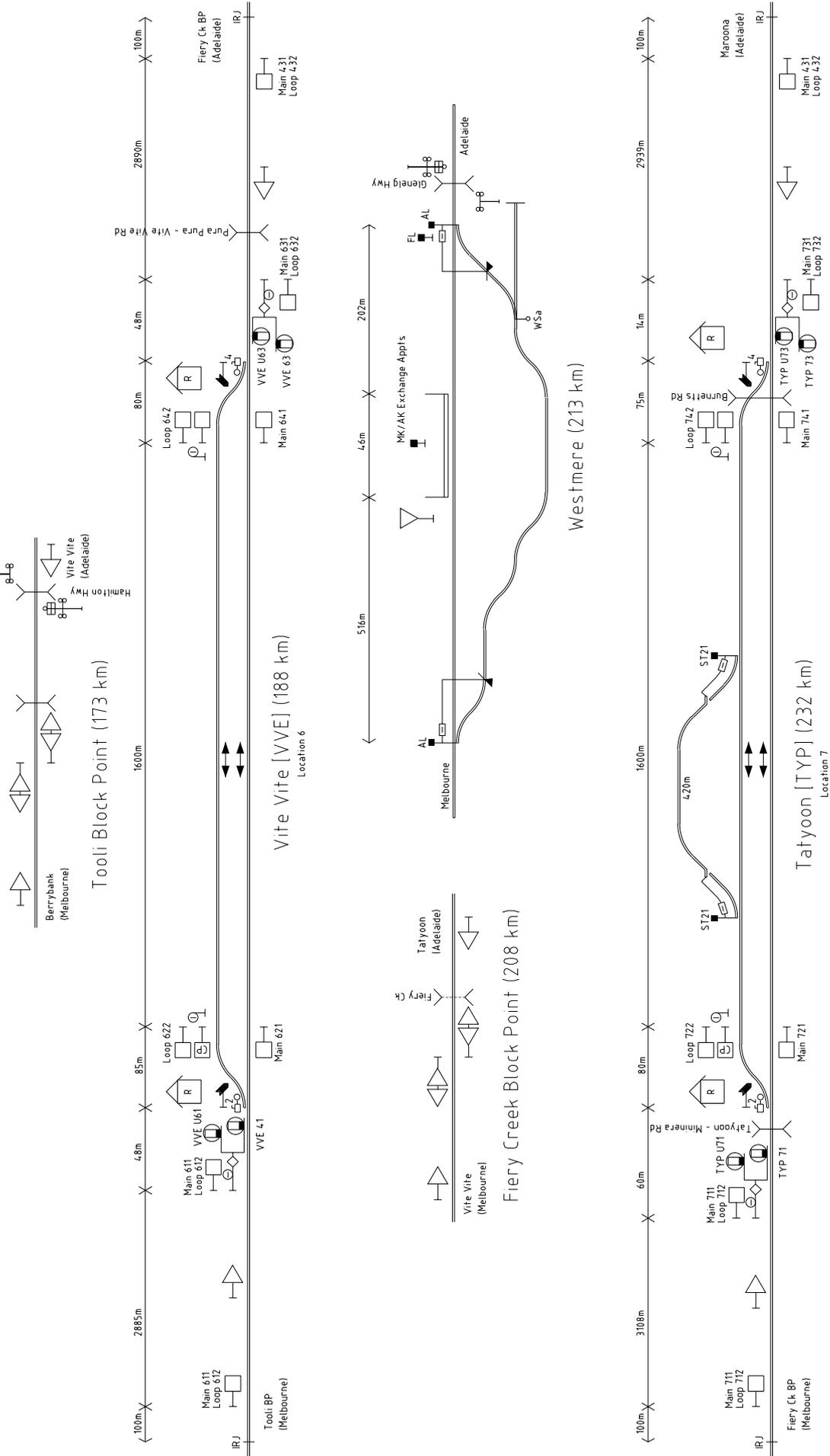
Gheringhap - Maroona

Based on Signaling Diagram 2/2000 with Block Point details added assuming Block Point is exactly at mileage quoted with location boards 2 km from Block Point.



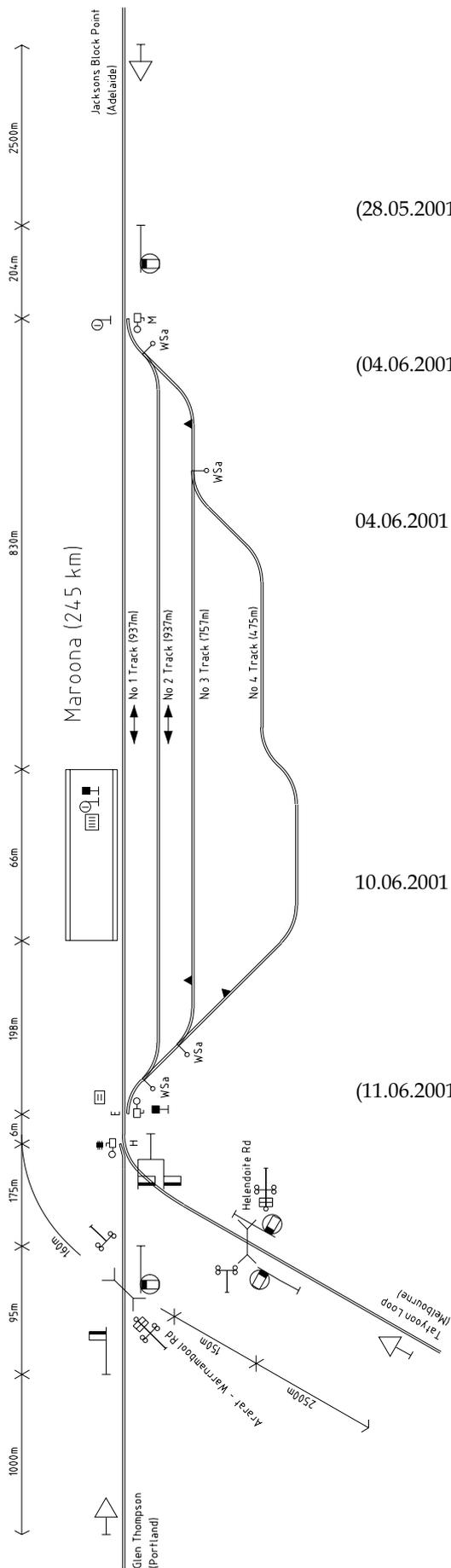
Gheringhap - Maroona

Based on Signaling Diagram 4/2000 with Block Point details added assuming Block Point is exactly at mileage quoted with location boards 2 km from Block Point.



Gheringhap - Maroona

Based on Signalling Diagram 6/2000 with Block Point details added assuming Block Point is exactly at mileage quoted with location boards 2 km from Block Point.



- 27.05.2001 **Werribee - Lara** (SW 1039/01, WN 20/01)
On Sunday, 27.05., Boom Barriers were provided at West's Road (39.469 km). The Boom Barriers are controlled by a HXP Level Crossing Predictor on the Standard Gauge Line and standard Track Circuits on the East and West Broad Gauge lines. The boom barriers will operate automatically for all moves.
Diagram 07/01 (Paisley - Werribee) replaced 15/95. This also shows the removal of the BP sidings and provision of signals G966 and GG966.
- (28.05.2001) **Kensington - Essendon** (SW 7/01, WN 20)
Diagram 15/00 (Kensington - Essendon) replaced 27/99. The diagram shows the replacement of the upper quadrant semaphore arms by light units, and the provision of co-acting signals 4P (for Home 4 at Kensington) and 48P (for Home 48 at Newmarket).
- (04.06.2001) **Inverleigh - Maroona** (WN 21/01)
Diagrams 2/2000 (Inverleigh - Berrybank), 4/2000 (Vite Vite - Tatyoon) and 6/2000 (Maroona) were issued. The diagrams show Inverleigh, Wingeel, Berrybank, Vite Vite, Westmere, Tatyoon, and Maroona. They do not show the Block Posts.
- 04.06.2001 **Sydenham** (SW 8/01, WN 20/01)
From 0400 hours, Monday, 4.6., the Down line was slewed to a new alignment on the Down side of the old line from south of the Down Distant to Melton Hwy. A temporary Down platform was provided on the new line. A set of pedestrian gates were provided for the Down line at Melton Hwy, in addition to the set of gates for the Up line. Posts 2 (Down Home) and 3 (Down Starting) were relocated to the left hand side of the new alignment. Post 1 (Down Distant) was not relocated and is now on the right hand side of the line. All existing track circuits were relocated to the new alignment except No 8T which was abolished.
- 10.06.2001 **Werribee - Lara** (SW 1038/2001, WN 22/01)
On Sunday, 10.6., Boom Barriers were provided at Plains Road (53.842km). The Boom Barriers work automatically for Broad and Standard Gauge movements and are controlled by track circuits on the East and West Broad Gauge lines and by HXP Level Crossing Predictors for the Standard Gauge line.
- (11.06.2001) **Carrum** (TS 67/2001, WN 22/01)
Home 18 was converted to LED lighting.

Continued on Page 72

KORONG VALE - KULWIN

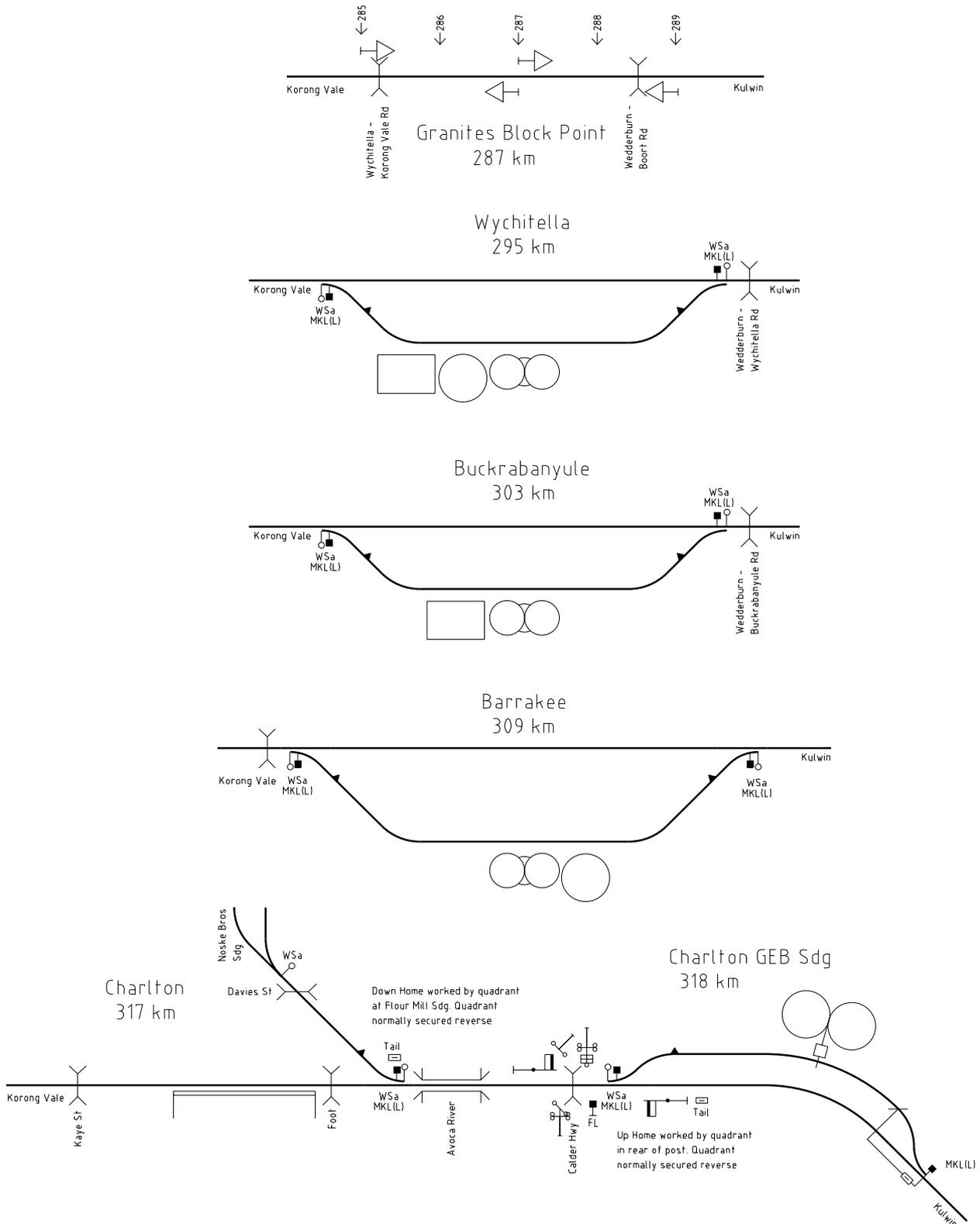
The following diagrams were produced after a inspection of this line in May (except Kulwin which was inspected in April 1999 and Granites Block Point which has not been inspected at all).

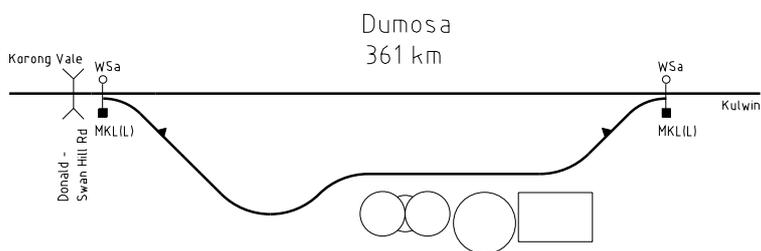
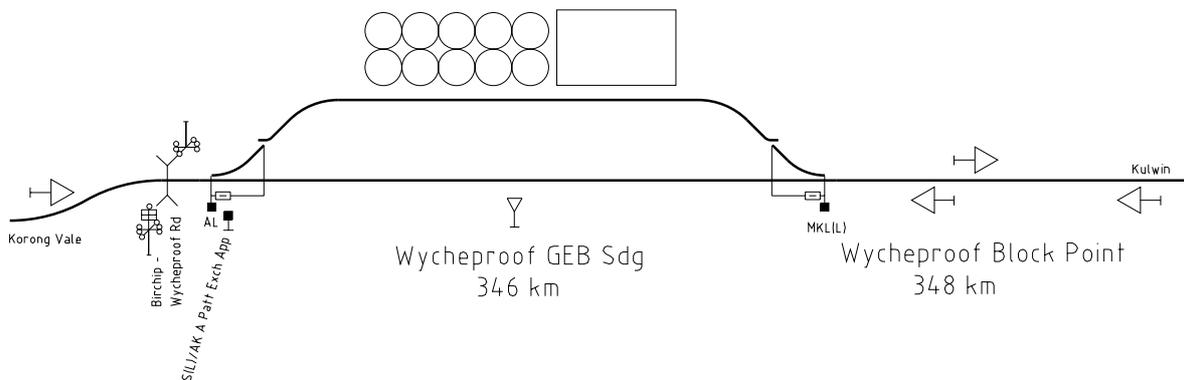
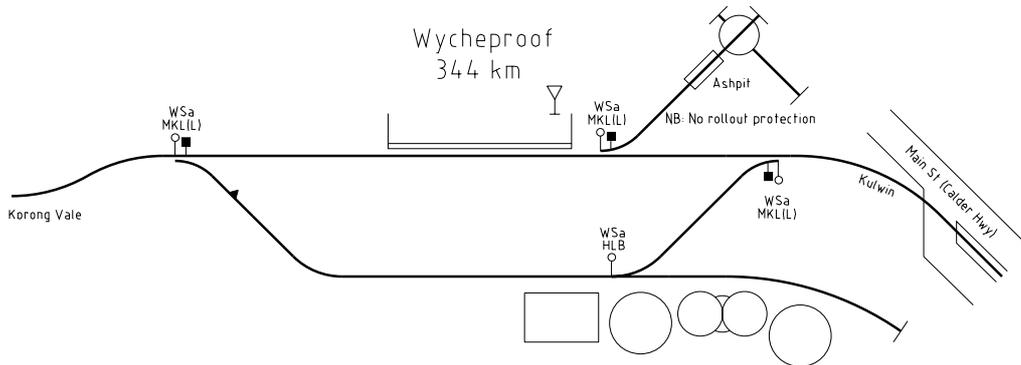
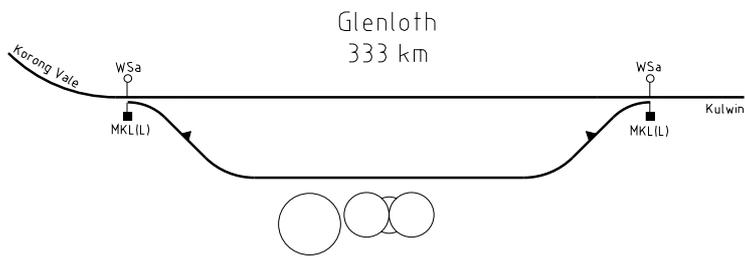
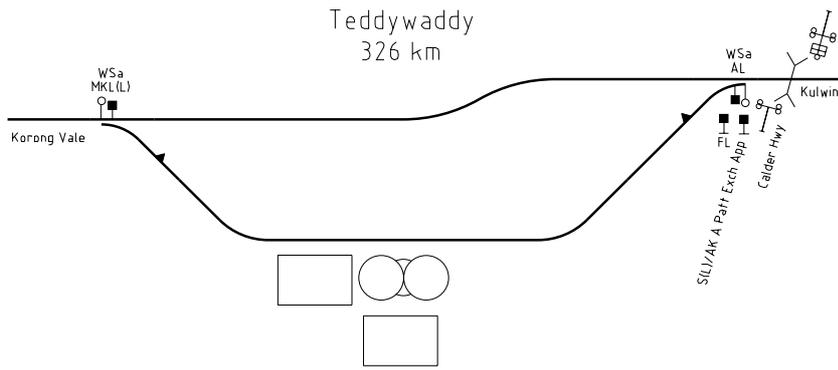
The line is worked by Train Orders with the sections Korong Vale - Granites Block Point - Wycheproof Block Point - Sea Lake Block Point - Kulwin. There are no crossing facilities on the line.

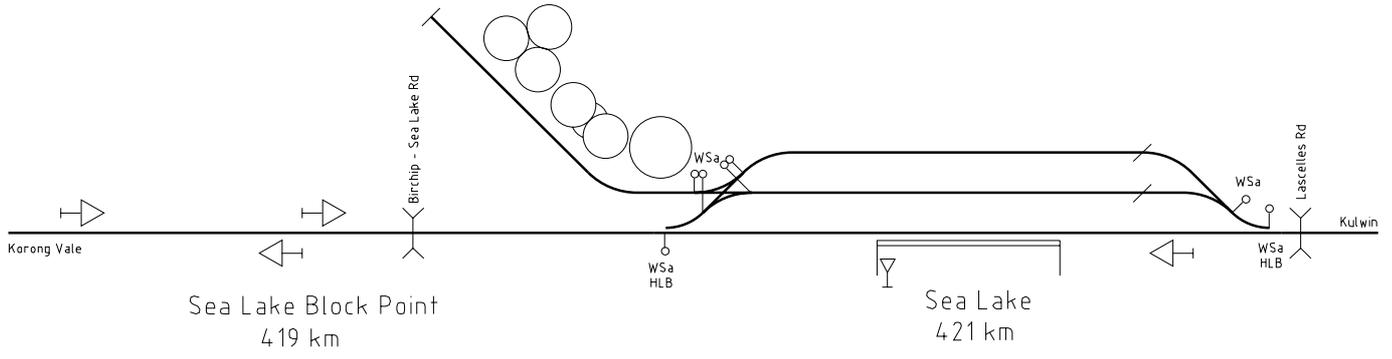
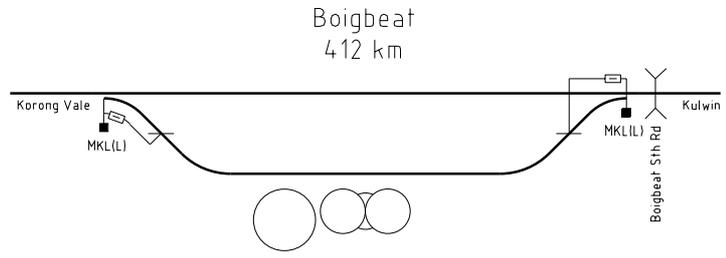
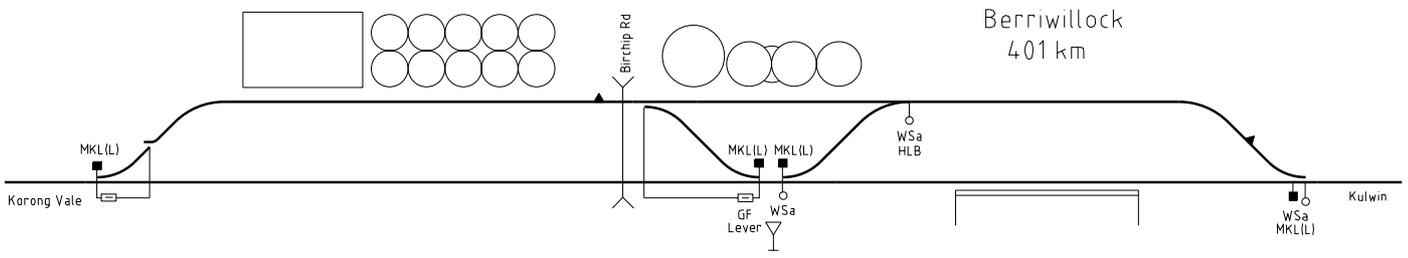
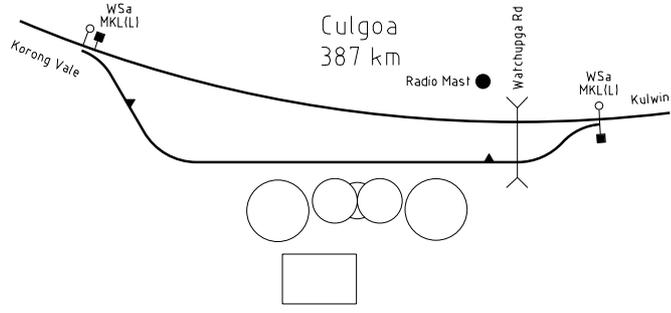
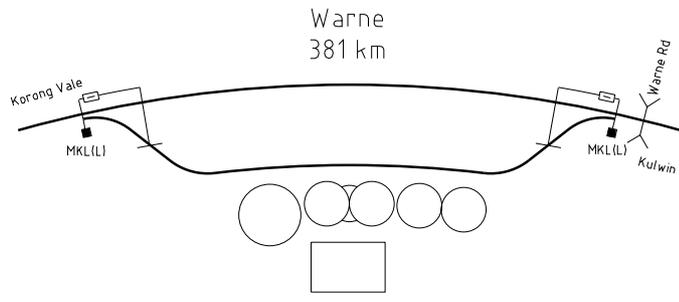
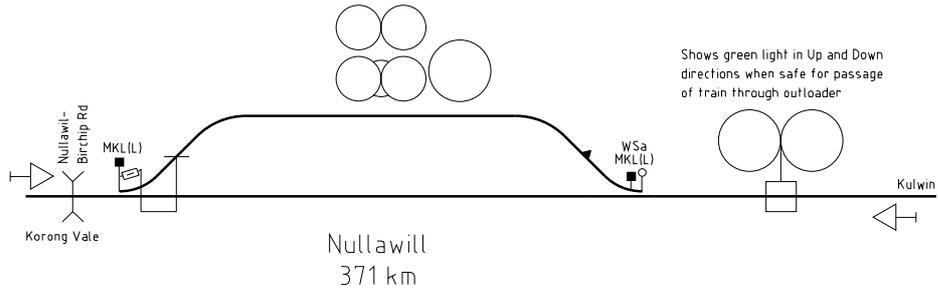
The lack of signals is to be noted -- only two signals exist on the line, both at Charlton to prevent undue operation of the flashing lights at the Calder Highway. Indeed, the only

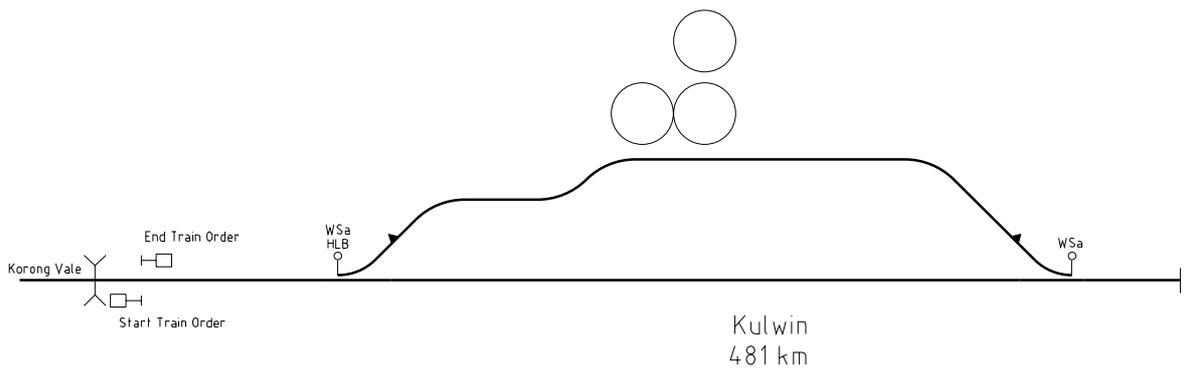
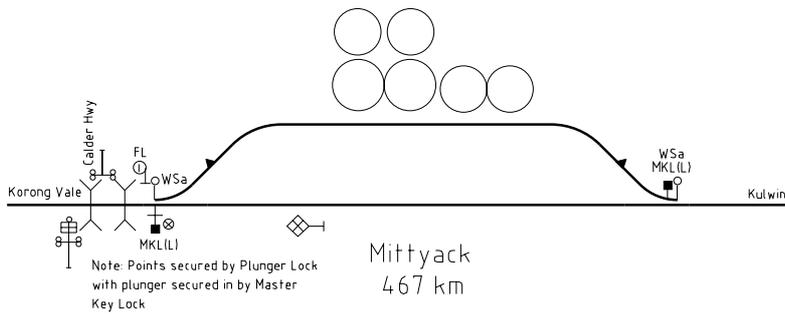
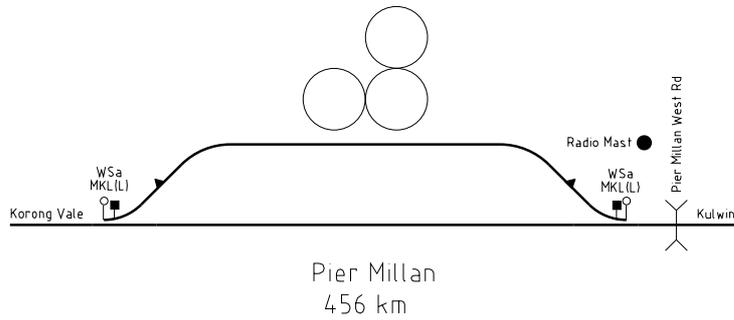
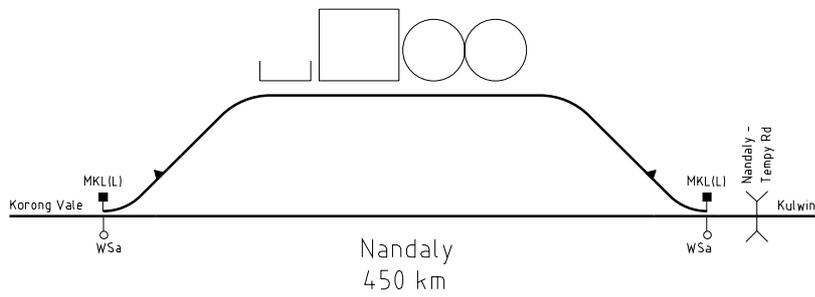
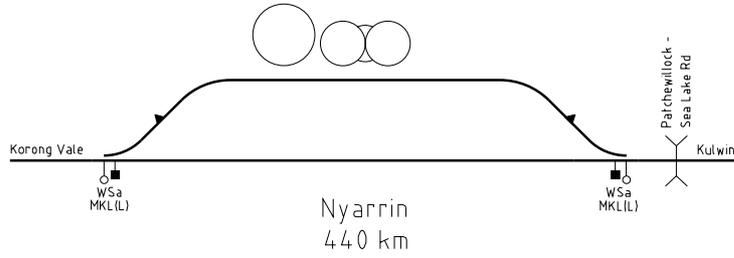
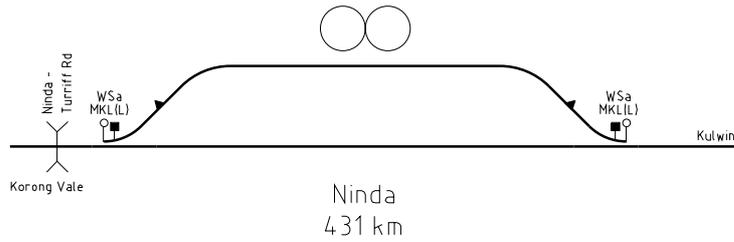
signalling complexity on the line is associated with flashing light installations. Apart from the signals at Charlton, there are Large Master/Annett Key Exchanges at Teddywaddy and Wycheproof GEB Siding and a curious arrangement at Mittyack that serves the same purpose (see the front cover).

Another curiosity is the lack of standard signage; Location Boards and Intermediate Siding Nameboards are conspicuous by their absence except where noted. Perhaps this is due to the almost universal provision of Master Key locks on the main line points.









BLOCK RULES 4 AND 6 IN VICTORIA

An article with this name appeared in Somersault Vol 19 No 4, but really only covered the development of Block Rule 4 on Double Lines, that is the normal acceptance conditions. This article is a very belated second part that will cover how the railways bent the rules to allow trains to be accepted in circumstances where there was a restricted clearance point.

Section Clear but Station or Junction Blocked

Under the 1885 Block Rules a train could be accepted whenever the line was clear to the Home signal (unless it was foggy or during falling snow). Complicated acceptance conditions were consequently unnecessary. Regulation 171 of the 1898 Rulebook, however, prevented a signaller from accepting a train on a double line unless the preceding train had passed the Home signal and was proceeding on its journey past the Starting (or Advanced Starting, where provided) signal. The effect of this Regulation was almost entirely nullified, however, by instructions in the matching 1898 General Appendix which introduced the "Section Clear, but Station or Junction Blocked" working to Victoria (referred to in this article as the "Warning" arrangement). Under the Warning arrangement the Signaller could accept a train when the line was only clear to the Home signal, but the Driver of the train would normally be warned about the restricted overlap at the preceding block station.

The instructions for using the "Section Clear, but Station or Junction Blocked" signal remained largely unchanged over time. This suggests that the instructions were largely copied from contemporary British practice.

The 1898 General Appendix started by stating that "when the line is clear to the Home, Junction, or Directing Signal, and it is necessary for a train to be allowed to approach cautiously in consequence of an obstruction existing ahead of the said Home signal, or from any other cause" trains could be accepted under the "Section Clear, but Station or Junction Blocked" signal. To do this the Signaller in advance, when offered a train he could not accept under the normal rules, placed the switch handle to "On" and sent the "Section Clear, but Station or Junction Blocked" signal (1 pause 5). The Signaller in the rear acknowledged the signal by pressing in the black button and repeating the signal.

The Signaller in the rear would then normally warn the Driver of the approaching train of the restricted acceptance conditions. The Signaller would bring the train to a stand at the Home signal and would verbally instruct the Driver that the "section is clear, but the station or junction is blocked" while exhibiting a green hand signal. Where the Home signal was too far from the signalbox for the Signaller to pass on the verbal message, the Signaller would bring the train to a stand at the Home signal. The train would then be called down to the signalbox by clearing the Home signal and exhibiting a red hand signal from the box. The verbal message would then be passed on. If the train, however, had already passed the signalbox and was waiting line at the Starting or Advanced Starting signal when it was accepted under the Warning arrangement by the box in advance, the Driver could not be warned. The Driver was instructed by the General Appendix that where the train had to wait line at the Starting or Advanced Starting signal, that when the signal was cleared he was to assume that the train had only been accepted under the Warning arrangement.

To take advantage of the Warning arrangement, the Signaller in advance was authorised to give the "Arrival" signal when a train arrived complete inside the Home signal.

The Warning arrangement could be used at all double

line block posts except where specially prohibited, during foggy weather (or when the signals could not be clearly seen), or for "Express or fast trains not timed to stop". It is worth noting that Warning arrangement was not used on single line block sections; on these the clearance point remained the Home signal.

Only 23 signalboxes were prohibited from using the Warning arrangement in the 1898 General Appendix and, then, usually only in one direction. An inspection of Table 1 shows that the Warning arrangement was mainly prohibited where the signalbox was approached by a steep falling grade. The list of signalboxes remained fairly constant for the next 10 years. Leigh Road (Bannockburn), Wallan, and Wandong were all permitted to use the Warning arrangement some time during this period, but Footscray B, Seddon, Hawthorn, Camberwell, Prahan and Windsor were all prohibited from using it.

Table 1: Locations Prohibited from using the "Section Clear but Station or Junction Blocked" signal 1898-1908

Location (Direction)	General Appendices listed
Footscray A (1)	1898, 1902, 1908
Footscray B (4)	1902, 1908
Seddon (U)	1908
Williamstown (D)	1898, 1902, 1908
Lethbridge (U)	1898, 1902, 1908
Leigh Road (U)	1898, 1902
Ballarat East (U)	1898, 1902, 1908
Sunbury (U)	1898, 1902, 1908
Riddell's Creek (U)	1898, 1902, 1908
Macedon (U)	1898, 1902, 1908
Castlemaine A (2)	1898, 1902, 1908
Harcourt (U)	1898, 1902, 1908
Kangaroo Flat (D)	1898, 1902, 1908
Newmarket (U)	1898, 1902, 1908
Ascot Vale (U)	1898, 1902, 1908
Somerton (U)	1898, 1902
Wallan (U)	1898
Wandong (D)	1898, 1908
Mathieson's Sdg	1908
Kilmore East (D)	1898, 1902, 1908
Goulburn Junct (D)	1898, 1902, 1908
Royal Park (U)	1898, 1902, 1908
Hawthorn (U)	1902, 1908
Camberwell (U)	1902, 1908
Canterbury	1898, 1902, 1908
Surrey Hills (U)	1898, 1902, 1908
Hawksburn (U)	1898, 1902, 1908
South Yarra (3)	1898, 1902, 1908
Prahan (U)	1902, 1908
Windsor	1902, 1908

Notes:-

- (1) Up trains from the Bendigo line only until 1902, both lines in 1908
- (2) Down trains only unless the line was clear to Post 14
- (3) Up trains from Caulfield only
- (4) For Down trains, and for Up Goods trains

The 1907 Rulebook was largely based upon the British 1904 Railways Clearinghouse Standard Rulebook; indeed most of the text was identical. The instructions for the use of the "Section Clear but Station or Junction Blocked" signal were consequently moved from the General Appendix into the Rulebook itself to become Rule 6 of Appendix IV and were subtitled the "Warning Arrangement". The instructions themselves, however, were largely unchanged by this relocation.

The new rulebook contained two extensions to the use of the Warning arrangement. The first was that trains approaching a section of temporary single line working (Regu-

lation 250) were to be accepted under the Warning arrangement (this applied on all sections, even where use of Rule 6 was normally prohibited). The other extension was that Goods trains or Ballast Trains requiring to stop or shunt in the section were to be accepted under Rule 6 (unless the use of this rule was prohibited). The new rulebook maintained the general use of Warning arrangement, indeed Rule 6 began with "Except where instructions are issued to the contrary - see General Appendix to the Book of Rules and Regulations and to the Working Time-table - this signal may be used in accordance with these Rules, and as provided in Regulation 250." The 1908 General Appendix included the usual list of locations where the use of Rule 6 was prohibited.

However, all this was to change as a result of the Sunshine accident on 20 April 1908. One of the causes of this accident was the Signaller at Sunshine accepted a train from the Bendigo line under full Line Clear, but then let a train from the Ballarat line train into the station, infringing the overlap. Although the Coroner eventually blamed the Drivers of the Bendigo train, the VR quietly issued A1623/09 to come into effect from 1 June 1909. I have not seen the full text of this circular, but the 1913 General Appendix probably gives an accurate summary. The wording at the start of Rule 6 was changed to "This Signal must only be used as provided in Regulation 250, and where it is specially authorised by the General Superintendent of Transportation." This effectively prohibited the use of the Warning arrangement except at the specified stations listed in the General Appendix. These stations, and the conditions under which

Rule 6 was authorised, are listed in Table 2. One interesting point was that the Warning arrangement continued to be authorised for use at Sunshine until 1915.

The use of the Warning arrangement during single line working (Regulation 250) continued unaltered. The 1913 General Appendix noted that "all trains" did not include Express or Fast trains not timed to stop, but that "Goods trains" did include Light engines.

As a rule it appears that locations where the Warning arrangement were authorised were where trains would regularly occupy all or part of the 440 yards beyond the Home signal. At the end of double lines, such as Williamstown, North Geelong B, and Bannockburn the junction points were often within 440 yards of the Home signal. At other locations, such as Sunshine, Essendon, and Broadmeadows, the line was often occupied by terminating trains. In all cases, however, the Warning Arrangement was only authorised where trains would get a clear sight of the signals and, often, the line was on a rising gradient to ensure that the approaching train could easily come to a stand.

The number of places the Warning arrangement was authorised fell rapidly during the First World War. In 1909 there were 18 signalboxes where its use was authorised. The had fallen to 16 by the issue of the 1913 GA, to 9 by 1919, to 6 by 1928, and to 2 by 1936. In a number of places the use of the Warning arrangement was replaced by special instructions: usually modifications to the conditions under which trains could be accepted under Rule 4, and by designating signalboxes as Block Terminals. At most of the other locations, the use of the Warning arrangement was prohibited

Table 2: Locations where the "Section Clear but Station or Junction Blocked" was authorised, the conditions, and period

Location	Condition	Period
Williamstown	Down trains provided line is clear to Post 77	1909 to (23.10.1928) when Rule 4 modified
North Geelong B	All Up trains	1909 to (03.05.1915) when Rule 4 modified
Bannockburn	Up Goods provided the line inside the Home is not occupied by a passenger train and Line Clear has not been given to Gheringhap for a passenger train	1909 to 07.06.1934 when line singled
Lethbridge	All Down trains	1909 to (17.01.1922)
Meredith	Up Goods provided the line inside the Home is not occupied by a passenger train	1909 to 23.08.1934 when line singled
	Down Goods provided the line inside the Home is not occupied by a passenger train	1909 to (17.01.1922) & b1928 to (28.07.1929)
Lal Lal	Up Goods provided the line inside the Home is not occupied by a passenger train	1909 to 06.12.1934 when line singled
	Down Goods provided the line inside the Home is not occupied by a passenger train	1909 to 27.09.1934 when line singled
Warrenheip	Up trains	1909 to (17.01.1922) when became Block Terminal
	Down trains	1909 to (08.12.1925)?
Sunshine	All trains	1909 to (10.02.1915)
Castlemaine	Down light engines only; A box only in 1919	1909 to after 1913
Castlemaine A	Light engines only	b 1919 to (15.04.1924)
	Light engines & Bonas	(15.04.1924) to (08.12.1925)?
Essendon	All Down trains	1909 to (22.12.1913) when Rule 4 modified
Broadmeadows	All Down trains	1909 to (17.01.1922)
Craigieburn	All Down trains	1909 to (12.10.1914)
Wallan	All Down trains	1909 to (06.11.1916)
Clifton Hill B	All Up trains	1909 to (25.05.1914)
Northcote	?	1909 to 01.12.1910 account duplication to Reservoir
Brighton Beach	Up trains?	1909 to (23.08.1909) when became Block Terminal
Ferrars St Signal Box	All Down trains?	1909 to (30.06.1913)
Graham	All Down trains	1909 to (25.05.1914) account opening of Bridge Street
Clifton Hill A	All Down trains	By 1913 to (08.06.1914)
Malmsbury	Down light engines only	(13.08.1917)? to (08.12.1925)?
Broadmeadows	Up Goods shunting at Somerton	(21.06.1920) to (24.03.1925) when Rule 4 modified
Carrum	Up train requiring to shunt Crystal Sand Sdg	(09.09.1924) to (06.11.1934)? when siding abolished
Tallarook	Down Goods requiring to shunt McDougall	(13.7.1926) to (16.07.1940)
Linton Junction	Down trains requiring to shunt White's Sdg	07.01.1930 to 26.01.1983 siding included in station

NOTES: Dates in parenthesis are the date of the Weekly Notice; 'a' indicates 'after'; 'b' indicates 'before'; a question mark indicates when the change probably occurred.

when it was no longer necessary. This might occur where a single line was duplicated (North Geelong B and Northcote), or where the line was singled (Bannockburn, Lethbridge, Meredith, and Lal Lal). At other locations the block sections were rearranged (Ferrars Street and Graham).

Between 1909 and 1925 the Warning arrangement was only authorised at three new locations: Malmsbury (1917?); Broadmeadows (1920); and Carrum (1924). With the exception of Malmsbury, these were all in conjunction with Block Rule 10. This required Goods trains requiring to stop to shunt in the section to be accepted under the Warning arrangement (where acceptance under this rule was authorised). Broadmeadows had an extremely short period of authorisation, being replaced by a modification of Rule 4 in 1925. The date the warning arrangement was prohibited at Carrum is not recorded. WN 8/25 (which relisted the locations Rule 6 was authorised) does not list Carrum, but this may have been an oversight. The siding was abolished in 1934.

WN 8/25, issued 8 December 1925, reissued the locations and conditions under which trains could be accepted under the Warning arrangement. From this date light engines, light engines and brakevans, and rail motor inspection cars could be accepted under Block Terminal conditions at all block posts in clear weather. Accepting light engines under the Warning Arrangement was consequently redundant. The sentence 'The words "Goods Trains" include Light Engines' was deleted from the instructions and the only two locations where only light engines could be accepted under the Warning Arrangement (Malmsbury and Castlemaine A) were deleted. With the issue of this list the only remaining locations authorised to use the Warning arrangement were on the Geelong to Ballarat line (Bannockburn, Meredith, and Lal Lal), and Williamstown.

The use of the Warning arrangement was subsequently authorised at Tallarook (1926); and Linton Junction (1930), again in conjunction with shunting a siding in the section. Curiously, both sidings had been in use for many years.

The last significant use of the Warning arrangement was at some of the block posts on the Geelong - Ballarat line (the Warning arrangement was not authorised at all block posts on this line: Elaine for example). This use ended with the singling of this line in 1934. This marked the end of the last location in Victoria where a passenger train could be accepted under the Warning arrangement under normal working.

The last locations authorised to use the Warning arrangements were Tallarook and Linton Junction, both for shunting an intermediate siding. Permission at Tallarook was withdrawn in 1940, but that at Linton Junction lasted until 1983 and was only withdrawn when the siding was made part of the North Ballarat Junction station.

It is worth mentioning Lock and Block working. In the 1898 General Appendix the use of the "Section Clear, but Station or Junction Blocked" signal was clearly envisaged as normal practice, and this was maintained in the 1902 General Appendix. During this period the Warning arrangement was prohibited at Prahara (Up) and Windsor, no doubt because of the poor visibility of approaching trains (and, perhaps, lingering memories of the Windsor accident). The 1907 Rulebook, however, reversed this and stated that "This signal [Section Clear but Station or Junction Blocked] must only be used as provided in Rule 11 of these Instructions, Regulation 250, and where it is specially authorised by the General Superintendent of Transportation". Rule 11 concerned accepting repairers trolleys going through tunnels (these had to be signalled as trains and accepted under Rule 6). This rule would have been relevant for the tunnels between Jolimont and West Richmond. The 1908 General Ap-

pendix listed only one location where the Warning arrangement could be used under Lock and Block: Clifton Hill A.

Modifications to Rule 4

An alternative to the use of the Warning arrangement was to provide a special instruction that altered the conditions under which a train could be accepted under Rule 4. The instruction usually provided that a following train could be accepted if the line was clear to a certain point. This point was usually well short of the standard 440 yards and was chosen so that it would usually be clear.

The usual form of the special condition was longwinded; take this typical example for Coburg in 1913:

At Coburg, the Is Line Clear? signal, in accordance with Rule 3, may be accepted for Down trains, provided the Line be clear in No 1 or No 2 Road as far as Post No 45, and the Points set for the Clear Road. After permission has been given for a train to approach in accordance with Rule 3, no obstruction of the Line on which such train requires to be run must be allowed, nor the Points be altered, until the train has been brought to a stand at the Home Signal (Post No 42) or has arrived in the Station Yard, or the Cancelling signal has been received from the Signal-box in the rear.

Post 45 was the Down Home protecting the end of the single line and it was only 363 yards from the Down Home signal (Post 42). This special instruction allowed Down trains to be accepted from Moreland while still allowing trains to enter or leave the single line beyond Post 45, which otherwise would not be allowed.

The use of a shortened clearance point was an advantage to the Signalmen as there was no special working involved. The Drivers, however, had to understand that there was a shortened clearance point at the station in advance and drive the train accordingly. The list of altered clearance points was listed in the General Appendix and Drivers were expected to be familiar with them.

Table 3 lists the locations where special clearance points were authorised, the special clearance point, the actual distance (where known) and the date the special instruction was authorised.

Prior to 1909 there does not appear to be any locations where a train could be accepted under Rule 4 (full line clear) with a restricted overlap. The first such locations appear to have been Oakleigh B (Up trains) and Port Melbourne (Down trains) which were authorised in October 1909. It is probably not a co-incidence that this was only a few months after the general prohibition of the Warning arrangement.

Additions to the list were only made slowly. By 1913 there were only six locations with restricted overlaps (Mordialloc and Coburg were added in 1911, but it is not known when Ballarat B and Flinders Street D were added). There were seven in 1919 (North Geelong B was added in 1915). The number continued to grow slowly over the succeeding years; one curiosity was that once a special acceptance condition was authorised it was almost never withdrawn until block working was abolished; usually due to the introduction of three position signalling.

Block Terminals

The alternative to altering the length of the overlap was to abuse the 'Block Terminal' rule. This first appeared in the 1898 Rulebook where it formed part of Regulation 171:

At Terminal Stations [...] the Line must be considered clear, and the Signal "Line Clear" given immediately the last vehicle (with White Disc or Red Tail

Light attached) has passed the Home Signal Post.

This text was repeated, with minor variations in punctuation, as Clause d of Block Rule 4 in the 1907, 1919, 1966, and 1987 Rulebooks. The rule still exists, with minor rewording, in the current Rulebook.

It appears that the rule was intended to apply at stations where trains terminated as the 1898 GA stated

The undermentioned are the only Stations on Double Lines to be treated as Terminals [...] Except where specially prohibited the "Section Clear but Station or Junction Blocked" order may [...] be applied at all other stations on Double Lines where trains terminate.

The stations listed in the 1898 GA included the major terminals (Flinders Street, Spencer Street, Geelong, Ballarat, Bendigo, and Seymour) and many, but not all, of the suburban stations where the double line terminated (St Kilda, Port Melbourne, Sandringham, Mordialloc, Dandenong, and Ringwood). The most interesting station was Brighton (Beach) which was the only 'non terminal' station authorised to use Block Terminal conditions.

The block terminal instruction and the list of stations

was unchanged in the 1902 GA. But by the issue of the 1908 GA the instruction governing terminal stations had become less restrictive:

In addition to Terminal dead-end Stations, the Stations specified below are to be treated as Terminal Stations.

The actual list of block posts was essentially unaltered except that Camberwell had joined Brighton Beach as a non-terminal station worked under Block Terminal conditions. In addition, St Kilda, Port Melbourne and Sandringham had been deleted from the list, as, being terminal dead end stations they were now covered by the instruction itself.

In 1910 Block Terminal working was authorised at Glenferrie and Auburn, but not by that name. Instead a special block condition was added to the General Appendix:

At Glenferrie and Auburn the "Is Line Clear" signal for Down trains may, in Clear Weather, be accepted in accordance with No 3 of the Block Rules provided the Down line at each place be clear to the Down Home Signal.

By the issue of the 1913 GA, however, both Glenferrie

Table 3: Locations where special clearance points were authorised

Location	Authorised	Condition	Distance
Flinders Street D	b1913	Up trains may be accepted if the line is clear to Post 97 or to the buffer stops in No 15 Road, or No 16 Road is clear	?
Footscray B	31.5.20	Up trains may be accepted if the line is clear to Post 16	?
Newport A	10.5.21	Up trains may be accepted if the line is clear to Post 35 replaced by Block Terminal conditions in (27.4.26)	~400 yards
North Williamstown	(22.2.27)	Down trains may be accepted if the line is clear to Post 36	305 yards
	(22.1.29)	Down trains may be accepted if the line is clear to Up end of Down platform	299 yards
Williamstown	(23.10.28)	Down trains may be accepted if No 1 or 2 Roads are clear to Post 77	260 yards
North Geelong A	b1936	Up trains may be accepted if the line is clear to Post 8	~370 yards
North Geelong B	(3.5.15)	In clear weather only, Up trains may be accepted if No 2 Road and Siding B are clear to Post 8)	414 yards
Ballarat B	b1913	To accept an Up train the line must be clear to Lydiard Street	~200 yards
Ballarat D	(26.6.34)	Down trains may be accepted in clear weather if line is clear to Post 15 (Post 20 in 1953)	202 yards
St Albans	(14.8.28)	Rule 4 modified for Up trains; 1.8.30: Became Block Terminal for Up trains	
Castlemaine B	(4.10.32)	Up trains may be accepted if line is clear to Post 24B	261 yards
Managalore	(30.8.09)	Down train may be accepted at the same time as an Up train, but must be brought to a stand at the Down Home unless Up train has cleared the single line	?
Coburg	(11.10.21)	Down trains may be accepted if the line is clear to Post 7 (Main line) or Post 11 (Branch line)	137/187 yards
	(15.4.41)	Down trains may be accepted if line is clear to Post 4	609 yards
	(27.11.11)	Down train may be accepted if line is clear on No 1 or 2 Roads to Post 45	363 yards
North Carlton	(20.8.29)	Down trains may be accepted if line is clear to Post 26C	205 yards
	(21.4.31)	Up trains may be accepted if line is clear to Post 28B	66 yards
Merri	(2.2.26)	Up trains may be accepted if preceeding train has passed Post 45 and is proceeding on its journey	383 yards
	(16.12.30)	Down trains may be accepted if preceeding train has passed signalbox and is proceeding on its journey	384 yards
Bell	(31.5.27)	Up trains may be accepted if line is clear to Post 11	253 yards
Oakleigh B	(25.10.09)	Up trains may be accepted if line is clear to Post 17 (14 in 1913)	?
	(31.5.15)	Up trains may be accepted if line is clear to Post 8 (No 4 Road) or Post 7 (Nos 2 and 3 Roads)	~360 yards
Drouin	b1953	Down trains may be accepted if line is clear to Post 4	?
	(25.2.30)	Up trains may be accepted if line is clear to Up end of crossover at Down end of station	~60 yards
Moorabbin	(3.12.29)	Down trains may be accepted in clear weather if line is clear to Post 12	312 yards
Mentone	(9.1.23)	Up train may be accepted if line is clear to Post 4	383 yards
Mordialloc	5.1.11	In clear weather only, Down trains may be accepted if line is clear to Posts 5, 6, or 7 (Nos 3, 2, or 1 Roads)	388 yards
Carrum	(15.5.28)	Down trains may be accepted if line is clear to Post 12 (Post 16 in 1953)	303 yards
Port Melbourne A	(25.10.09)	Down train may be accepted if line is clear to Home at Down end of platform	287 yards

NOTES: Dates in parenthesis are the date of the Weekly Notice; 'a' indicates 'after'; 'b' indicates 'before'; a question mark indicates when the change probably occurred.

and Auburn had been included in list of Block Terminal stations.

The instruction was unchanged in the 1913 GA, but Block Terminal conditions had been authorised at a number of ordinary block posts: Glenferrie, Auburn, Box Hill, Caulfield, and Mordialloc. All these were for trains in clear weather only (but note that no attempt was made to restrict the Block Terminal working at Camberwell to clear weather only).

The list was essentially unchanged in the 1919 GA, but a new list was published in WN 13/22 (which, unfortunately, I do not have a copy of). This probably was the date that a large number of block posts became Block Terminals. A casual glance at Table 4 shows that the locations where Block Terminal conditions were authorised quadrupled by 1922 (from 16 to 63). This is even more impressive when it is realised that the spread of three position automatic signalling had resulted in a number of signalboxes losing their Block Terminal status by this date.

From WN 49/25, issued 8 December 1925, all block posts were Block Terminals for light engines, light engines with brakevan attached, and rail motor inspection cars during clear weather. Before asking line clear, the Signaller in the rear had to inform the Signaller in advance if the train was of these three types. Each Signaller had to record this message in the Register. This rule is still in force today; although only for light engines.

After the massive introduction of Block Terminal signalboxes in either 1922, additional Block Terminals were rarely added. However those signalboxes that were Block Terminals rarely had this status withdrawn; usually this permission stayed on the books until block working was withdrawn.

Block terminal conditions still apply to a number of Double Line Block Posts today and a list of locations was published in WN 29/00.

Table 4: Locations where block terminal conditions were authorised

Location	Direct	Auth	Canc	Notes	Location	Direct	Auth	Canc	Notes
Prince's Bridge	U	b1898	a1913		Heathcote Junction	U/D	b12.1925	21.07.1970?	
Flinders Street	U/D	b1898	a1913		Wandong	U	b12.1925	14.11.1978	
Viaduct Junction	U/D	b1898	b1919		Kilmore East	U	b12.1925	to date	
Spencer Street No 1	U	b1898	a1913	1	Broadford	U	b12.1925	to date	
Footscray A	D	b12.1925				D	(07.06.1927)	to date	
Newport A	U	(27.04.1926)	a1979		Tallarook	D	(01.02.1927)	03.05.1987?	
Geelong A	D	b1898	22.06.1941		Seymour B	U	b1898	26.07.1989?	5
Lethbridge	D	b12.1925	07.06.1934?		Flemington Bridge	D	b12.1925	25.02.1968?	
Meredith	D	b12.1925	10.07.1934?		Royal Park	D	b12.1925	08.04.1972?	
Elaine	D	b12.1925	23.08.1934?		South Brunswick	D	b12.1925	22.08.1971?	
Warrenheip	U	b12.1925	a1979		Moreland	Down	b12.1925	a1979	
	D	(16.02.1926)	06.12.1934?		Northcote	Down	b12.1925	04.10.1987?	
Ballarat East	U	b1908	b1913	2	Thornbury	D	b12.1925	18.10.1987?	
Ballarat B	?	b1908	b1913		Regent	D	b12.1925	26.07.1970?	
North Ballarat C	U	(03.12.1929)	24.01.1941	3	Reservoir	D	01.12.1910	17.04.1988?	4, 5
West Footscray	U	b12.1925	21.10.1928			U	29.11.1959?	08.05.1988?	5
St Albans	D	b12.1925	05.02.19.30		Glenferrie	D	(04.07.1910)	(14.11.1922)?	
	U	01.08.1930	to date	4	Auburn	D	(04.07.1910)	b1919	
Sydenham	D	b12.1925	to date		Camberwell	D	b1908	(14.11.1922)?	
Diggers Rest	D	b12.1925	to date		Surrey Hills	D	b12.25	30.03.1927?	
Sunbury	D	b12.1925	to date		Mont Albert	U/D	b12.25	20.10.1929?	
	U	(22.02.1927)	b2000		Box Hill	D	b1913	(20.10.1929)?	
Clarkefield	D	b12.1925	to date			U	15.05.30	13.07.1958?	
Riddell	D	b12.1925	(27.04.1993)?		Tunstall	D	b12.1925	13.11.1960?	
	U	b1979	(27.04.1993)?		Mitcham	U	b12.1925	07.09.1958?	
Gisborne	D	b12.1925	to date			D	b12.1925	13.11.1960?	
Macedon	D	b12.1925	19.05.1994?		Ringwood	D	b1898	07.09.1958?	4
Woodend	U	b06.1925	to date		Caulfield A	D	(18.07.1910)	b1919	
	D	(16.06.1925)	to date		Clayton	U	b12.1925	25.07.1971?	
Carlsruhe	U/D	b12.1925	a1979		Spring Vale	U	b12.1925	09.05.1971?	
Kyneton	U	b12.1925	to date		Sandown Park	U	b12.1925	(17.07.45)?	
	D	(23.10.1928)	to date		Dandenong	D	b1898	09.05.1971?	4
Redesdale Junction	U/D	b12.1925	16.11.1954?		Warragul	D	20.8.1950?	26.08.1988?	5
Malmsbury	U	b12.1925	10.01.1979?			U	5.10.1952?	07.09.1988	5
Taradale	U	b12.1925	19.10.1928?		Glen Huntly	U	b12.1925	(25.02.1930)	2
Elphinstone	D	b12.1925	(31.05.1988)?		Ormond	U	b12.1925	10.11.1974?	
Chewton	U	b12.1925	30.01.1968?		Moorabbin	U	b12.1925	19.01.1958?	
Harcourt	D	b12.1925	19.04.1978?		Cheltenham	U	b12.1925	07.12.1985?	
Kangaroo Flat	U	b12.1925	02.10.87?		Mordialloc	D	b1898	b1912	2
Bendigo A	U/D	(02.06.1925)	a1979			U	5.1.1911	23.01.1977?	5
Bendigo B	D	b1898	a1979	5	Aspendale	D	(28.02.1928)	23.01.1977?	
Bendigo C	U	b1898	a1979	5	Frankston	D	01.12.1910	29.10.1976	4,5
Glenroy	D	b12.1925	15.11.1965?		Brighton (Beach)	U	b1898	a1902	
Broadmeadows	D	b12.1925	15.11.1965?			U	b1913	19.12.1926?	4
	U	b12.1925	to date			D	b1898	18.07.1926?	4
Craigieburn	D	b12.1925	29.02.1988?		Sandringham	D	b1898	18.12.1926?	
Donnybrook	D	b12.1925	to date		St Kilda	D	b1898	a1908	
Beveridge	U/D	b12.1925	03.05.1978?		Port Melbourne	D	b1898	a1908	
Wallan	U	(28.12.1926)	to date						

NOTES: 1: West Line only; 2: Replaced by alteration to Rule 4; 3: Cancelled account outer home provided; 4: Block terminal in all weather; 5: Authorised account duplication. Dates in parenthesis are the date of the Weekly Notice; 'a' indicates 'after'; 'b' indicates 'before'; a question mark indicates when the change probably occurred.

HATTAH



Hattah is a very obscure location in Victoria. Situated in the extreme north west of the state roughly halfway between Ouyen and Mildura, it is marked by a road junction between the Hattah - Robinvale Road and the Calder Highway, a roadhouse, and a couple of houses situated on the other side of the railway from the highway. Even the turnoff into the station is obscure; for the record it is to the north of the road junction. Those that take the time to pause in their 110 km/h dash along the Calder find this absolutely delightful 'station'. Hattah was opened with the line in 1903 and became a Staff station in 1911. Plunger locking was provided in 1912. On 19 March 1989 Train Orders were introduced to the Mildura line and Hattah became a Train Order Crossing Station. When Section Authorities were replaced Train Orders on 12 October 1997 Hattah became as Open/Close location. When closed as a Crossing Location Hattah was a Block Point. Hattah is no longer a crossing station, but the date of its closure escapes me.

The photo on the left is taken looking south from the Up Home signal. The plunger locked points to the crossing loop are immediately in the rear of the signal, just over the level crossing. These points were moved 193 metres further out from the station on 10 August 1989 to provide a crossing loop 485 metres long. No lamp or spectacle plate is provided on the Home signal, instead reflective red and green circles are covered by a blinder which replaced the original spectacle plate.

(Below) The buildings on the platform at Hattah are probably not repeated anywhere else in Victoria today and probably have not changed in 90 years. On the left is a standard portable office; note how the verandah forms a second roof over the portable in an attempt to reduce the interior temperature in the summer. On the right is a standard Mallee shed in very poor condition. These sheds were widely provided to provide shelter to waiting passengers. Between the two buildings can be seen the two Tail quadrants that work the Up and Down Home signals. These are chained reverse.





The Up end of Hattah looking towards Melbourne showing Hattah block point. New style Block Point signs were provided at Hattah on 8 July 1997

SIGNALLING ALTERATIONS

(Continued from page 60)

18.06.2001 **Franklin Street** (SW 6/2001, WN 22/01)

From 0400 hours Monday, 18.6., the existing relay interlocking was replaced by a Westrace CBI (Computer Based Interlocking) in conjunction with the provision of new crossovers.

The four crossovers form an extended crossover between the Main Suburban Lines and the Through Suburban lines. Crossovers 606 (Up Through Suburban Line to Down Main Suburban Line) and 449 (Down Main Suburban Line to Up Main Suburban Line) form one extended crossover, and Crossovers 618 (Down Main Suburban Line to Up Through Suburban Line) and 611 (Up Through Suburban Line to Down Through Suburban Line) form the other. Note that no diamond crossings are involved in the new layout.

Automatic signals 554, 537 (formerly 485), 708 (formerly 802), and 711 (formerly 809) were converted to Home signals. Up Dwarf 532 (along the Down Main Country Line) was converted to a Home signal. New Home signals 558 (Down Main Suburban Line to the Through Country Line or Up East Suburban Line) and 710 (Up Through Suburban Line to Up Main Suburban Line or Up Through Suburban Line) were provided.

The Down Main Country Line was renamed the Through Country Line and the Up Main Country Line was renamed the Main Country Line.

Diagram 19/01 (Flinders Street to North Melbourne Passenger Lines) replaced 3/01.

If a train is stopped at the Home signals 554, 557, 710, or 711 protecting the crossovers at Franklin Street the Driver must contact the Signaller Metrol by post phone or radio. If the signal is defective and the track route line is displayed, the Signaller will complete and dictate a Signallers Caution Order (2377). The Driver must repeat back the train describer number, the signal post number, and exchange names. If the track route line is not displayed the Signaller must arrange for a Signal Maintenance Technician to operate the dual control point machine for the intended route. The Signaller will then issue a Caution Order.

The following alterations were overlooked last year:

07.12.2000 **Mildura - Robinvale - Kulwin Corridors** (SW 189/00, WN 50/00)

On Thursday, 7.12., Master Keys 79, 83, and 93 for the Mildura - Robinvale - Kulwin corridor were withdrawn from service.

11.12.2000 **Franklin St - North Melbourne** (SW 188/00, WN 50/00)

On Monday, 11.12., Down Automatic 807 (Down Through Suburban Line) and Down Automatic 483 (Down Main Suburban Line) were relocated 18 metres in the Down direction onto a new signal gantry. Amend Diagram 21/94.