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MINUTES OF MEETING HELD FRIDAY 18 SEPTEMBER 2020.

The SRSV meeting scheduled for Friday 18 September 2020 was held as an online meeting on the internet using the 'ZOOM' application. This was due to the restrictions imposed on public gatherings announced by the Victorian Government in response to the COVID-19 (Coronavirus) pandemic.

Present: – Ken Ashman, Noel Bamford, Phil Barker, Robert Bremner, Brett Cleak, Graeme Cleak, Glenn Cumming, John Dennis, Warren Doubleday, Michael Formaini, Peter Gerandt, Chris Gordon, Judy Gordon, Chris Guy, Graeme Henderson, Bill Johnston, Chris King, Tony Kociuba, Keith Lambert, David Langberg, Neil Lewis, Andrew McLean, Eddie Oliver, Roo Richards, Peter Silva, James Sinclair, Rod Smith, David Stosser, Bob Taaffe, Andrew Waugh and Andrew Wheatland. (31)

Apologies: – David Langley, Laurie Savage and Brian Sherry.

Visitor: – Jim Gordon.

The Vice-President Mr. Bill Johnston, took the chair & opened the meeting at 20:06 hours (8.05 pm).

Minutes of the July 2020 Meeting: – Accepted as read. Peter Silva / Neil Lewis. Carried.

Business Arising: – Nil.

Correspondence: – Letters to Surrey Hills Neighbourhood Centre cancelling our booking for the meeting in September 2020. Tony Kociuba / Chris King. Carried.

Reports: – Tours. Glenn Cumming reported that due to the ongoing restrictions it was not possible to arrange a Signal Box tour in 2020.

Scanning Project. David Langberg reported on recent progress, despite the lockdown restrictions. David has scanned approximately 1,600 items. David used the 'Zoom screen share' to demonstrate a prototype catalogue based on MS Access database software. The use of the search screen and the links to the scan files was shown.

General Business: – Keith Lambert provided details about the occupation between Newport – Williamstown planned for early 2021 for level crossing removal works.

Phil Barker discussed the current status of signalling in Queensland with 39 locations till have signal controls, mostly local control panels.

(Front cover). This dwarf "glass enclosed banner" signal used to be located between the Sydney end of Nos 1 and 2 platforms at Hornsby. Because of restricted clearance, a full signal for trains departing No 2 platform would not fit. Instead the full size signal was fixed on the right hand side of the line and a co-acting or indicator signal was fitted so that the driver could easily see it. The dwarf form was chosen to stay within the structure gauge. The top arm is for trains departing No 2 Platform to the Up Branch (North Shore) and the bottom for trains No 2 Platform to Up Main. The signal was a standard form used from about 1924 until 1958 for power installations and was installed here in 1931 (WN39). The arrows indicate that the signals applied to trains on the right hand track. The light above is a Call On signal that shows a stencil CO and was used when there was a signal failure and simply said that the points were locked and the driver should do the extra checks and proceed past the signal but be prepared to stop short of ANY obstruction. This indicator utilised a Ford car lamp case and was installed in 1972 (WN35). Both were swept away with the 1999 resignalling. The use of co-acting signals was not common but used when required. The colour light version is still in use at Central Electric. Photo Andrew Waugh, caption Bob Taaffe

Phil Barker provided a report on the installation of European Train Control System (ETCS) in Queensland:

- ETCS level 1 is currently being installed between Caboolture – Gympie North. The existing Westinghouse ATP between Caboolture – Rockhampton will remain for the time being.
- ETCS level 2 pilot project between Northgate – Shorncliffe is expected in 2022.
- ETCS level 2 will then be installed on the existing network: Park Road/Dutton Park to Northgate (via Central and Normanby), Bowen Hills to Enoggera, Milton to Roma Street; and on the new Cross River Rail project Yeerongpilly to Albion (via Exhibition).
- ETCS level 1 “Train Guard Project” Aurizon Network Central line (Rockhampton – Bluff). Aurizon rolling stock fitted, but available for third party operators use.

Chris King provided a report on the level crossing removal works at Moreland.

Rod Smith asked if Up trains can terminate at Cheltenham. Chris Gordon answered that this is not possible because it is three (2) stops to Moorabbin where Up trains can terminate.

Chris Gordon described a proposal for further rationalisation at Caulfield.

Rod Smith described proposals for the level crossing removal works at Surrey Hills.

Brett Cleak provided a report on the development of the High Capacity Signalling system for the Melbourne Metro system using a communications-based train control (CBTC) system supplied by Bombardier. Testing of the system is underway between Epping – South Morang under the protection of Absolute Occupation. Two (2) Xtrapolis trains have been fitted with CBTC equipment. Brett shared a video showing a cab ride between Epping – South Morang with the CBTC operating. When the section is switched over for testing the CBTC, the existing fixed signals in the section are extinguished.

Syllabus Item: – The Vice-President introduced Secretary Glenn Cumming to present the Syllabus Item.

Glenn presented the second part of a series of images taken during a visit to Western Australia in March 1996.

Images of railway signalling at Signal Boxes and Train Control offices in the metropolitan and country areas including Forrestfield, Kwinana, Northam Control, West Merredin and West Kalgoorlie were viewed.

Also included were views of the single line automatic signalling between Koolyanobbing – West Kalgoorlie as seen from the cab of the “Prospector”.

At the completion of the Syllabus Item, the Vice-President thanked Glenn for the entertainment.

Meeting closed at 22:05 hours.

The next meeting will be on Friday 20 November, 2020, commencing at 20:00 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 30/20 to WN 23/20, and ETRB A circulars. The alterations have been edited to conserve space. Dates in parenthesis are the dates of publication, which may not be the date of the alterations.

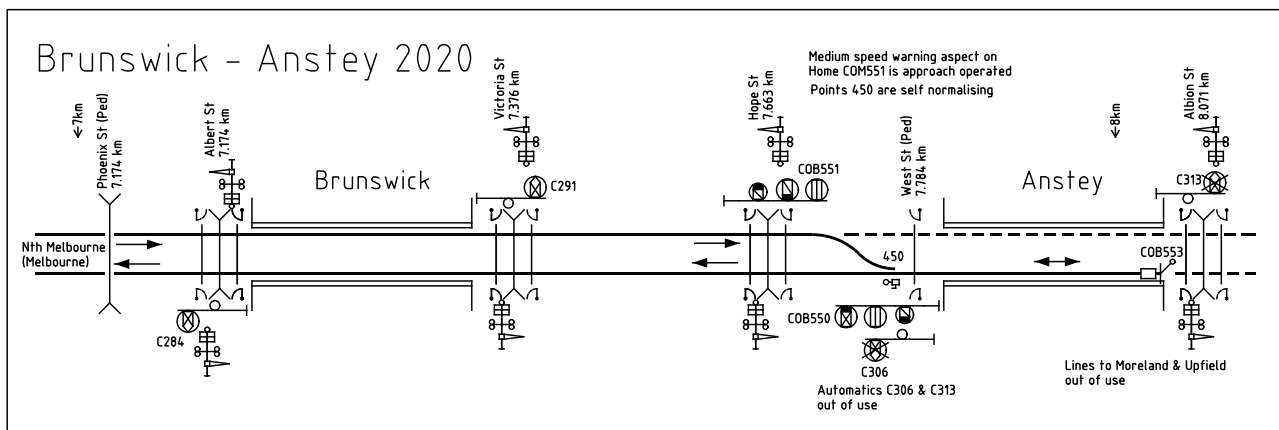
- | | | |
|---------------------|--|---------------------------|
| (28.07.2020) | Woorinen – Piangil | (SW 122/20, WN 30) |
| | Diagram 54/20 (Woorinen – Piangil) replaced 62/11 as in service. The main change is abolition of the sidings at Woorinen, Pira, and Miralie (SW 451/18). | |
| 31.07.2020 | North Melbourne | (SW 504/20, WN 30) |
| | Between Friday, 31.7., and Sunday, 2.8., TPWS(TSS) was provided at the following signals: NME471, NME508, NME561, NME563, NME564, NME566, NME567, IAA510 & 537, all on the East Suburban Line. Amend Diagrams 35/18 (North Melbourne – Macaulay) and 9/20 (Southern Cross – North Melbourne Passenger Lines). | |
| 27.08.2020 | Anstey – Batman | (SW 484/20, WN 29) |
| | On Monday, 27.7., an Absolute Occupation was taken out between Anstey and Upfield for the purpose of removing the level crossings at Moreland Rd, Reynard St, Munro St, and Bell St. | |
| | The following signal alterations took place: | |
| | <ul style="list-style-type: none"> • Automatics COB434, COB439, COB530, COB534, & COB543 were abolished. • Homes COB532, COB539, COB541 & COB542 were abolished. • Dwarf COB531 was abolished. • Crossover 442 was abolished. • The Moreland Rd, Reynard St, Munro St, and Bell St level crossing protection equipment was abolished. | |

03.08.2020 Anstey**(SW 483/20, WN 29)**

On Monday, 3.8., a temporary turnback facility was provided at Anstey. All trains will terminate in the Up platform. The following signal alterations took place:

- Points 450 was provided 66 metres on the Up side of Anstey platform. These points are equipped with a dual control point machine. These points autonormalise.
- Homes COB550 and COB551 were provided. The Medium Speed Warning indication on COB551 is approach operated.
- A friction buffer and buffer light (COB553) were provided on the Up line at the Down end of the platform.
- A 15 km/h speed restriction will be in force for Down trains entering the platform. A speed proving train stop (UCOB553) was provided for Down trains.
- Automatic C308 was taken out of use and the head bagged.
- The Albion Street boom barriers were taken out of use.
- Axle counters will be used for train detection between Home COB551 and the Anstey platform.
- The Coburg SSI interlocking and the Metrol TCMS were altered.
- The signalling will be operated from the Western Signal Control panel at Metrol, but the operation will normally be automatic.

Diagram 27/20 (Flemington Bridge – Anstey) replaced 35/08.

**(04.08.2020) Ararat****(SW 126/20, WN 31)**

No 2 Road in the broad gauge stabling area is now available for use. SW 67/20 is cancelled.

(04.08.2020) Glenbervie – Somerton**(SW 510/20 & 124/20, WN 31)**

Diagram 53/20 (Glenbervie – Somerton) replaced Diagrams 106/07, 51/10, & 94/14 as in service.

Note the Glenbervie – Somerton diagrams seem to have become confused. In May 2007 Diagram 41/07 replaced 24/00 account provision of three position signalling. In October 2007 Diagram 106/07 replaced 41/07 due to alterations at Somerton, but it does not appear that this diagram was published in the WN. In May 2010, Diagram 51/10 replaced 41/10 – but there is no record of the later diagram being published. It may have been a typo for 41/07, with 106/07 having been overlooked. Diagram 94/14 seems to be a complete ring-in, being for Werribee Racecourse – Little River.

04.08.2020 Somerton**(TON 282/20, WN 30)**

On Tuesday, 4.8., No 4 Road was booked into use for the stabling of track machines. Access is only available at the Down end. It remains booked out for other rail movements.

06.08.2020 Werribee**(SW 502/20 & 503/20, WN 30)**

Between Thursday, 6.8., and Friday, 14.8., works were undertaken as part of the removal of the Werribee Street level crossing.

- The East and West Lines between Werribee and Manor Junction were taken out of service. Baulks were provided on both lines 3 metres on the Down side of the signal bridge supporting Homes 24 & 28. Note that the standard gauge line remains in use.
- Circuit alterations were undertaken so that Homes 2 & 14 can display a Medium Speed Warning aspect.
- Crossover 9 was secured normal.
- Crossover 25 was abolished. Circuit alterations were undertaken to maintain the normal detection indication.

- Homes 6, 8, 18, 20, 22, 24, 26, 28 & 30 were secured at Stop. Automatics G1178 & GG1178 were secured at Stop.
- Track circuits 8T, 9T, A9T, 20T, 22T, A22T, 26T, & A26T and associated axle counter overlays were removed.
- The broad gauge control circuits for Werribee Street were removed.
- The existing axle counter overlays were removed from the approaches to Cherry Street.
- The existing instruction requiring Home 22 to be cleared before signalling Down suburban trains into Platform 3 (SW 391/12) is cancelled. To reduce the risk of a Down suburban train passing Home 22 at Stop, the following alterations have been made. A 25 km/h speed restriction has been imposed starting 300 metres on the Down side of the platforms and will apply to Down movements to all three platforms. Platform 3 has been shortened and the Down end is now on the Down side of the signal bridge carrying Home 22.

Diagram 47/20 (Aircraft – Werribee) replaced 25/14.

Northern Group Operating Procedure 8 (Werribee SPAD mitigation interim instruction – operation of Down Home 22) was deleted.

08.08.2020	Dandenong (SW 510/20, WN 31) On Saturday, 8.8., the TCMS Signal Control System at Dandenong will be commissioned. The existing Westcad will be retained and continue to operate in a 'shadow mode' until it is decommissioned. The CBTC button for the Test Track in the Pakenham East Depot will not be commissioned.
09.08.2020	North Melbourne (SW 533/20, WN 32) On Sunday, 9.8., the following signals on the East Suburban Line were provided with TPWS(TSS): NME796, NME797, & NME798. Amend Diagram 35/18 (North Melbourne – Macaulay).
11.08.2020	Warrenheip Loop (SW 132/20, WN 33) On Tuesday, 11.8., the Up track has been booked back into service.
13.08.2020	Werribee (SW 548/20, WN 33) Commencing Thursday, 13.8., No 3 Track was taken out of use due to an interlocking issue between Home 4 and the Cherry Street boom barriers. Home 4 was secured at Stop. Crossover 23 was secured reverse to prevent routes being set from Homes 2 or 14 to No 3 Track.
16.08.2020	Cheltenham (LXRA) On Sunday, 16.8., the new station was opened to passengers.
18.08.2020	Marshall (SW 131/20, WN 32) On Tuesday, 18.8., a speed restriction of 80 km/h was imposed on Up Passenger trains commencing at 82.250 km on the Down side of the Surf Coast Hwy crossing (81.700 km). When the driver sights Up Home MSL24 the driver will proceed in accordance with the Network Operating Requirements, 4 – Special Speed Restrictions – Speed Boards. The temporary speed restriction of 40 km/h for Up trains between 81.700 km to 81.650 km was cancelled. (TS 325/18). Amend Diagram 46/19 (Marshall).
19.08.2020	Pakenham East Depot (SW 551/20, WN 33) On Wednesday, 19.8., Home PKE762 was relocated 23 metres in the Down direction. The Pakenham East Westrace data was updated to provide an EBILock interface at Pakenham East Depot to provide for the CBTC release on the Dandenong TCMS and WestCAD panels. The CBTC button, EBILock interlocking, and ATS control system at Pakenham East will remain out of service.
24.08.2020	Werribee (SW 541/20 & 571/20, WN 33 & 34) On Monday, 24.8., the following signals were converted to LED: G1033, GG1033, G1034, & GG1034. Circuit alterations also took place and No 3 Track was booked back into use. SW 548/20 was cancelled.
24.08.2020	Tottenham Yard (TON 301/20, WN 34) On Monday, 24.8., No 5 East Road has been booked back into service.
25.08.2020	Sea Lake (TON 305/20, WN 35) On Tuesday, 25.8., the main line points to Nos 2 & 3 Roads at 420.000 km and 421.1000 km were booked out of service due to the condition of the point timbers.
31.08.2020	Belgrave (SW 582/20, WN 34) On Monday, 31.8., Home 56 was renewed in situ.

- (01.09.2020) **Southern Cross** (SW 139/20, WN 35)
Commencing forthwith, Track Warrants will not be permitted to be used in Nos 15 & 16 Platform Roads between Homes SSS728 and SSS908 (No 15 Road) and Homes SSS738 and SSS910 (No 16 Road). This restriction is due to the inability to provide signal blocking or points protection at the Metrol controlled limits.
- (01.09.2020) **Spotswood** (SW 588/20, WN 35)
Commencing forthwith, circuit alterations have been carried out on the express/stopper selection circuit for Hudson Rd to permanently select the express mode for all Up movements. This alteration is part of a SPAD mitigation for Automatic W348.
- (01.09.2020) **Ballarat** (SW 141/20, WN 35)
Operating Procedure 69 (Ballarat – signalling and issue of train orders) was reissued. The instructions for movements to/from the Engine Track, currently shown on OPWI 217, were incorporated. SW 110/16 was cancelled.
- (01.09.2020) **Stabling at unattended train order terminal locations** (SW 401/20, WN 35)
Instructions were issued covering stabling of rail vehicles or locomotives at unattended terminal stations in train order territory.
- No 1 Road at these locations is the road for which the points lie for movements to and from the train order territory. No 1 Road is a running road and must be kept clear on completion of any shunting, stabling, or after departure of a train. Rail vehicles or locomotives may be left standing on No 1 Road (and other roads where stabling is not permitted) only when the vehicles are attached to a locomotive and the locomotive is under power with a train crew in attendance.
 - Rail vehicles are only to be stabled on roads with rollout protection.
 - When rail vehicles or locomotives are to be stabled at an unattended train order terminal station the Driver must advise the Train Controller that the lines not available for stabling of vehicles are clear.
 - Before departure of a train from an unattended train order terminal station the Driver must advise the Train Controller that the lines not available for stabling vehicles are clear.
- The following specific instructions have been provided:
- Warmambool. Only passenger stabling is permitted in No 1 Road. No stabling is permitted in No 2 Road (rodded derail block only at Up end). Stabling is permitted in No 3 Road (rodded derail at Up end of No 2 Road, and a hand derail at the Down end of No 3 Road), No 4 Road, and the Turntable Rd.
 - Rainbow. Stabling is not permitted in No 1 Road or the dead end extension to 431.00 km. Stabling permitted in No 2 Road as hand derails are provided at both ends.
 - Hopetoun. Stabling is not permitted in No 1 Road or the dead end extension to approximately 410.300 km. Stabling is permitted in No 2 Road (hand derails at both ends) and No 3 Road (hand points secured by HLB for dead end at Up end, and hand derail at Down end).
 - Yelta. Stabling is not permitted on No 1 Road or the Down end extension for the grain loading site. Stabling is permitted on No 2 Road (hand derails at both ends).
 - Murrayville. Stabling is not permitted in No 1 Road. Stabling is permitted in No 2 Road (hand derail at Up end and hand points secured by HLB to dead end at Down end).
 - Manangatang. Stabling is not permitted in No 1 Road or the Down end extension to the loading site (at 460.300 km). Stabling is permitted in No 2 Road (hand derail at both ends) and No 3 Road (hand derail at Up end and joints No 2 Road at Down end).
 - Sea Lake. Stabling is not permitted in No 1 Road or Down end extension to baulks at 423.000 km. Stabling is permitted in No 2 Road and No 3 Road (both have hand points secured by HLB to dead end at Up end and hand derail at Down end), and the Grain Loading Loop siding (hand operated derails at both ends).
 - Piangil. Stabling is permitted in both Nos 1 & 2 Roads due to the provision of a derail 165 metres on the Up side of the points.
 - Deniliquin. Stabling is not permitted in No 1 Road. Stabling is permitted in No 2 Road (hand derail at both ends), the Silo Road (hand derail at exit), the Rice Mill Siding (hand operated derails), and the Freighter's Siding (rodded derail and crowder at exit).
 - Tocumwal. Stabling is not permitted in No 1 Road or the Down end extension to the Grain Corp lease boundary. Stabling is permitted in No 2 Road (hand operated derails at both ends).
 - Moulamein and Dookie. Services suspended.
- (01.09.2020) **North Ballarat** (SW 137/20, WN 35)
Effective forthwith the Flour Mill Siding and the West Line Siding that lead from the main line at Doveton St were abolished and will be removed. Both sidings had been placed out of use in 2015 (SW 123/15) and

SW125/20 (WN 31/20) noted that on commencing on 12.8.20 repair work would be carried out on a main line culvert located 80 metres on the Down side of Doveton St.

Points 9 leading towards the West Line Siding and the associated Catch 9 will remain secured normal.

Amend Diagrams 94/18 (North Ballarat Junction) and 62/19 (Wendouree – Beaufort).

- (01.09.2020) Maryborough** (SW 145/20, WN 35)
Home MYB24 from the Moolort line and the Gillies St (178.850 km) level crossing equipment will be removed. The Home signal had been abolished on SW 430/18 and these changes are already shown on Diagram 86/18 (Maryborough).
- 01.09.2020 Werribee** (WN 34)
Between Friday, 28.8., and Tuesday, 1.9., the Up side boom barrier and flashing light masts at Werribee Street were replaced to allow for a track slew of the ARTC standard gauge line. A new pedestrian crossing was provided.
- 07.09.2020 Glenroy** (SW 607/20, WN 36)
On Monday, 7.9., the Medium Speed Warning aspect was removed from Automatic E544 and the Reduce to Medium Speed aspect from Automatic E560. Both these signals will now only display Stop, Normal Speed Warning, and Clear Normal Speed.
- (08.09.2020) Swan Hill** (SW 155/20, WN 36)
Operating Procedure 124 (Swan Hill) was reissued to show the defined station limits. SW 63/30 was cancelled.
- 09.09.2020 Seaford – Kananook** (SW 585/20, WN 35)
Between Tuesday, 1.9., and Monday, 9.9., Home SEA727 was relocated 5 metres in the Down direction, and Dwarf KSY717 was relocated 300mm further from the track.
Diagram 51/20 (Bonbeach – Frankston) replaced 65/20 (sic).
- 09.09.2020 Pirron Yallock** (SW 149/20, WN 36)
On Friday, 9.9., boom barriers were provided at the passive crossing at Station Rd (168.121 km). The crossing is activated by axle counters. Healthy state indicators, yellow whistle boards, reset key-switch, and remote monitoring equipment was provided.
On or off track is no longer permitted at Swan Marsh Rd (169.088 km).
Amend Diagram 54/19 (Birregurra - Colac).
- 10.09.2020 Warncoort** (SW 148/20, WN 36)
On Thursday, 10.9., boom barriers were provided at the flashing lights at Bourkes Rd (143.251 km). The crossing is activated by axle counters. Healthy state indicators, yellow whistle boards, reset key-switch, and remote monitoring equipment was provided.
Amend Diagram 54/19 (Birregurra - Colac).
- 10.09.2020 Kerang** (SW 157/20, WN 37)
On Thursday, 10.9., No 2 Road was booked back into use for stabling track machines (only). The Down end main line points have been booked back into use. The hand points at the Up end of No 2 Road must be secured for the Cattle Yard siding.
- 11.09.2020 Armytage** (SW 147/20, WN 36)
On Friday, 11.9., boom barriers were provided at the passive crossing at Armytage Rd (123.939 km). The crossing is activated by axle counters. Healthy state indicators, yellow whistle boards, reset key-switch, and remote monitoring equipment was provided.
Amend Diagram 30/19 (Moriac – Winchelsea).
- 14.09.2020 Dandenong – Lynbrook Loop, Greens Rd** (SW 626/20, WN 35)
Between Tuesday, 8.9., and Monday, 14.9., the masts for the boom barriers and flashing lights on the western (Up) side of the line at Greens Rd were relocated 8 metres further from the track and on the eastern (Down) side of the line were relocated 1.5 metres further out. An additional flashing light mast was installed on the northern side of the crossing on the eastern side of the line.
Amend Diagram 43/19 (Dandenong – Hallam).
- 14.09.2020 Lynbrook Loop** (SW 628/20, WN 35)
Between Tuesday, 8.9., and Monday, 14.9., Down Home LBK780 was relocated to the opposite (right hand) side of the track.
Diagram 57/20 (Lynbrook Loop – Cranbourne) replaced 43/20.
- 15.09.2020 Boort** (SW 162/20, WN 37)
Between Tuesday, 15.9, and Thursday, 17.9., permission is granted for IEV100 (scheduled as Trains 9191 & 9192) to lock away in Boort Intermediate Siding for the passage of trains 9172 (Tuesday), 9167 & 9166 (Wednesday) and 9171 (Thursday). IEV100 is authorised to stable within the booked out siding (TON

169/19) using the Up end points. A Signaller will be in attendance for the arrival and departure of IEV100 daily.

- (15.09.2020) **Warrnambool** (SW 160/20, WN 37)
The noticeboard for Down trains approaching Wellington St (267.588 km) has been relocated 6 metres in the Up direction. Amend Diagram 30/17 (Warrnambool – West Vic Siding).
- (15.09.2020) **Bendigo** (SW 158/20, WN 37)
Diagram 58/20 (Bendigo) replaced 34/16 as in service.
- 16.09.2020 **North Geelong** (TON 344/20, WN 38)
On Wednesday, 16.9., Nos 19 & 20 Roads were booked back into service and are accessible from the lead extending towards Dwarf GLG88 via 'A' sidings. The Up end of No 23 Road remains booked out of use and the hand points leading to No 20 Rd have been secured to lie for that road.
- (22.09.2020) **Moriac – Colac** (SW 165/20, WN 38)
Diagrams 52/20 (Moriac – Winchelsea) & 16/20 (Birregurra – Colac) replaced 30/19 & 54/19 respectively as in service. The alterations were the provision of boom barriers at Armytage Rd, Prices Ln, Bourkes Rd, and Station Rd. The only level crossings between 92 km and 183 km without boom barriers are: Buckley School Rd (107.620 km), Hesse St (113.557 km), Cressy Rd (114.076 km), Ondit Rd (116.199 km), Birregurra Rd (134.600 km), Warrowrie Rd (145.519 km), Larpent Rd (161.347 km), Settlement Rd (174.455 km), Koallah-Pomborneit Rd (182.686 km). All these crossings have flashing lights.
- 28.09.2020 **Merri** (SW 675/20, WN 39)
On Monday, 28.9., Automatics T211 & T219 were converted to LED.
- (29.09.2020) **Wyndham Vale South** (SW 172/20, WN 39)
Prior to any rail movement over Points 804, the Train Controller must arrange for a competent employee to place the selector lever in the 'hand' operating position. Movement of the rail vehicle past Home WVS904 or Dwarf WVS911 will be in accordance with the instructions in Section 34-55. When the movement has been completed the competent employee must restore the selector lever to the 'motor' operating position.
- 29.09.2020 **Northcote - Croxton** (SW 676/20, WN 39)
On Tuesday, 29.9., Automatics T249 & T259 were converted to LED.
- 30.09.2020 **Croxton - Thornbury** (SW 677/20, WN 39)
On Wednesday, 30.9., Automatics T271 & T285 were converted to LED.
- 01.10.2020 **Croxton - Thornbury** (SW 678/20, WN 39)
On Thursday, 1.10., Automatics T266 & T280 were converted to LED.
- 04.10.2020 **Book of Rules** (SW 673/20 & 171/20, WN 39)
At 0001 hours on Sunday, 4.10., Revision 7 of the 1994 Book of Rules and Operating Procedures came into effect. All copies of the Book of Rules incorporating Revisions 1 to 6 were withdrawn.
The existing Section 34 (Operating Procedures) applying to the V/Line Network and the Group Operating Procedures applying to the MTM Network remain in force. The ARTC Network Rules and Procedures (TA20) will also remain in force.
The new revision retains the structure of the old Rule Book, including the current rule and procedure numbering. It includes all amendments, removes outdated information and information only relevant to the ARTC Network, and amends obsolete job titles.
The new edition is only being made available in digital form.
- 04.04.2020 **Craigieburn – Seymour** (SW 177/20, WN 40)
From 0001 hours on Sunday, 4.10., the double line block instruments at Craigieburn, Wallan, Kilmore East, and Seymour will be considered to be non-operational and in a failed state. Movements will be conducted under the Book of Rules, Section 20, Rule 23.
Joint Circular SW 171/19-SW 6/19 was cancelled as the contents of this circular have been included in Section 20, Rule 23.
(This is an administrative action due to the issue of the new Book of Rules; the block instruments have apparently not been used since early 2019.)
- (06.10.2020) **Korong Vale – Mittyack** (SW 179/20, WN 40)
Diagrams 40/20 (Wychitella – Glenloth), 42/20 (Wycheproof – Warne), 44/20 (Berriwillock – Nyarrin), and 46/20 (Nandaly – Mittyack) were issued as in service.
The line from Sea Lake to Mittyack is shown as out of service.
- 07.10.2020 **Merri** (SW 679/20, WN 39)
On Wednesday, 7.10., Automatics T212 & T222 were converted to LED.

- (13.10.2020) Book of Rules** (SW 719/20 & 182/20, WN 41)
Rule 3h, Section 15, was amended such that the Outer Handsignaller will display a Warning hand signal to the driver once the fixed signal is at proceed and the driver has been instructed. This aligns with Rule 4j, Section 15.
- (13.10.2020) Ashburton** (SW 720/20, WN 41)
The siding is now available for track machines (only). Points 3 are secured normal by a point clip and padlock. When it is necessary to move track machines to or from the siding, the siding must be booked in, and then book out the siding again when the movement has been completed. SW 153/15 is cancelled.
- 16.10.2020 Lynbrook Loop – Merinda Park** (SW 698/20, WN 40)
Between Friday, 16.10., and Monday, 19.10., a road overpass was provided at Evans Road (41.606 km). The pedestrian crossing at the old road crossing (41.593 km) was abolished and the protection equipment removed.
The TCMS and CBI data at Dandenong was updated.
Diagram 75/20 (Lynbrook Loop – Cranbourne) replaced 57/20.
- 19.10.2020 Holmesglen – Jordanville** (SW 727/20, WN 41)
On Monday, 19.10., Automatic DG473 was renewed as a tilt post in situ.
- 24.10.2020 Anstey** (LXRA)
On Sunday, 24.10., the temporary terminating facility was abolished after the last train.
- 26.10.2020 Ararat** (SW 189/20, WN 43)
On Monday, 26.10., two flashing lights were provided below the signs on Stop Board 3. The flashing lights improve the visibility of Stop Board 3 and will only operate at night.
- 26.10.2020 Goornong** (SW 192/20, WN 43)
On Monday, 26.10., the siding was booked into service for use for the stabling of track machines. Access to the siding will be from the Down end points and 75 metres of the siding is available for use. A signal maintenance technician will attend for all movements to operate the Master Key locked points and reset the axle counter track sections at Old Murray Rd (189.954 km).
- (27.10.2020) Southern Cross** (SW 188/20, WN 43)
Commencing forthwith, Track Warrants will not be permitted to be used in Nos 15 & 16 Platform Roads between Homes SSS728 and SSS908 (No 15 Road) and Homes SSS738 and SSS910 (No 16 Road). This restriction is due to the inability to provide signal blocking or points protection at the Metrol controlled limits.
Track Warrants may continue to be applied on the Down side of Homes SSS909 and SSS911.
Track Warrants are not authorised on the Freight Bypass Line or the East and West Bypass lines.
SW 139/20 is cancelled.
- 27.10.2020 Swan Hill** (SW 187/20 & 193/20, WN 42 & 43)
On Tuesday, 27.10., boom barriers were provided at the flashing lights at Bryan St (343.949 km) and Gray St (344.417 km) on the Up side of Swan Hill. Operation of the level crossing equipment was converted to axle counters and will be automatic for all train movements. Healthy state indicators and yellow whistle board were provided. Axle counter reset were not provided at either crossing. On/off track of road/rail vehicles is not permitted at either crossing.
In addition, on/off track of road rail vehicles is also no longer permitted at Pentel Island Road (343.246 km).
The following additional alterations took place:
- The approach section indicator board marking the start of the Up approach section for Gray St was abolished.
 - Up Home SWH4 was interlocked with the Bryan St and Gray St crossings. Home SWH4 will now track cancel. Prior to any shunting or run-around movements at the Up end of Swan Hill, the Signaller must ensure Home SWH4 is at stop to prevent operation of Bryan St or Gray St.
 - Down Home SWH6 was altered to track cancel.
 - Up Home SWH40, on the Down side of the Murray Valley Highway at Swan Hill, was renewed in situ.
- Diagram 110/19 (Swan Hill) replaced 24/19.
- 30.10.2020 Yendon** (SW 190/20, WN 43)
On Friday, 30.10., a healthy state indicator was provided at Main St (140.360 km). Yellow whistle boards were provided.

End£

QUEENSLAND SIGNAL BOXES 2020

Phil Barker

Queensland Rail

Network Control Centre

1. Brisbane Network Control Centre.
2. Mayne Network Centre Control.
3. Townsville Network Centre Control.

Panel

4. Clapham Nth Shunters
5. Clapham Sth Shunters.
6. Mayne Panel Car Shed South.
7. Mayne Depot Panel No. 4.
8. Mayne North.
9. Doomben.
10. Wacol.
11. Dinmore.
12. Roma.
13. Acid Siding (Mt Isa).
14. Phosphate Hill.
15. Townsville Jetty.
16. Woree (still in use?).
17. Tully (Hewitt).
18. Tully (Hewitt) Auxiliary.
19. Cobara (still in use?).
20. Mackay Harbour.
21. Alpha.
22. Longreach (still in use?).
23. Goondiwindi.

Frame

24. Ascot
25. Innisfail.

26. Ingham.

27. Kuranda.

28. Mackay.

Aurizon

Network Control Centre

29. Rockhampton Network Control.
30. Mackay Network Control (standby).

Local UTC

31. Callemondah.
32. Nebo.
33. Waitara.
34. Stuart Depot.
35. Jilalan.

Panel

36. Acacia Ridge.

GoldLinQ

Operations Control

37. Operations Control (light rail).

Rio Tinto

Operations Control

38. Weipa Control.

Bombardier

Siemens VDU

39. Wulkuraka Maintenance Centre

Callemondah – Queensland Rail UTC (Universal Traffic Control) screen based control system providing local control over the yard complex north of Gladstone. All photos by Phil Barker.



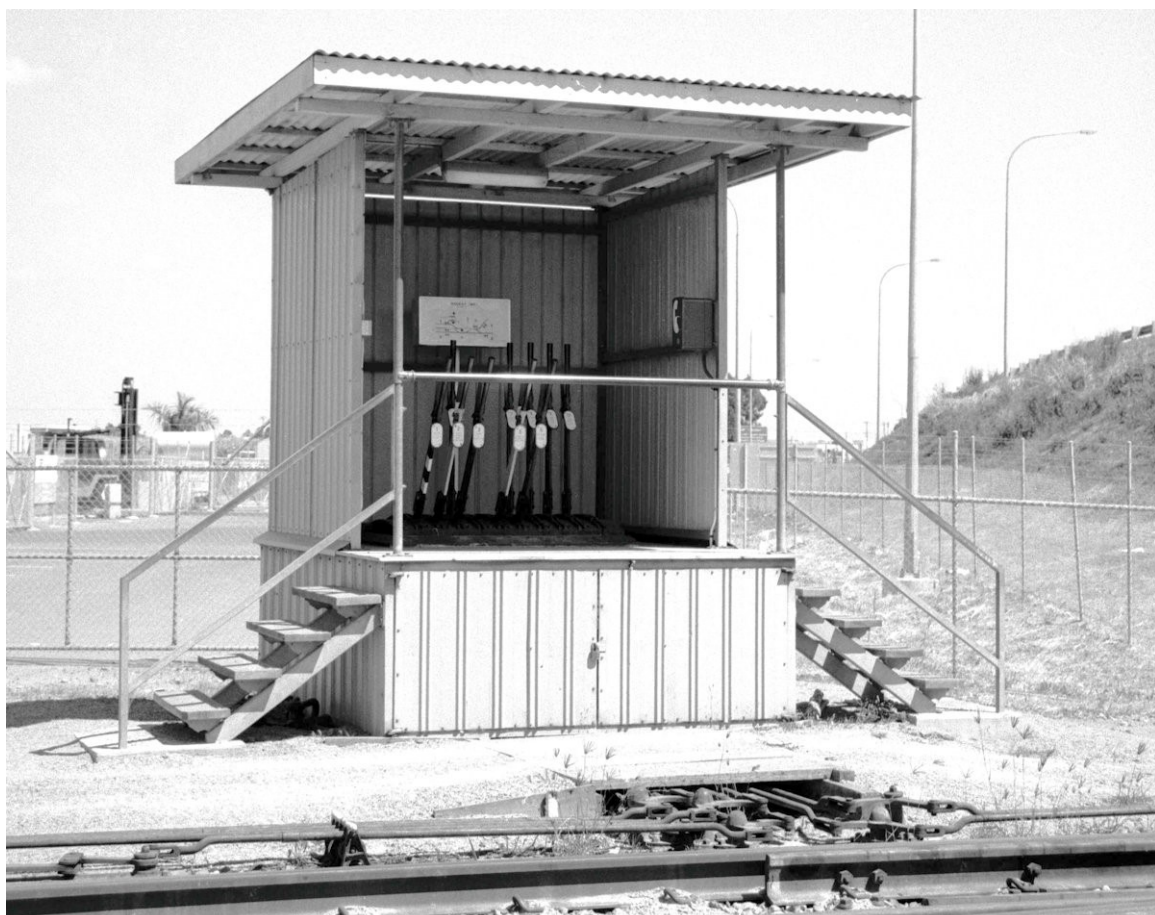


(Above) Innisfail cabin – 6 lever frame on the Cairns end of the station likely provided in 1967 to replace the 1938 6 lever cabin on Townsville end. (Below) Acacia Ridge Panel – First provided in 1983, the panel has been replaced once and has gone through several changes over the years. Shown here in 2007 when it covered Greenbank on the interstate uniform gauge line.



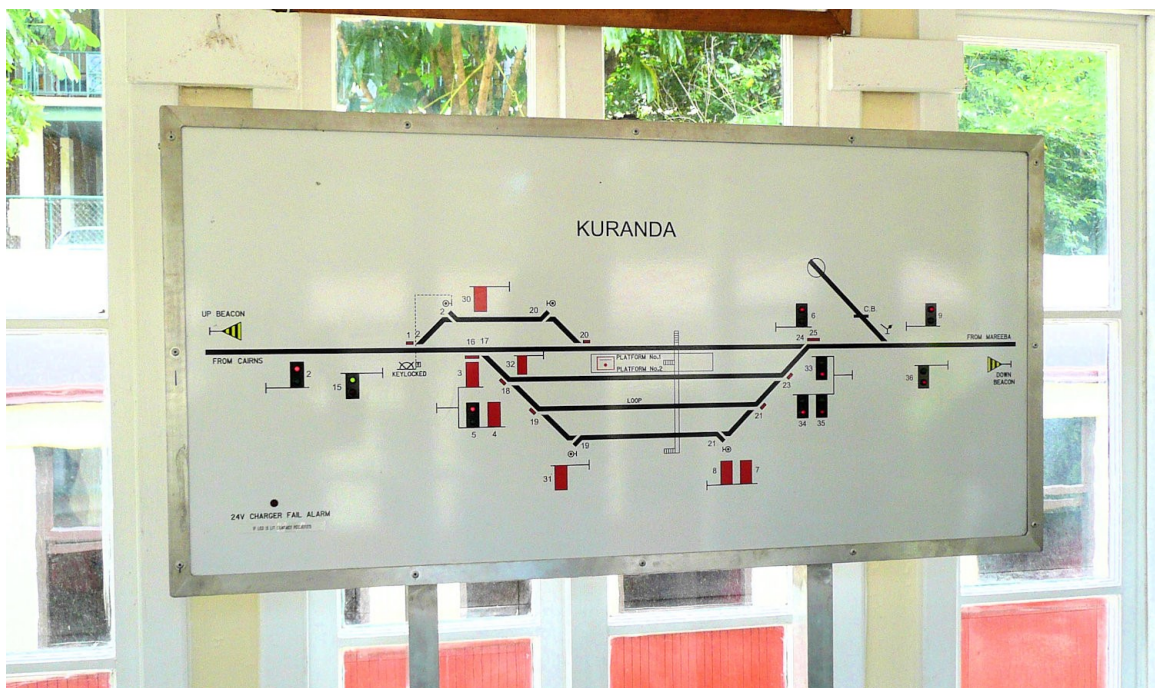


(Above) Roma - First provided in 1985 to control outlying sidings, the panel has been replaced and now covers a rationalised layout.
 (Below) Mackay Frame A – Built with the new station and yard in 1992, providing local control under the Centralised Traffic Control of points and signals on the Townsville end.





Kuranda – Built in 1914, the 37 lever T-Bar interlocking continues to control the station albeit a few alterations over recent years with Direct Traffic Control has seen some change including replacement of the cabin diagram with this one of LED signal repeaters.



SUNSHINE SHENANIGANS

WORKING TRAINS BY MEANS OF A PILOTMAN

3RD JANUARY 1985

Dave Harvey

I was working at Sunshine Signal Box with another Special Class Signaller on this hot afternoon when Tottenham B Box bells out an Adelaide goods.

I ring Train Control and ask if he wants to keep the Adelaide goods rolling. The answer is in the affirmative so within 5 to 6 minutes I can see the head light approaching approximately a kilometre away across the paddocks on a large left-hand curve.

I begin to make the road out of the Independent Goods Lines and across the Suburban Lines and the other signaller, John McIlvena, makes the road at the other end of the mechanical frame but can't clear signal number 3, the Departure Home signal to the single line section, South Line to Deer Park West Junction on the Rockbank (Ballarat) Line.

I suggest to John we put the goods on the North Line so John restores lever 3 and I restore lever 30 to the stop position. I then operate 39 points (South Line to North Line) and then signal number 30 and signal number 6 which is the Home Departure signal into the single line section, North Line to Deer Park West Junction.

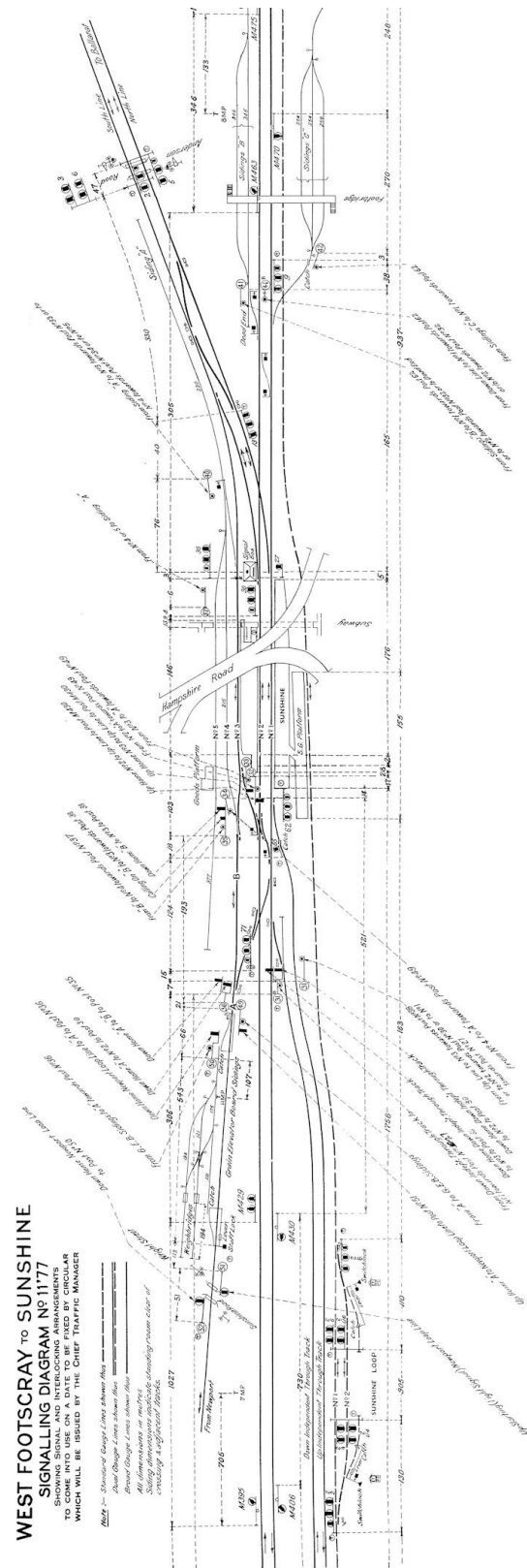
Both signals 3 and 6 are operated by mechanical levers and both operate three position colour light Home signals. Both signals are out of sight of the signal box so there are signal repeaters showing N (normal) and R (reverse) slung beneath the block shelf to assist the Signaller.

I now go to the Centralised Traffic Control (CTC) signal panel which controls the traffic on the first sections toward Ballarat. Signal 6 light is flashing red so I place all the signals on the panel to proceed as far as Deer Park West Junction as there will be a cross there with an Up Bacchus Marsh rail motor. That was the reason I put the goods on to the South Line in the first place.

All the signals to Rockbank appear to be flashing with red lights indicating a possible 'Westronic' fault or a total failure of the CTC system. By now 9121 goods is out on to the Down Main Suburban Line and was half a platform length from Post 30, the Down Home signal at the end of Platform No.2. I immediately went over and threw the Down Home signal back to the stop position.

Throwing the signal back in the face of a driver isn't an activity that one recommends, but I made that decision as I knew the situation here was going to get a little more chaotic. I can hear some of the readers saying, what if the train couldn't stop in time at the home signal, what would happen then? Would you tell Train Control that a 'SPAD' had occurred?

The answer is: one thing at a time. There was no risk to any personnel or equipment and there is a bigger picture unfolding here. Understanding your work environment and what you can and can't do and what you get away with is key when the system goes pear shaped. The driver didn't do anything untoward and his career could be ruined by him passing that signal.



A portion of Diagram 1177 showing the signalling at Sunshine. This was still current in 1985.

In retrospect I should have left the signal at proceed and gone and stood on the platform with a red flag, but hind sight is a marvellous thing. I didn't have two minutes to leave the signal box with other trains on other sections on different panels requiring attention and Signalman McIlvena trying to rectify the CTC fault.

At the time, Post 30 was showing a bottom yellow indication indicating the diverge, now it showed two reds. 9121 goods was travelling that slow it had plenty of time to pull up at the home signal, and since I have put the signal back in front of that train, I now wish to return the lever to its normal position in the frame. However, the signal lever will NOT travel the last 4 inches (100 mill) into the frame to its normal position. This is because the train is sitting on the approach track circuit and this prevents the signalman from returning the signal lever fully into the frame, thus preventing the signalman from altering the points in front of a train, thus preventing a possible derailment if the train couldn't stop in time.

The way to release the signal lever back in to the frame is to operate the "Time Release". On the block shelf, above the signal lever sits the time release which is encased in a shroud of tin of a cylindrical magnum of glass about 300mm wide by 350mm long. On the front of the time release is a large black knob that, once released by one click in the anti-clock wise direction, will release the clock work mechanism that will run down. When it has completed its allocated time run down the route-locking will be released. The predetermined countdown in minutes begins and this count down of the mechanical mechanism of spinning brass cogs and gears are visible through the glass as the clock work mechanism makes a constant whirring sound that is a constant reminder to a Signalman's ears that he may have made an error and he won't be able to "get away with it this time".

Post 30 has a time release run down time of 3 minutes, or 180 seconds, and that is a long time to block a train when you have made a mistake. Then you have to explain it to Train Control why the train has been delayed 3 minutes. While the Time Release was running down, I now have time to leave the signal box and go out to the crew of 9121 to apologise to the Driver for throwing the stick back, and I explained the situation as there was going to be quite a few delays.

It was better to stop 9121 at the platform so we could communicate with the crew instead of them being 400 metres around a sharp left-hand corner. The crew understood, after all there are no train to base radios, or Driver to Guard or Driver to signal box radios as yet.

So now both suburban lines are blocked with a goods train equal to about 80 vehicles. I made my way back to the signal box and ponder what the next move will be. Signalman McIlvena and I don't have to wait long for the next surprise when a few moments later the signal box door opens and who should walk in, none other than Victoria's most senior Safe Working Inspector, Mr Ron McLeod.

It was quite coincidental that he should just 'pop by' at this moment in time. I told Mr. McLeod the situation and he told the other signalman to ring the fitters, then advise Train Control. Mr McLeod took charge and told me to tell

the driver of 9121 not to move his train until instructed to do so by the signalman at Sunshine.

Mr McLeod and I then hopped into his HG Holden and we sped around to Tottenham B Box. On arrival, Mr McLeod leads me up the stairs, opened the door, and here is the Signal Assistant lying back in the chair, feet on the table, watching television.

Well, did the Signal Assistant jump up, for he knew who Mr McLeod was and he knew he was in trouble. I'm sure he was on the brink of wetting his trousers. They both eyeballed each other. It was a bit of a Mexican stand-off. Nobody knew what to say. I think Mr McLeod never thought that he would come across a Signalman watching TV in the suburban area in the middle of the day.

Mr McLeod then spoke in a hushed voice: "You know you're not meant to be watching television, so put it away we've got work to do, son".

The Signal Assistant complied and put away the TV and that was all that was said about it.

The reason we went to Tottenham B Box was to get a Signalman's Wrong Line Order from the Signalman at Tottenham B Box. This order would state that he wouldn't let any train pass down this line until this train (9121) returns to the station in the rear or the order is returned to him.

We left with the Signalman's Wrong Line Order, gave it to the driver of 9121, and he could then set back on to the Goods Lines knowing the line behind him was clear. 9121 goods was pushing back in the Up direction on the Down Line that is why the Wrong Line Order is required. The Guard was also informed.

With three long blasts of the whistle, 9121 goods began to set back on the wrong line towards Tottenham B Box. 9121 only set back far enough to clear the main suburban lines, just behind the home departure off the Goods Lines. The Signalman's Wrong Line Order was then returned to the Signalman at Tottenham B Box so normal traffic could be restored.

With a total failure of the CTC system on the broad gauge at Sunshine, contingency plans were soon in place to enable traffic to continue running. Traffic would be seriously disrupted, as there was mention of buses being ordered. The Up Bacchus Marsh Rail Motor was terminated at Melton and replaced by a bus.

Suburban trains were running again and arriving off the next Down St. Albans train were two Safe Working Inspectors namely Peter Symons and Peter Close. As the head of the Safe Working Office in Victoria, Mr Ron McLeod chatted with his subordinates about the situation then he left them in charge of the scene.

A decision was then made that traffic was to be run between Sunshine and Rockbank by means of a Pilotman. This in effect would mean that a Pilotman would become a human staff and accompany each train though the section, subject to certain conditions.

"Where are we going to find somebody to be a Pilotman this late in the day?" the conversation went.

I was due off at 1400 hours and whilst there were no volunteers for the position I reluctantly said "I'll be the Pilotman if you can't get anybody else, I am due off soon".

"Okay, you can be the Pilotman" came the reply came back from Safe Working Inspector Mr Close. I tried not to make it that obvious, but I was positively elated at the news as I hadn't been a Pilotman before.

The criteria for being a Pilotman is this:

1. must be a railway employee; 2. must be at least 18 years of age; and 3. must have a left arm above the elbow.

Now I know that the last request sounds a little off beat but a Pilotman badge has to be worn on the left arm above the elbow so all concerned will know who he is. It is a red coloured cloth with the word "PILOTMAN" in white letters that is tied around the left arm above the elbow.

To establish working a section of track by means of a Pilotman involves a little bit of paper work but it roughly means that the Station Master and Signaller at each end of the section, as well as the person in charge of each intermediate station, get a signed authority from the Pilotman advising them of the situation. The Pilotman must get the signatures from the Signaller at each end of the section on HIS authority form before any train can traverse the section. However, the Pilotman can use a train to travel through the section to establish Pilot Working if the train has a proper authority to travel through the section. A good example would be under electric staff working if there was a staff out of the instrument and a train used that staff to travel through the section.

The section that has failed is Sunshine to Rockbank. The South Line would be booked out and all traffic would be run on the North Line. The Home Departure signal No

Diagram 6'76 was still current at the beginning of 1985. Unlike today, when even tiny changes cause the reissue of a diagram, by 1985 a considerable number of alterations had taken place and yet the diagram was still in use. The major alteration was that the connection in Sunshine itself (at the top left of the diagram) had been double track since 1977; the turnout shown here had been replaced by a crossover. The track layout is shown correctly on the 1977 diagram of Sunshine reproduced earlier. The other major alterations include the removal of the Ravenhall Siding at Deer Park, and the provision of boom barriers at Fitzgerald Rd, Station Rd, & Robinsons Rd. The platforms shown at Deer Park West never existed; I well remember being chided by Neville Hallis in the mid '80s, when the interlocking office realised that they didn't actually exist. He asked why they helped the signalling enthusiasts if the enthusiasts didn't tell them of mistakes.

VICTORIAN RAILWAYS

ORDER TO ROCKBANK

SIGNALING DIAGRAM NO 6'76

TO BE USED IN THE SECTION FROM SUNSHINE TO ROCKBANK

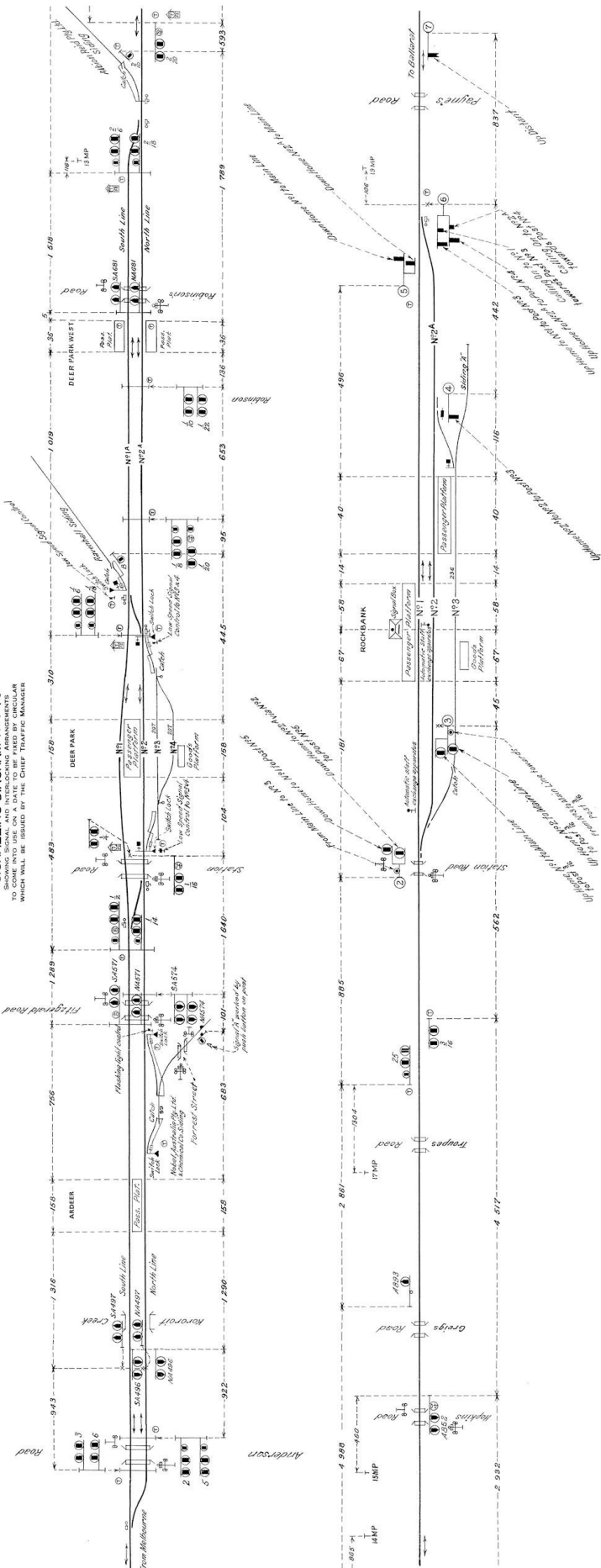
TO BE COME INTO USE ON A DATE TO BE FIXED BY CIRCULAR

WHICH WILL BE ISSUED BY THE CHIEF TRAFFIC MANAGER

Signal & Communication Engineer
1-2-198

Chief Signaller
3rd February 1986

All dimensions in metres.
Using alternative image, standing from
South to North, shown here



3 South Line to Rockbank and Home Departure signal No 6 North Line to Rockbank were displaying red and had blocking jacks fixed into the signal panel and signal post 3 over 16 at Rockbank into the single line section had a blocking jack fixed into the signal panel as well. Blocking jacks are similar to signal sleeves and prevents the signal from being operated.

The Pilot Key was pulled from the Pilot Key box by one of the Safe Working Inspectors and was handed to me. It was inscribed Sunshine to Rockbank North Line. I also wrote out a CTC Caution Order to pass Number 6 Home signal at Stop position which was a TR 13 C where a Signalman's Ordinary Caution Order is a TR 18 B and applies to most home signals on the Victorian Railways system.

I still didn't have the signature from the signalman at Rockbank on my Pilotman's authority to complete the Pilot Working Arrangements so my authority to travel through the section was the TR13C Signalman Caution Order.

Under the rules that govern CTC, *Rule 19*; states that "Failure of a Departure Signal controlling the entrance to a single line section; clause F states that If expedient Pilot working maybe established by a train travelling through the section by caution order."

Safeworking can be a complex subject. I sure there are readers out there saying "that's not correct". I can't dictate every detail. Just because a safeworking process isn't written here, it doesn't mean to say that a certain process didn't happen.

I then went down to the Station Masters office to hand the paper work over to the Station Master John Lerm, just as the Down Ballarat Passenger pulled into the platform hauled by veteran loco B67. I climbed aboard and the Driver did know what was going on as he had been advised at the last station in the rear, Footscray, that pilot working was in force.

We slowly went around to Signal 6 and I presented the driver with the pilot key, my paper work, and, more importantly, the Caution Order as the authority to enter to single line section. The passenger train passed Signal 6 at stop position and entered the CTC section with the next stop being the rather humble station of Deer Park. At Deer Park I climbed down from the cab and went to the station office where I handed a pilot working form to the Station Assistant.

We then set off for Rockbank and fortunately the home signal on the down was working so a green aspect was displayed on the Home Arrival. B67 arrived at the platform and I immediately left the loco and made my way to the signal box where I got my pilot working form signed by the Signalman there to complete my paper work. I then removed the pilot key from the pilot key box which was lettered Rockbank to Sunshine North Line.

With the two pilot keys in my possession, and both Departure signals into the section secured at the stop position, I then engaged in general conversation with Michael who was the Signal Assistant at Rockbank as I had talked to him for years over the block phone but until now had never met him.

Ding Ding. 2 bells from Melton, the pass was on its way to take me back to Sunshine. Fortunately, the phone system was working between Rockbank and Sunshine so trains didn't have to run on the time interval. The next train arrived to take me back to Sunshine which was the local Bacchus Marsh Railmotor, 56RM. Both Driver and Guard were together so I didn't have to go and find the Guard and explain myself.

56RM ran express to Sunshine where it ran directly into Number 3 Road and terminated. I alighted from the RM and sitting in Number 2 Road was locomotive C501 with its long load of wagons blocking the suburban lines, again. This was the goods that was set back towards Tottenham B Box earlier in the day.

I made my way up to the signal box where instructions were given, so I went down to the Driver of 9121 and told him that I was the Pilotman and I would be dispatching him and he would be running on time interval to Rockbank and that he was authorised to pass signal Number 6 at the stop position and enter the signal line section and I would follow on the next train.

Fortunately, the Signalman at Sunshine had warned the Driver and the Guard of the circumstances, so with the formalities out of the way, C501 sounded its whistle and it was away. C501 with its train safely passed through Rockbank and I made my way back to Railmotor 56 and followed it back to Rockbank. After briefly waiting for an electric staff for the Rockbank to Melton section the railmotor was away.

My next ride back to Sunshine turned out to be an Up Passenger hauled by T383 and T363. I advised the Guard of the running condition and climbed on to the loco where I showed the Driver all my paper work, but he didn't seem to interested in that, he was more interested in how he was going to pass the Home Departure Signal into the section seeing that I wasn't giving him a Caution Order. I told the Driver I was full bottle on the procedures since Sunshine was my work location and where the signalman was the Train Controller on the CTC panel between Sunshine and Rockbank. I told the Driver that I wasn't just the parcels assistant that was grabbed off the platform, that I was one of the Signalmen from Sunshine Box and under Section 20 of the CTC rule book which contains the instructions for the Failure of the Signalling Apparatus; Clause D; Sub-Clause (IV) states that the signal applicable to entering a single line section must be kept at stop, but Drivers may pass such signals when instructed to do so by the Pilotman.

I then said to the driver "Seeing that I am the Pilotman, I am authorising you to pass signal 3 over 16." The Driver of the pass just looked at me and he eventually said "How do you remember all that crap" to which I replied "It's my job, it's no different to you having to describe how a triple valve works the brake system".

After all that discussion, we eventually sailed into Sunshine where I disembarked and I headed straight to the signal box for the next train which was waiting on the Goods Lines. It had become evident that quite a few trains had been cancelled and replaced by buses otherwise these goods trains would not be getting such a good run.

Just arrived at the platform was a brand new Australian National locomotive BL32 in the green and gold livery. I entered the nice clean cabin and after giving verbal instruction to pass Post 6, the driver of BL 32 opened up the throttle and away we went arriving at Rockbank in record time to find a 2nd series X class sitting in No 2 Road.

With the Down Goods away the Guard of the Up Goods was on the platform so I told him he would be "Pilotman Accompanied". The Guard hopped down into the pit and started to walk back to the guards van while I made my way with the Driver up to the cab of X41. We made small talk till the tap was pulled and a partial air loss

in the brake pipe till it registered on the gauge. That was instigated by the Guard of the train to advise the Driver that he was aboard the guards van and was right to go. Away we went and it wasn't long till we stopped at Sunshine Number One platform where I alighted and made my way to the signal box.

It was there that I received the news that I was to be replaced due to long hours. With a new Pilotman, who just happen to be the next Signaller commencing duty, replacement paper work was organised, I handed over the pilot keys, the Pilotman arm badge and my very interesting day drew to a close.



Hornsby again with the route set for Sydney via Epping. This view shows the actual departure signal on the right and the dwarf Indicator or Co-acting signal in the six foot. The double yellow (Medium Turnout) indicates the route is set for a diverging route and proceed at the highest speed permitted through the turnout. Interestingly this signal can only show stop or a diverging route but there is no route indicator. Maybe they rely on the banner signal for that function. The Co-acting signal will only show stop and proceed and the driver should check the main signal before moving off. The main signal had been positioned to just outside the structure gauge envelope hence no backgrounds, any further away from the track and it

might be obscured by passengers on the platform. The points at near end of the scissors are arranged for independent operation with individual EP motor, FPL, detectors and locks for each blade. The EP point arrangement was typical NSW and the equipment was made in the workshops. There was normally a cover over the works but by the time the photo was taken many were left off. The train stop was a more modern type made by Westinghouse. For trailing moves it was not suppressed but it did not matter as when it was back tripped by the last car coming into the platform the train was essentially stopped. Photo Andrew Waugh, caption Bob Taaffe