

SOMERSAULT

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SIGNALLING RECORD SOCIETY OF VICTORIA INC



On Easter Monday, 20 April 1908, the 6.50 pm Up Bendigo passenger train overran the home signal and crashed into the rear of an Up special train from the Ballarat line. Forty four people lost their lives in this accident and over 400 were injured. This photograph was taken on the following day and shows the 'big crane' from Newport Workshops standing on the Up Bendigo line at the north end of Sunshine yard during clearing operations. The Up and Down Ballarat lines can be seen passing the camera on the left (the single line commenced behind the camera). On the right is the Newport line, with a siding leading from it. The signalbox visible here was brought into service on 20 January 1896 when a 'combined booking office and signalbay' was brought into service on the Up platform. In practice, as can be seen here, the new facility was really a signalbox erected adjacent to the station building and connected by a doorway. None-the-less, it allowed a useful reduction in staff. Previously, the station had been staffed by an SM, porter, and two classified signalmen. Afterwards it was staffed by an SM and two operating porters. The box contained a 33 lever Rocker frame which was constructed on 9 February 1890 and so was, presumably, relocated from the older box. The Sunshine accident was probably caused by the Driver approaching the home signal at too high a speed and braking too late, but there were contributing causes. The first was the Bendigo train was not accepted under the Warning arrangement, even though the SM intended to bring the Ballarat train into the platform while the Bendigo train was approaching. The second was that the starting signal, at clear for the Ballarat train, was visible for a far longer distance than the Bendigo home or distant signals. This resulted in the Driver thinking the signals were off for his train, although the Driver was emphatic that he had seen both the distant and home at danger and correctly responded to them. The final cause was the extremely poor maintenance of the Westinghouse brakes on the Bendigo train which would have significantly extended the stopping distance of the train. This photograph is taken from W.O. Bagley's "The Sunshine Railway Disaster".

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SIGNALLING ALTERATIONS

The following alterations were published in WN 9/08 to WN 16/08 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 alteration.

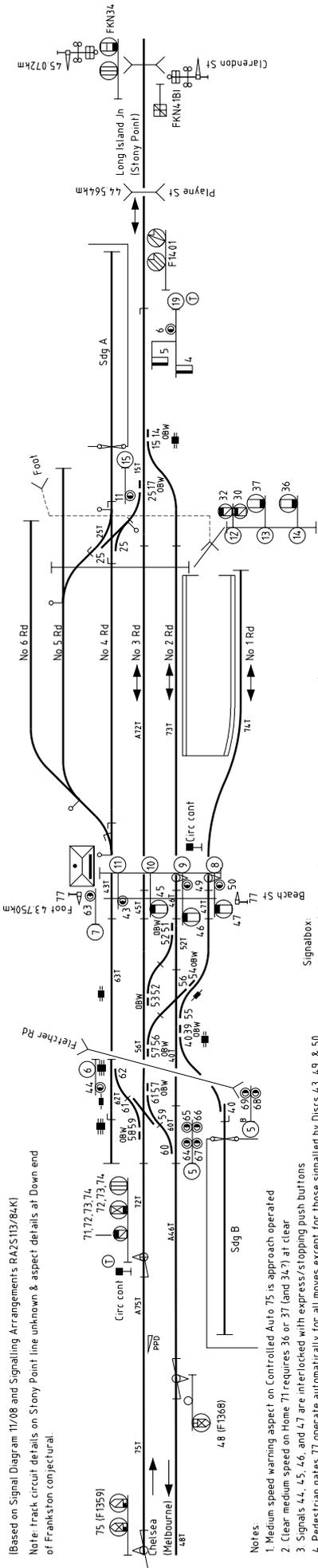
- 23.02.2008 **Blackburn** (SW 109/08, WN 9)
On Saturday, 23.2., pedestrian gates were provided at Cottage St. Amend Diagram 137/06.
- 26.02.2008 **Caulfield** (SW 110/08, WN 9)
On Tuesday, 26.2., the signal units on the following signals were replaced by United Tri-colour MK3 TC2 units: Home CFD765 and Automatic CFD675.
- 27.02.2008 **Colac** (TON 48/08, WN 9)
From Wednesday, 27.2., the crossing loop, siding tracks, and turntable track were booked out of use.
- 28.02.2008 **Swan Hill** (TON 50/08, WN 9)
As from Thursday, 28.2., the points leading to the freight (fast track) road have been returned to service. TON 9/08 is cancelled.
- 29.02.2008 **Wodonga Coal Sidings** (TON 52/08, WN 9)
On Friday, 29.2., No 2 Track was booked out of use due to damage by log loading activities.
- 01.03.2008 **Spencer St**
Between Friday, 29.2., and Sunday, 2.3., the LED signal units on the following signals were replaced by United Tri-colour units.
29.2. Posts 535 & 536 (No 8 Track) (SW 100/08, WN 9)
1.3. Posts 548 & 549 (No 8 Track) (SW 101/08, WN 9)
2.3. Post 555 (No 8A Track) (SW 102/08, WN 9)
- 02.03.2008 **Spencer St** (SW 114/08, WN 9)
On Sunday, 2.3., the Route Indicator on Post 123 was lowered due to the Media House project.
- 02.03.2008 **Werribee** (SW 113/08, WN 9)
On Sunday, 2.3., the Westinghouse Tri-colour LED signal units on the following signals were replaced by United Group Tri-colour TC2 units: 8, 20, 24, and 28.
- 02.03.2008 **Westall - Springvale** (SW 123/08, WN 9)
On Sunday, 2.3., the computer based interlocking software for Westall Yard Sidings was updated and the operating restrictions in SW 308/07 were cancelled.
- (04.03.2008) **Flinders St - Spencer St** (SW 121/08, WN 9)
Commencing forthwith the operating restrictions in SW 49/08 re the routing of non-electric trains are cancelled.
- (04.03.2008) **Werribee - Corio** (SW 29/08, WN 9)
In conjunction with the alterations described in SW 23/08 & 24/08, the operating restrictions in SW 124/07 & 125/07 are cancelled.
- (04.03.2008) **Springhurst** (TON 53/08, WN 9)
The level crossing at Rutherglen Rd (256.287 km) has been closed.
- (04.03.2008) **Caulfield - Moorabbin** (SW 117/08, WN 9)
Commencing forthwith the operating restrictions in SW 315/07 re the routing of non-electric trains are cancelled.

- 06.03.2008 **Spencer St No 1 Box** (SW 127/08, WN 10)
On Thursday, 6.3., Points 84 were converted to motor operation using an M23A point machine. Out of correspondence, normal detection, and reverse detection indications were provided.
- 07.03.2008 **Flinders St** (SW 131/08, WN 10)
On Friday, 7.3., the Westinghouse Tri-colour LED signal units on the following signal were replaced by United Group Tri-colour units: Post 160 (No 14 Track).
- 07.03.2008 **Spencer St** (SW 111/08, WN 9)
Between Monday, 3.3., and Friday, 7.3., the signal units on the following signals were replaced by United Tri-colour MK3 TC2 units: No 1 Box: 137, 140, 164, 244, 250, 258, 308, & 316; and Metrol: 520, 817, & 824.
- (11.03.2008) **Seymour** (SW 32/08, WN 10)
New Operating Procedure 103A has been issued, and SW 209/06 is cancelled.
Locomotive Depot Area
The Locomotive Depot Area consists of broad, standard, and dual gauge tracks. A dual gauge turntable is situated at the northern end of the depot. The broad and dual gauge tracks are used for stabling passenger trains. Broad gauge access to the depot is controlled by the Signaller, Seymour, across the standard gauge line. Standard gauge access is by a switch locked set of points released by the ARTC Train Controller.
Seymour Railway Heritage Centre Interface Arrangements
The SRHC leases the head shunt extending from Dwarf 50 to the baulk at the Up end. The main broad gauge access to the SRHC is via two sets of hand points from the head shunt. A second broad gauge access is at the northern end via a set of hand points in the locomotive depot area. Standard gauge access is also at the northern end via a fixed turnout in the dual gauge carriage sidings.
Track maintenance machines and non SRHC vehicles may access or stable in the head shunt, however, permission must be obtained from the SRHC prior to permitting the movement.
SRHC personnel accredited in driving and shunting duties may conduct shunting operations between the SRHC depot and the head shunt. Movements between the station and the SRHC depot will be controlled by the Signaller Seymour once past Dwarf 50.
- 11.03.2008 **Spencer St No 1 Box - Franklin St** (SW 125/08, WN 10)
Between Friday, 7.3., and Tuesday, 11.3., the Country lines and the broad gauge lead to No 1 Track were taken out of use to permit Metwest track works to be carried out.
At Spencer St No 1 Box, Points 44 & 75 were abolished. Posts SST513 and 421 were taken out of service, and SST511 was secured at Stop. Points 43, 46, 74, 83, and 176 were converted to motor operation. The hand points leading to No 1 & No 3 Bank Sidings were converted to motor operation and are worked by lever 43. Levers 44 & 75 became pilot levers. Levers 36 - 40, 49, 51, 52, 98, 99, 115, 118, 183, 184, 187, & 188 were sleeved normal.
At Franklin St, Up Homes 516 and 546 were prevented from clearing for moves to the Country line. Points 416 were secured normal. Post 521 was secured at Stop.
Diagrams 5/08 (Southern Cross Passenger Lines) and 7/08 (Southern Cross - North Melbourne Passenger Lines) replaced 61/07 and 63/07.
- 12.03.2008 **Spencer St No 1 Box - Franklin St** (SW 138/08, WN 11)
On Wednesday, 12.3., Up Home SST513 on the Country Line was restored to service fixed at Stop. Amend Diagram 5/08 (Southern Cross Passenger Lines).
- 12.03.2008 **Talbot** (SW 30/08, WN 10)
On Wednesday, 12.3., flashing lights were provided at Old Ballarat Rd (206.825 km). Operation of the flashing lights will be by a level crossing predictor adjusted so that trains travelling at more than 50 km/h may accelerate after passing the predictor board.
- 13.03.2008 **Werribee** (SW 129/08, WN 11)
On Thursday, 13.3., the Westinghouse Tri-colour LED signal units on the following signals were replaced by United Group Tri-colour TC2 units: Down Homes 6 and 18.
- 14.03.2008 **Spencer St No 1 Box** (SW 140/08, WN 13)
On Friday, 14.3., the point machines on Points 255 & 257 were replaced by M23A point machines.
- 14.03.2008 **Colac** (TON 70/08 & 84/08, WN 12)
On Friday, 14.3., the crossing loop and siding tracks were booked back into service. The turntable track remains out of service.
- 14.03.2008 **Frankston - Stony Point** (SW 93/08, SWP1/08, 2/08, 3/08 & 4/08, WN 10 & 11)
From 2000 hours, Friday, 14.3., the Automatic Electric Staff system Frankston - Somerville - Hastings and the Train Staff and Ticket system Hastings - Stony Point was replaced by the Automatic & Track Control System with the sections Frankston - Long Island Junction - Stony Point.
The points and signals will be controlled from a Westrace interlocking worked from a Westcad control panel at Frankston signalbox with a duplicate display at Centrol. Track occupancy is detected by axle counters. Axle counter section A extends from FKN34 to LJC90, section B from LJC96 to STY94, and section C from STY94 to the end of the line.
At Frankston the existing Up Distant Post 20 was relocated to 49.059km. Up Home 3 was provided. Down Automatic Post 21 was abolished. Down Repeating F1401 and Down Home Departure FKN34 were

Frankston

(Based on Signal Diagram 11/08 and Signalling Arrangements RAZS113/84K1)

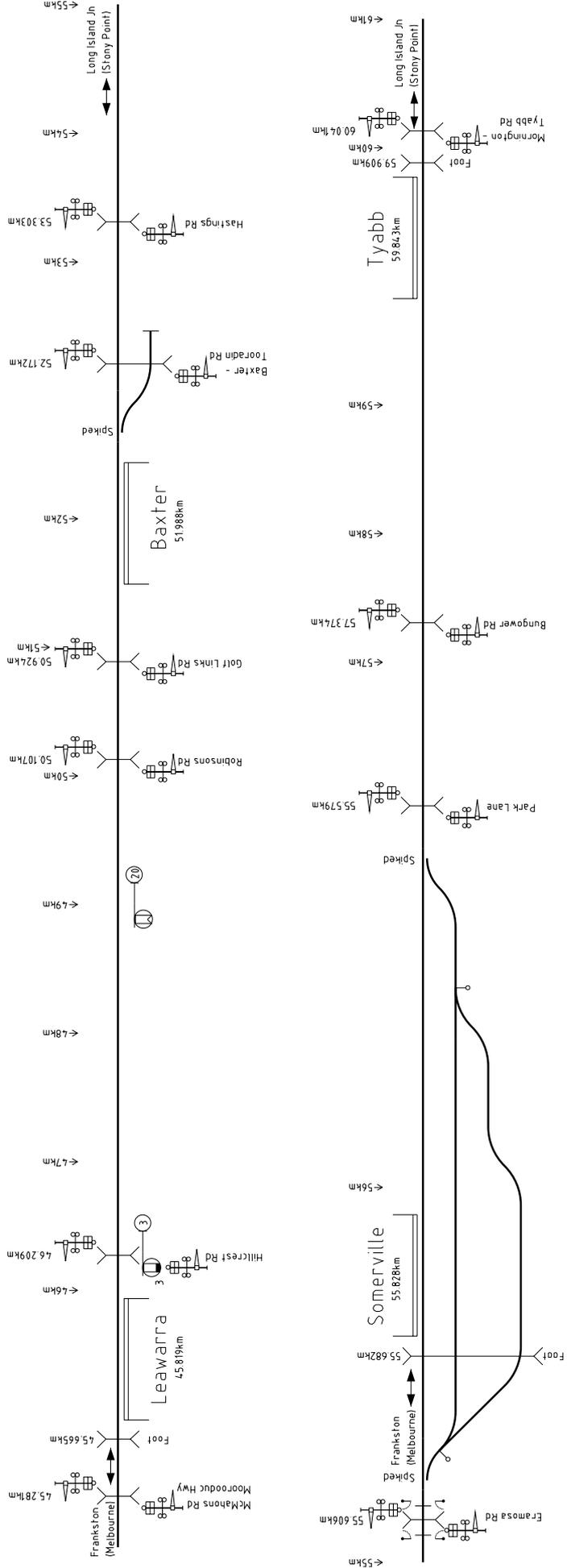
Note: track circuit details on Stony Point line unknown & aspect details at Down end of Frankston conjectural.

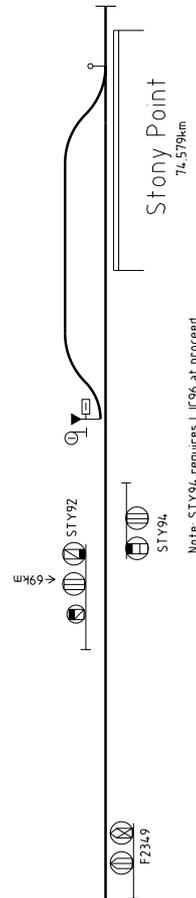
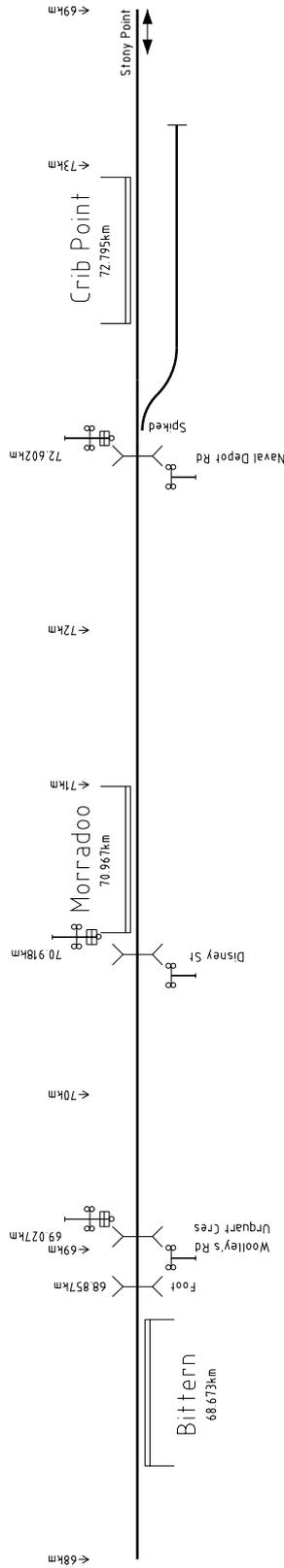
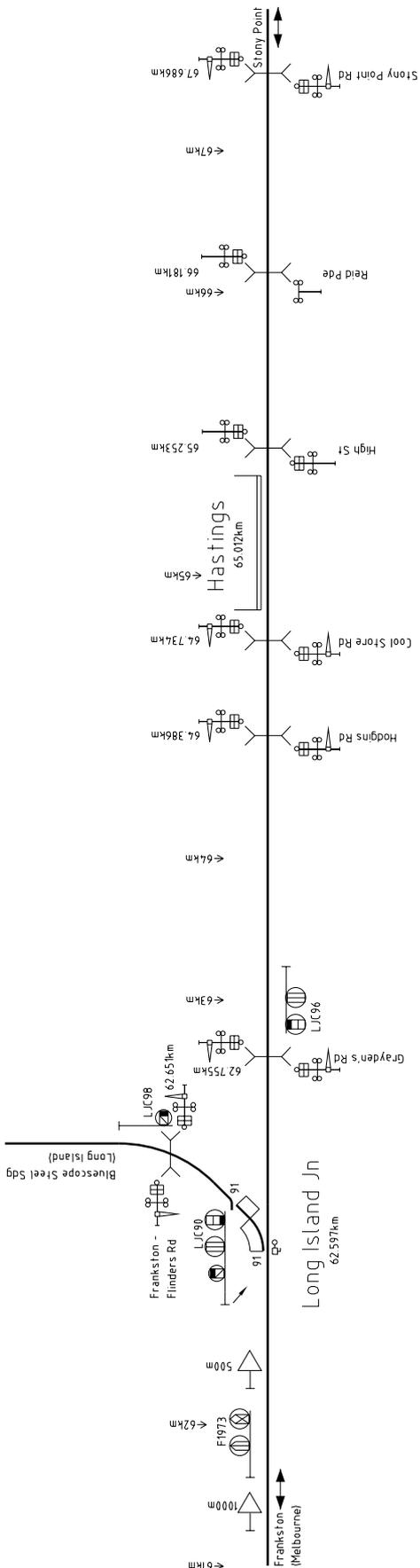


1. Medium speed warning aspect on Controlled Auto 75 is approach operated
2. Clear medium speed on Home 71 requires 36 or 37 (and 34-7) at clear
3. Signals 44, 45, 46, and 47 are interlocked with express/stopping push buttons
4. Pedestrian gates 77 operate automatically for all moves except for those signalled by Discs 43, 49, & 50
5. Crossover 56 and Points 60 air assisted
6. Beach St pedestrian gates. Up approach starts at 72T (304m, 30s@40km/h), Down Holding A75T (150m, 10s), Up control A72T, 73T or 74T (255m, 22s@40km/h)

Signalbox:

79 Lever A Pattern Frame with multiple between levers 44-42
 Spare: 1, 2, 7-10, 12, 13, 16, 18-24, 26-29, 31, 33, 35, 38, 41, 42, 70, 76, 78, 79





Note: STYY94 requires LJC96 at proceed

provided. Banner indicator 19BI was provided for Post 19. An axle counter is provided adjacent to Home 34. An Up train must not pass Post 3 unless a clear line exists on Nos 2 or 3 Roads as far as Posts 9 or 10 (respectively) and the points are set for the clear road. The clear aspect on the Up Distant indicates that route is set for No 2 Road to Post 9, or No 3 Road to Post 10, and the line is clear.

Somerville. The station limit boards were abolished.

Long Island Junction. The staff lock on the points was removed and the points provided with a dual control point machine rodDED to a catch point. The points are worked by lever 91 and are self normalising. Down Automatic F1973, Down Home LJC90, and Up Home LJC96 were provided. Up Home LJC98 was converted to a dwarf signal showing a purple light and the associated push buttons were abolished. Distance markers are provided 500m and 1000m in the Up direction from Points 91. A 50m point release timing track commences at the 500m marker. The timing track is set for 15 km/h. If a train is proved under this speed, Points 91 will run reverse and the low speed aspect on HomeLJC90 will become available. Axle counters were provided adjacent to Homes LJC90 and LJC96. The safeworking hut was abolished.

Hastings. The station limit boards were abolished.

Stony Point. Down Home A and the plunger locking was abolished. The Up end points were secured by a HLM point lock electrically released by Frankston via a V5PSW keyswitch. Down Automatic F2349, Down Home STY92, and Up Home Departure STY94 were provided. An axle counter is provided adjacent to STY94.

Operating Procedures 46, 47, 48, and 50 were re-issued to cover failures of the ATC, granting of line clear for Up trains at Frankston, the axle counting system, and release of the switch locked points at Stony Point. SWP 13/07, 16/07, 19/07, and 20/07 are cancelled.

Diagram 16/08 (Leawarra - Stony Point) replaced 44/07.

- 15.03.2008 **Spencer St No 1 Box** (SW 141/08, WN 13)
On Saturday, 15.3., the point machines on Points 309 were replaced by M23A point machines.
- 16.03.2008 **Richmond** (SW 137/08, WN 11)
On Sunday, 16.3., the Westinghouse Tri-colour LED signal units on the following signals were replaced by United Group Tri-colour TC2 units: B72 and B78.
- 17.03.2008 **Manangatang - Robinvale** (TON 72/08 WN 12)
On Wednesday, 17.3., the line between Manangatang Block Point and Robinvale was booked back into service. TON 42/08 is cancelled.
- 17.03.2008 **Bonbeach - Frankston** (SW 134/08, WN 10)
On Monday, 17.3., Diagram 11/08 (Bonbeach - Frankston) replaced 7/07 due to the Stony Point line resignalling.
- 19.03.2008 **Spencer St No 1 Box** (SW 142/08, WN 13)
On Wednesday, 19.3., Posts 177, 232, & 236 were converted to Westinghouse R4 LED heads.
- 19.03.2008 **Echuca** (TON 75/08, WN 12)
On Wednesday, 19.3., the Rice Mill private sidings (Weighbridge and Container Sidings) were booked out of service.
- 26.03.2008 **Manangatang - Robinvale** (TON 74/08, WN 12)
On Wednesday, 26.3., the line between Manangatang Block Point and Robinvale was booked out of service. Baulks were provided at Manangatang Block Point.
- 28.03.2008 **Spencer St No 1 Box** (SW 154/08 & 155/08, WN 13)
On Friday, 28.3., the point machines on Points 127, 144, 145 & 147 were replaced by M23A point machines.
- 28.03.2008 **West Tower** (SW 39/08, 40/08, 41/08, 42/08, 43/08 & 45/08, WN 12)
From 2000 hours on Friday, 28.3., until 0400 hours Monday, 14.4., West Tower will be temporarily closed to allow rehabilitation works. The West Tower Signaller will be relocated to Centrol together with the WestCAD system controlling West Footscray - Tottenham - Brooklyn.
Motor operation of all remaining points operated from West Tower will be disabled. Points 125, 129, 131, 179, 181, 185, 187, 189, 191, 199, 201, 247, and 251 will be secured reverse. Points 203, 215, and 249 will be secured normal. Gate lever 155 will be placed in the centre position. The single line control for the Engine Flyover will be provided to Metrol. South Kensington. South Kensington Points 87 will be sleeved reverse. The following tracks will be out of use: Engine Tracks between Post 280 to Post 124; the Wagon Storage Yard; Creek Siding between Post 132 and Post 124; Down Engine Track between a point opposite Post 188 to Moonee Ponds Creek; Coburg Goods Line between Posts NME777, 182, and 176; Down Main Goods Line between Post 174 to Post SKN793; Up Main Goods Line between a point opposite SKN793 to Post 178; South Hump Avoiding Track between Posts 124 and 266; and Arrival Tracks 1 and 3-6.
Suburban Stabling Sidings. Train Authority Working will be in force between the Main Goods Line at Franklin St (Home 252), Dwarfs 140, 142, 144, 146, 148, 150, 152, 154, and 158 (Suburban Stabling Sdgs), Dwarf 160 (Suburban Train Washing Plant), Dwarf 170 (No 2 Arrival Road), and Dwarf 120 (Melbourne Steel Terminal via the North Hump Avoiding Track). Points 113, 159, 161, 163, 165, 167, 169, 171, 173 & 175 will be operated manually and be secured by lockable point clips. Crossover 117 will be secured normal and Points 137 and 183 reverse by lockable point clips with the key held by the Melbourne Yard

Signaller. Movements in this area will be controlled by hand signallers co-ordinated by the Melbourne Yard Signaller. Only one movement at one time may be made.

Engine Flyover. Movements between the Suburban lines at Franklin St (Home 504) and South Dynon Loco (Dwarf 190) will be conducted under Train Authority Working. The Loco Flyover Signaller will accompany all movements and authorise movements past the fixed signals. Points 215 and 203 will be secured normal, and Crossover 199 and Points 201 will be secured reverse by lockable point clips with the keys held by the Loco Flyover Signaller. Access between South Dynon Loco and the Goods Lines via the Reversing Loop Junction will not be available. These moves must operate via Appleton Dock and Hollands Loop.

South Kensington and North Dynon Yard movements. The North Dynon Signaller will be responsible for all movements on the Through Goods Lines between South Kensington and Sims Street Junction, including movements to and from the North Dynon Agents Siding and North Dynon Yard. Only one movement at one time may be made. This area will be bounded by Posts 88, 90, 92, 94, 106, 110, and 112. Points 87 will normally be secured reverse to allow Metrol to operate SKN771 towards Post 88. Points 91 will normally be secured normal and Points 103 reverse away from W Track.

South Dynon and Locomotive Provisioning Centre movements. The South Dynon Signaller will be responsible for all movements between South Dynon, the Locomotive Provisioning Centre and W Track. Only one movement at one time may be made. Points 103, 105, and 135 will be operated by the Signaller. A key switch will be provided for Points 123 to prevent the ARTC Train Controller signalling moves between the ARTC main line and South Dynon.

Reversing Loop and Melbourne Steel Terminal movements. The Signaller West Tower (at Centrol) will be responsible for all movements on the Reversing Loop, the South Hump Avoiding Track, and for the areas controlled by the existing Stop Boards. Crossovers 103 and 105 will be worked by Hand Signallers.

28.03.2008 **North Melbourne - South Kensington** (SW 149/08, WN 13)

From 2000 hours Friday 28.3., until 0400 hours Monday, 14.4., the following points will be secured normal to prevent trains from being routed towards the Main Goods Lines or the Coburg Goods Lines: North Melbourne Crossover 686 and South Kensington Points 678D.

30.03.2008 **Dandenong** (SW 152/08, WN 13)

On Sunday, 30.3., Posts DNG708, DNG718, and DNG728 were converted to multi-aspect LED signals. Modifications were made to the operation of the express/stopping function of Webster St and the Gippsland line as follows. When lever 708 is reversed this will force the express/stopping function to the 'express' mode. Express mode will apply to all Down trains unless the 'Stopping' mode is selected. This is by operating the 'Stopping' button. Once the Stopping mode is selected it will apply to all Down trains until Express mode is again selected.

30.03.2008 **Cranbourne** (SW 151/08, WN 13)

On Saturday, 29.3., and Sunday 30.3., the signalling at the Down end was simplified. Down Home CBE792 was abolished. Aspect alterations were made to CBE682 and CBE790. The level crossing protection at South Gippsland Hwy was disabled. The baulks and fixed train stop at the Down end of the platform were relocated 3 metres in the Up direction and a buffer light was provided on the baulk. Up Home CBE795 was fixed at Stop. Amend Diagram 9/07 (Lyndbrook Loop - Cranbourne).

(01.04.2008) **Blackburn - Ringwood** (SW 153/08, WN 13)

Signal Diagram 1/08 (Blackburn - Ringwood) replaced diagram 137/06 and the Blackburn portion of the temporary Box Hill - Blackburn diagram dated 24.1.07 (SW 11/07) as in service.

05.04.2008 **Hastings - Bittern** (SW 157/08, WN 14)

On Saturday, 5.4., boom barriers were provided at Reid Pde (66.175km). Healthy state indicators were provided. Amend Diagram 16/08 (Leawarra - Stony Point).

06.04.2008 **St Albans** (SW 156/08, WN 14)

On Saturday, 5.4., and Sunday, 6.4., electro-hydraulic claw locks were provided in lieu of the mechanical operation of Points 22, 23, 24, 28, and 29.

07.04.2008 **Spencer St No 1 Box** (SW 160/08 & 161/08, WN 14)

Between 2130 hours Friday, 4.4., until 0700 hours on Sunday, 6.4., the point machines on Points 305, 307, & 311 were replaced by M23A point machines. Between 2230 hours Saturday, 5.4., until 0500 hours on Monday, 6.4., the point machines on Points 233 & 245 were replaced by M23A point machines.

(08.04.2008) **Train Order Territory - Return Train Orders** (SW 53/08, WN 14)

When a return Train Order has been issued for a movement to an intermediate siding, the following instructions will apply when it is required to issue a Train Order for an opposing train.

When the train with the return Train Order is travelling to the intermediate siding, an opposing Train Order is only permitted to be issued up to an attended Crossing Station or unattended Crossing Loop in the rear.

When the train with the return Train Order is reported complete at the intermediate siding, a Train Order can be issued towards the Intermediate Train Order Station or Block Post in the rear.

When the train with the return Train Order has departed complete from the intermediate siding and is returning to the issuing location, the train crew must advise the Train Controller that the points are set

SOMERVILLE IN 1990

(Continued from Vol 31 No 2)

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Frankston</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Hastings</u>					REMARKS
	Is Line Clear ?		" Train Departure " Signal Received	" Train Arrival " Signal Sent	No. of Tablet or Electric Staff		Is Line Clear ?		" Train Departure " Signal Sent	" Train Arrival " Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
						27.7.90						
8503 Pass		7:03	7:15	7:31 ³⁰	4	3/1	6:46	7:31	7:40	25		
8509 Pass		8:49	9:18	9:32 ³¹	5	1/3	8:33	9:32	9:43	26		
9529 4		10:55	11:00	11:14	6		2-2-1 11:07	11:14				
8513 Pass		11:14	11:50	12:07	7	ARRIVAL SENT PER PHONE STAFF IN HOLDING INSTRUMENT.	11:29	12:07	12:17	27	R 5-3 = 11-29	
<p>APIX on 11-30 Signals + clock ok.</p> <p>STAFF INSTRUMENTS FRANKSTON - SOMERVILLE FAILED AT 11:50</p> <p>ASSY. Supt. SAFEWORING'S GRANTED PERMISSION AT 12-15 FOR ALL TRAINS TO USE N^o 7 STAFF T. F.N.</p>												
8517 Pass			13:50	14:05	7		13:19	14:06	14:16	28		
8521 Pass			16:10	16:27	7		15:21	16:27	16:36	29		
8525 Pass			18:20	18:38	7		17:45	18:38	18:49	30		
8529 Pass			21:10	21:25	7		19:31	21:25		24		
<p>STAFF TRANSFERRED BY ROAD TO FISTON AT 21-30 FOR 9521 COACH NEXT DAY SECURED IN STAFF N SM OFFICE</p>												
											W/ab off 22:00	

A second example of a staff instrument failure occurred on 27 July 1990 (above) where the Frankston - Somerville instruments failed around 1150. Staff No 7 had been withdrawn at Frankston at 1114 for Down 8513 Pass, and it appears that the failure was noticed when it was attempted to send Train Departure. The Train Departure message for this train was sent by telephone at 1150 (APIX), but the instruments were formally declared a failure at 1155. Pass 8513 arrived at Somerville at 1207 and the arrival message (ACRE)

was also given by telephone.

Unlike the previous failure, this one occurred with a staff out of the instrument. The Assistant Superintendent of Safeworking granted permission at 1215 to run all trains using Staff No 7. 'APIX' (Train Departure) and 'ACRE' (Train Arrival) messages were exchanged, but unlike the previous example, all trains had to carry the staff. Consequently, if the staff was at the wrong end of the section it was necessary to transfer it by car.

14 MAY 1990

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Frankston</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Hastings</u>					REMARKS
	Is Line Clear ?		" Train Departure " Signal Received	" Train Arrival " Signal Sent	No. of Tablet or Electric Staff		Is Line Clear ?		" Train Departure " Signal Sent	" Train Arrival " Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
						14 MAY '90						
8503 Pass		7:02	7:17	7:31 ³⁰	27	2/2	6:45	7:31	7:40	20		
8509 Pass		8:50	9:20	9:35 ³⁴	5	0/29	8:35	9:35	9:44	21		
8513 Pass		10:59	11:51	12:07	28	1/1	10:40	12:07	12:16	23		
R+A Rule 29 of w			13:35		22		13:19			22		
STR v. v. of at			13:36									
Rule 29 of w			13:38		23							
8517 Pass		13:39	13:48	14:05	22	2/7	13:19	14:05	14:15	22		
Rule 29 of w AT 14:09												
<p>STAFF N^o 5 INSTRUMENT IN FRANKSTON INSTRUMENT AT 14:10. 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13. (12)</p>												
Rule 29 of w AT 14:13					23		SPT. McE. Elliot.					
8521 Pass		15:33	16:12	16:30	2 ¹⁴	3/27	15:17	16:30	16:40	25		
8525 Pass		18:09	18:30	18:45	15	0/21	17:43	18:45	18:54	26		
											W/ab off 19:00	

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Hastings</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Frankston</u>					REMARKS
	Is Line Clear ?		" Train Departure " Signal Received	" Train Arrival " Signal Sent	No. of Tablet or Electric Staff		Is Line Clear ?		" Train Departure " Signal Sent	" Train Arrival " Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
						27 7 90						
8500 Pass		3:30	6:36	6:45	3	22/3	3:45	6:46	7:03	18		
8506 Pass		7:40	8:23	8:33	6	21/1	7:31	8:33	8:49	19		
8510 Pass		9:42	10:29	10:39	7	14/21	9:32	10:39	10:55	20		
0345/E		12:18		12:30	22							
T.L. GRANTED			12:30		13:00	HASTINGS TO SOMERVILLE						
8514 Pass		12:55	13:09	13:19	9							
T.L. GRANTED			13:25		13:40	SOMERVILLE TO BATTER						
T.L. GRANTED			14:05		14:35	BATTER TO SOMERVILLE						
8518 Pass		14:16	15:10	15:21	10							
8522 Pass		16:36	17:34	17:45	11							
8530 Pass		18:49	19:22	19:31	12							

Staff 7 was almost immediately used for Up light engine 0345 (departing Somerville 1230, arrive Frankston at 1246). The staff was then returned by road from Frankston, arriving at 1300, for use by the following 8514 Pass (depart Somerville 1319, arrive Frankston 1322). The staff instruments were formally booked out of use by the electrical fitter at 1500 at Frankston. Staff No 7 passed up and down the line until it arrived on the last Down train at 2125. It was then transferred by road to Frankston at 2130 for 9521 Goods

the following morning (actually 9334 Goods ran instead of 9521), and was secured in the safe in the SM's office. The staff instruments remained out of use until 1642 on 30 July.

One of the issues with the electric staff system (and other token systems) was the gradual accumulation of staffs at one end of the section due to unbalanced train workings. It is clear that this was an issue at Somerville, probably due to unbalanced workings to Long Island. With miniature electric staff instruments, it was possible to fit a transfer maga-

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Hastings</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Frankston</u>					REMARKS
	Is Line Clear ?		" Train Departure " Signal Received	" Train Arrival " Signal Sent	No. of Tablet or Electric Staff		Is Line Clear ?		" Train Departure " Signal Sent	" Train Arrival " Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
						14 May '90						
8500 Pass		5:00	6:36	6:45	2	31/3	4:00	6:45	7:02	25		
8506 Pass		7:40	8:26	8:35	3	26/0	7:31	8:35	8:50	19		
8510 Pass		9:44	10:29	10:39	4	42/0	9:35	10:40	10:59	20		
8514 Pass		12:45	13:09	13:19	6							
8518 Pass		14:15	15:07	15:17	7							
8522 Pass		16:40	17:33	17:43	9							

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>HASTINGS</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>FRANKSTON</u>					REMARKS
	Is Line Clear?		"Train Departure" Signal Received	"Train Arrival" Signal Sent	No. of Tablet or Electric Staff		Is Line Clear?		"Train Departure" Signal Sent	"Train Arrival" Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
8514 Pass		1254	1300	1320 ¹⁹	30	5 July		1242	1320	1338	1	
9345 6B	4.3	1435		1459 ⁵⁸	5	-		1425	1458	1517	3	
8518 Pass		1457	1510	1520 ¹⁹	22	8/0		1517	1520	1538	4	
8522 Pass		1637	1734	1745 ⁴⁴	1	2/1		1627	1745	1810	5	
<i>Clear off 19:00</i>												

cian confirmed that this signal was recorded in the TRB. An even number of staffs had to be withdrawn, and these were entered into the TRB at the withdrawing station, and also into the technician's register. Although not mentioned in Rule 37, it is apparent from the TRB that the signalman then tested the instruments a second time using Rule 29. This was a sensible precaution, and confirmed that the phase of the instruments had not been altered and that a staff could be withdrawn.

A staff was then withdrawn in the usual way at 1339 for 8519 Pass which departed at 1348 and arrived at Somerville at 1405. The technician may have used this train to travel to Somerville with the staffs, but more likely a car was used.

When 8519 pass cleared the section at 1405 the 12 staffs were inserted in the Frankston instrument at Somerville.

Once again, Rule 29 was used to ensure no staff was out before the transferred staffs were deposited. The signalman was required to check the staffs against the technician's register before the staffs were inserted. If the staffs were correct, the signalman signed the technician's register. In this example, the signalman also entered the staff numbers in the register, together with the total number of staffs. Once the staffs were inserted, the instruments were then tested a fourth time (Rule 29) and then the technician signed the TRB.

Not all Signalmen were so detailed in their recording of the bell signals for the transfer of staffs. At the top of these pages is the record of a second transfer from Frankston to Somerville on 5 July. In this case it appears that the testing when the staffs were withdrawn was not recorded, nor the 4-4-4 signal. The number of staffs inserted into the instruments Somerville was recorded, however, together with the

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>HASTINGS</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>FRANKSTON</u>					REMARKS
	Is Line Clear?		"Train Departure" Signal Received	"Train Arrival" Signal Sent	No. of Tablet or Electric Staff		Is Line Clear?		"Train Departure" Signal Sent	"Train Arrival" Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
8514 Pass		1249	1307	1320 ¹⁷	17	8/6		1236	1318	1333	29	
8518 Pass		1416	1508	1519 ¹⁸	18	3/1		1515	1519	1535	30	
9345 6B	4.3	1520		1536 ³³	8	2 w/l		1535	1535	1556	1	
8522 Pass		1634	1721	1731 ³⁰	19	4/1		1624	1731	1809	2	
<i>13-3-91</i>												
7354 BALLAST				0353				0358				
<i>Occupation Frankston + Somerville Cancelled + Staff Replaced at 0415</i>												
9520 Goods	4.3	410		428 ³⁹	5	5/8		420	440	505	3	
8500 Pass		555	637	647 ⁴⁶	20	31/5		543	647	703	4	
9522 6B	4.3	650		714 ¹⁰	12			727	731	749	6	
8506 Pass		735	813	824 ³³	21	19/2		749	824	840	6	
8510 Pass		936	1031	1040 ³⁷	22	11/5		927	1040	1057	8	
<i>On arrival no dep. at OK</i>												
8514		1250	1310	1321 ³⁰	23	4		1246	1321	1335	9	
8518		1415	1509	1520 ¹⁹	24	4		1406	1520	1526	10	
9345	4.3	1645		1716 ³³	10			1623	1716	1726	11	
8522		1716	1723	1736 ³³	17	1 Pass 3 w.l. 2/2		1736	1737	1756	12	

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Frankston</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Hastings</u>					REMARKS
	Is Line Clear?		"Train Departure" Signal Received	"Train Arrival" Signal Sent	No. of Tablet or Electric Staff		Is Line Clear?		"Train Departure" Signal Sent	"Train Arrival" Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
						28-5-91						
T.I. granted		45	9.30	-	10.15	Frankston - Somerville	✓					
T.I. granted		45	10.15	-	11.00	Somerville - Hastings	✓					

final testing to ensure that the phase was correct.

It appears that a significant amount of track work was carried out on the line in early 1991, and the register entries on the previous page for the 12 and 13 March 1991 give a full version of events (on other occasions, other signalmen did not record all the details shown here). The relevant rules are contained on page 146 of the 1979 General Appendix.

On the 12 March the afternoon shift signalman signed off duty at 1905. At 2000 a signalman, probably a relief signalman, signed on duty. Staff 25 was released to Frankston at 2005 and absolute occupation on the section granted at the same time. Staff 11 was withdrawn at Somerville for the Hastings section at 2019 and absolute occupation "of the single line Somerville to Hastings" was granted to the ganger in charge at 2019. The Hastings staff was handed to the Ganger in Charge. Possession of the Staff by the Ganger meant that the worksite did not have to be protected by flagmen. The Ganger signed for the Staff, and the Signalman signed for the absolute occupation.

A ballast train left Frankston at 2256 and arrived at Somerville at 1216. At Somerville the locomotives were placed at the rear of the train and it was pushed to Tyabb. Train departure was given to Hastings at 0230. The ballast arrived back at Somerville at 0353 and it immediately contin-

ued on to Frankston (with the Train Departure" signal being sent at 0358).

The Ganger then returned Staff 11 at 0400 and the Somerville - Hastings absolute occupation was cancelled. The Ganger and Signalman then countersigned the entry. The absolute occupation for the Frankston - Somerville section was returned at 0415 with the staff being inserted in the instrument at Frankston. When returning an absolute occupation, the Ganger was required to give a written certificate that the line was clear and safe for the passage of trains. This certificate was to be enclosed in the TRB and forwarded to the Safeworking Inspector. It appears that, in this case, the certificate took the form of a message in the TRB signed by the Ganger.

On this page there are the entries for 28 May 1991. On this day no trains ran at all, although the usual two shifts of Signalmen were booked on. The Signal Maintenance Technicians took the opportunity to transfer eight Staffs to Hastings. Again, the information given is slightly different to the previous two examples of staff transfer.

The other activity at Somerville was work on the Down Home Arrival signal (Home A). This was recorded as being booked out at 1015 and booked back into service and tested at 1520.



The staff exchange box at Somerville was fixed to the platform wall of the station building and was an example of an F2922 Composite Staff Exchange Box. This type of exchange box was a simple wooden box roughly 4' 9" long, by 9" tall and 8" deep. Internally, the box was divided into two compartments, each of which was accessed by a hinged lid. These lids could be secured by means of a padlock.

Name and Description of Train as Signalled	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN REAR AT <u>Hastings</u>					REMARKS	TIMES OF SIGNALS TO AND FROM SIGNAL-BOX IN ADVANCE AT <u>Frankston</u>					REMARKS
	Is Line Clear?		"Train Departure" Signal Received	"Train Arrival" Signal Sent	No. of Tablet or Electric Staff		Is Line Clear?		"Train Departure" Signal Sent	"Train Arrival" Signal Received	No. of Tablet or Electric Staff	
	Received	Acknowledged					Sent	Acknowledged				
1	2	3	4	5	6	7	8	9	10	11		
					28-5-91							
Transferred				3:00	Signal & clock OK							
to Hastings				Staffs No 3, 24, 17, 23, 14, 16, 6, 20	by							
Down Home				Arrival	Signal Booked out @ 10:15							
Staff placed				into Mastey	Staff Instrument @ 10:29							
Rule 29				Hastings /	Sville @ 10:30							
Staff off @				11:00	Works on 11:00a							
Staff granted				permission	12:30 - 13:15 Hastings to Somerville 45 min							
Staff granted				permission	13:15 - 14:00 45 min Somerville to Frankston							
Down Home				Arrival	Signal Booked IN & TESTED OK AT 15:20							
					29-5-91							



The large staff instruments at Somerville on 12 March 1993. The instrument closest to the camera is the blue instrument to Hastings. A staff has been extracted for a Down train and can be seen in the throat of the instrument. The further instrument is the red instrument for the Frankston section. Between the two instruments can be seen the magneto generator which is used to send bell signals and current to the other ends of the section. On the wall above the two instruments can be seen the gongs to receive the bell signals. The gong for the Frankston section is in a traditional wooden case. That for the Hastings section is in a metal case. Next to the Hastings gong, and side-on to the camera, is a galvanometer which shows whether a staff is in or out of the Somerville - Hastings instruments. The three drawer filing cabinet beyond the Frankston instrument makes a convenient desk for the train register book.

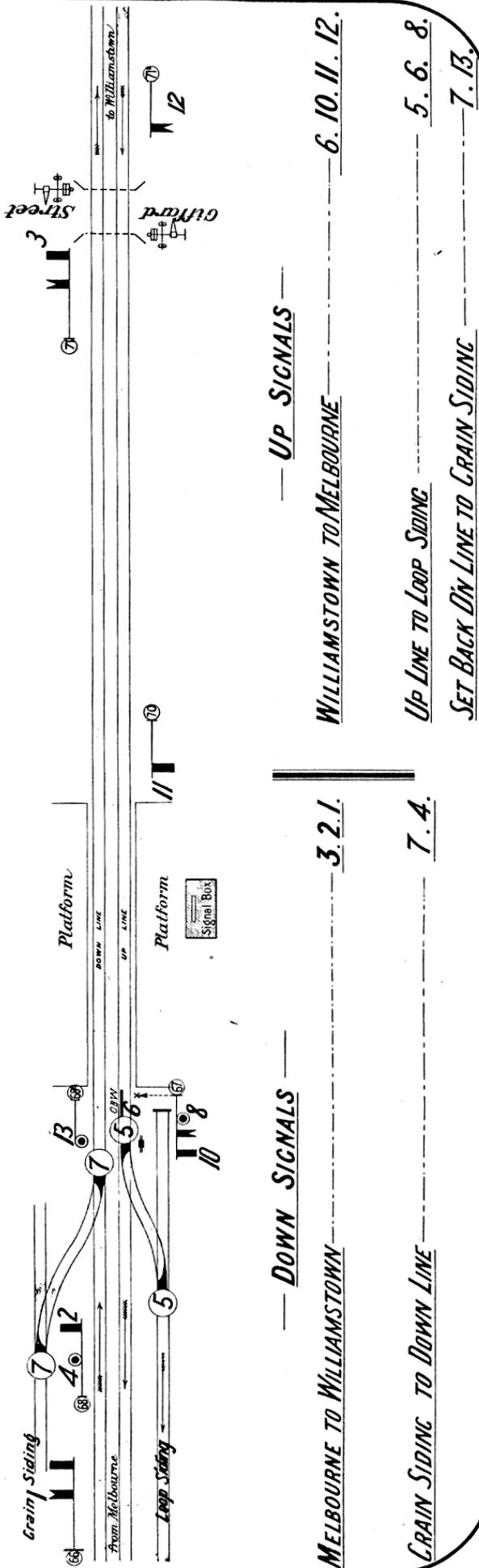
SIGNALLING ALTERATIONS

(Continued from page 25)

- and secured for the main line and that the Driver is in possession of the Master Key.
- (08.04.2008) **West Tower** (SW 48/08, WN 14)
 Posts 230 and 232 have been renumbered WST230 and WST232. Amend Diagram 35/07 (Melbourne Yard)
- (08.04.2008) **Camperdown** (TON 85/08, WN 14)
 No 3 Road is restricted to the stabling of track machines unless authority is granted by the Operations Co-ordinator Regional Network and Access. All freight trains are consequently limited to a maximum length of 299 metres for crossing purposes.
- 10.04.2008 **Spencer St No 1 Box** (SW 170/08, WN 15)
 On Thursday, 10.4., Posts 238 & 260 (Tracks 3, 4, & 5) were converted to Westinghouse R4 LED heads.
- 11.04.2008 **Camperdown** (TON 90/08, WN 16)
 Commencing Friday, 11.4., No 3 Road will be booked out of use and the points secured. All freight trains will be limited to a maximum length of 350 metres for crossing purposes.
- 11.04.2008 **Warrnambool - WestVic Sdg** (TON 91/08, WN 16)
 Commencing Friday, 11.4., the baulk on the main line was relocated to the Up side of Rooney's Rd (270.496 km). The baulk is now located at 270.486 km and a clear standing room of 265 metres is available at the Down end.
- 12.04.2008 **Caulfield** (SW 166/08, WN 15)
 On Saturday, 12.4., the unit lever control panel working Caulfield and Moorabbin was replaced by a VDU based workstation.
- 13.04.2008 **Newport - Newport South** (SW 169/08, WN 15)
 On Sunday, 13.4., Automatic G415 was converted to a LED signal.
- 13.04.2008 **Blackburn** (SW 165/08, WN 15)
 On Sunday, 13.4., a signal control system software upgrade was carried out to improve the holding section approach to Blackburn Rd.
- 13.04.2008 **Richmond** (SW 172/08, WN 15)
 On Sunday, 13.4., the Westinghouse Tri-colour LED signal units on the following signals were replaced by United Group Tri-colour TC2 units: F71, D80, & F80.
- 14.04.2008 **West Tower** (SW 55/08 & 164/08, WN 14)
 Between 0800 hours Saturday, 13.4., and 0400 hours Monday, 14.4., West Tower will be restored to use. The WestCAD system and signaller will be relocated from Centrol to West Tower. SW 39/08 to SW 44/08 are cancelled.
- (15.04.2008) **Riversdale** (SW 171/08, WN 15)
 Due an incident (under investigation), trains that are required to shunt to 'X' must run to Riversdale platform. They must not be shunted immediately in the rear of Posts CAM331 or CAM343.
- 17.04.2008 **Marshall - Winchelsea** (SW 46/08, 52/08, 56/08 & 60/08, WN 13, 14, 15, & 16)
 On Thursday, 17.4., flashing lights will be provided at Buckley Rd (103.859 km). Operation will be by level crossing predictor set to allow trains travelling at more than 50 km/h at the predictor board to accelerate, while those travelling at 50 km/h or under must travel at a fixed speed. Remote monitoring is provided.
- 18.04.2008 **Colac** (TON 102/08, WN 16)
 On Friday, 18.4., the crossing loop and siding tracks were booked back into service. The turntable track remains out of service. TON 93/08 is cancelled.
- 19.04.2008 **Hastings - Bittern** (SW 177/08, WN 16)
 On Saturday, 19.4., traffic light co-ordination was provided at Stony Point Rd.
- 20.04.2008 **Westall - Springvale** (SW 174/08, WN 16)
 On Sunday, 20.4., the pedestrian crib crossing at Queens Park Ave (23.343 km) was replaced by a new pedestrian crossing at Lewis St (23.855 km) equipped with automatic pedestrian gates. Controlled Automatic 44 was converted to LED heads and a working 'B' arm was provided. Amend Diagram 129/08 (Westall - Yarraman).
- 21.04.2008 **Spencer St No 1 Box** (SW 178/08 & 181/08, WN 16)
 From Friday, 18.4., until Monday, 21.4., the following alterations were carried out. Posts SST178, SST513, SST514, SST515, SST516, SST517, 527, & 533 were replaced by new LED masts 20 metres in the Down direction. Home 533 (Through Country Line) was relocated to a ground mast. Automatic 527 (East Country Line) was converted to a Home. Note that SST513 remains secured at stop (see SW138/08, WN 11/08). Amend Diagram 5/08.
- (22.04.2008) **Maryborough** (TON 108/08, WN 16)
 The baulk on the Ararat line (see TS 12/05) has been relocated to 274.270 km (20m on the Maryborough side of the Albert St bridge).

— V.R. —
— BEACH —
 DIACRAM

K.C.H. COUSIN
 Asst. Signal & Telegraph Engineer





Serviceton was interlocked on 15 May 1890 with the provision of two signalboxes. Serviceton East contained a 40 lever rocker frame and was situated opposite the platform. Serviceton West contained a 30 lever rocker frame and worked the mixed gauge connections at the extreme Adelaide end of the yard. The West box only lasted until 12 June 1894 when the connections at that end of the yard were simplified and secured by staff locks. Serviceton East then became simply 'Serviceton' and survived until CTC was provided between Nhill and Wolsley on 1 May 1984. In May 1934 the original frame was extended by 6 levers (three at each end) when the yard was track locked and calling-on arms provided. The photograph below was taken towards the end of the box's life. The photo to the right shows Post 6 which stood at the Down end of the platform and controlled moves from No 1 Road (left hand doll) and the Loop (right hand doll). The arms are for moves towards Adelaide. The left hand discs are for moves to Sidings B and the Engine Roads, while the righthand disc on the right hand doll is for moves from the Loop straight ahead to No 2 Road. Photos by Ray Gomerski.

