SOMERSAULT

JANUARY 2007
Vol 30, No 1

SIGNALLING RECORD SOCIETY OF VICTORIA INC

The Up side station buildings, signal box, and level crossing at Glenhuntly on the 19 February 1986. Glenhuntly is the first station south of Caulfield on the Frankston line. It was interlocked in 1911 when a 21 lever A pattern tappet frame was provided. In 1913 the Prahan and Malvern Tramways Trust opened a single track electric tramline along Glenhuntly Road, crossing the railway at the crossing seen here. The tramway crossing became significantly more complex in 1922 when the railway was electrified using 1500V DC. The substantial overhead fittings required can be seen in this photograph above the level crossing. What cannot be seen is the switch gear and interlocking that ensures that the 1500V DC railway current cannot be fed into the 600V DC tramway overhead with consequent unfortunate effects on trams. Glenhuntly signalbox can be seen immediately behind the gates and was provided in 1925. In 1913 the frame was located on the same side of the line and slightly further away from the crossing. It was probably located immediately in front of the gable roofed section of the station building, immediately to the left of the 1925 signalbox.

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Published by the Signalling Record Society Victoria Inc (A0024029F)

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Minutes of Meeting held Friday November 17, 2006, at the Surrey Hills Neighbourhood Centre, 1 Bedford Avenue, Surrey Hills

Present: – W.Brook, B.Cleak, G.Cumming, G.Dunn, V.Findlay, C.Gordon, J.Gordon, W.Johnston, K.Lambert, D.Langley, S.Malpass, J.McLean, B.Sherry, R.Smith, S.Turnbull, R.Weiss & A.Wheatland.

Apologies: – T.Murray, G.O'Flynn, C.Rutledge, P.Silva & R.Whitehead.

Visitors: – D.Thomas.

The President, Mr. David Langley, took the chair & opened the meeting @ 20:14 hours.

Minutes of the September 2006 Meeting: – Accepted as read. V.Findlay / W.Johnston. Carried.

Business Arising: – Nil.

Correspondence: – A number of thank you faxes and letters had been sent following the signal box tour. B.Sherry / V.Findlay

Reports: – Tours. Glenn Cumming provided a report on the recent tour.

Glenn Cumming asked for suggestions for next year. Suggestions of Yarra Trams Control and PN Train Control were received.

Market Street Signal Bridge. Steve Malpass provided a brief report. Cleaning of the main truss has commenced and another Working Bee will be held this Sunday. More workers are needed. Research of signal bridges is continuing and this resulted in a discussion about signal bridges and sizes.

General Business: – Rod Smith noted that platforms will now not be provided at Box Hill East & asked what the new arrangements will be. It was answered that buses will be brought in to Box Hill at platform level. A discussion of the proposed arrangements followed. Rod Smith advised that new crossovers had been provided at Blackburn in preparation for the occupation. Keith Lambert suggested that the occupation for Box Hill – Blackburn would commence at 05:00 hours on 1st January 2007.

David Langley reported on an accident where a car ran off the freeway bridge at the North end of Seymour Loop delaying trains.

Keith Lambert reported that the last Style "VR" signal at Footscray would be replaced by an LED signal this weekend.

Keith Lambert reported that siding alterations would take place at Lilydale in December 2006 for stabling of Xtrapolis trains.

Keith Lambert suggested that the Westrace CBI would replace the relay interlocking at Blackburn prior to 1st January 2007.

Keith Lambert reported that a signal at Hartwell is to be relocated to provide stopping / express conditions for the pedestrian crossing. Currently, the crossing is set for express conditions. The timing will be done through the platform track at Willison. New additional pedestrian gates will be provided near Hartwell.

Keith Lambert advised that Diamond Creek will be provided with local control of power signalling by the end of the current financial year to replace plunger locking.

Brett Cleak reported on the installation of pedestrian gates on the Down side of Station Street level crossing at Mordialloc and at Heathcote Junction.

Various proposals for dual gauge access to the docks at North Shore were discussed.

Steve Malpass reported on a recent visit to Moonee Ponds Creek Junction and noted recent works on the SG Line at this location.

Rod Smith asked for a list of remaining electric staff sections & this was provided namely: – Greensborough – Eltham, Frankston – Somerville and Somerville – Hastings.

Rod Smith asked about the rules for using axle counters in ATC areas. It was answered that Section 36 of the Operating Rules had been amended to allow for the use of axle counters & TPWS. It was noted that Hi – Rail vehicles are counted by axle counters. A discussion followed on the differences between ATC and CTC in Victoria.

Rod Smith discussed the handling of the Southern Aurora cars at Tottenham Loop on Melbourne Cup Day.

Keith Lambert tabled pictures of the new control panel at Flemington Racecourse.

Andrew Wheatland announced that new Home & Calling – On Signals had been provided for arrival and departure movements at the Up end of Menzies Creek. The points at the Up end are motor operated & are worked from a lever in the Signal Box. Work has commenced on similar arrangements at the Down end.

Bill Johnston advised that the February 2007 Meeting of the SRSV would consist of a visit to Racecourse Jucntion Signal Box at the home of Chris & Vera Guy.

Rod Smith advised that on sections of line equipped with TPWS equipment, unfitted trains are limited to 80 km/h.

It was noted that a Consultant had asked how many mainline signals exist on the Connex network. Does anybody know?

Syllabus Item: - The President introduced member Roderick B. Smith to present the Syllabus Item.

Rod presented the annual screening of slides from the collection of the late Stephen McLean, this year featuring views of one of Stephen's trips to Europe.

At the completion of the Syllabus Item, The President thanked Rod for the entertainment & this was followed by acclamation from those present.

Meeting closed at 22:26 hours.

The next meeting will be on Friday 16 February, 2007 at Racecourse Junction Signal Box commencing at 20:00 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 41/06 to WN 51/06 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.

05.10.2006 **Brighton Beach** (SW 240/06, WN 41)

On Thursday, 5.10, No 1 Road was booked out of use for the duration of the Vicers project. Points 6 and 9U were secured normal.

12.10.2006 **Sunbury** (SW 298/06, WN 41)

From Thursday, 12.10., Points 27 must be clipped for all facing movements into 'A' and 'B' sidings. A hand signaller will be in attendance from 0500 hours to 1730 hours each day to allow this.

15.10.2006 **Richmond Junction** (SW 253/06, WN 41)

On Sunday, 15.10., Points 676 and Crossover 677 were renewed with concrete sleepered turnouts and equipped with M3A point machines. These connections lead from the Caulfield Local Lines to the Caulfield Underground Loop.

(17.10.2006) **Greensborough - Hurstbridge** (SWP 6/06, WN 41)

Commencing forthwith whenever it is necessary for a track machine or road/rail vehicle to travel through a staff section, the operator must be in possession of an electric staff, train staff, or train staff ticket for the section.

(17.10.2006) **Caulfield** (SW 258/06, WN 41)

Diagram 1/06 replaced 33/02 as in service.

17.10.2006 **Tralagon** (SW 302/06, WN 42)

From Sunday, 17.10., the following safeworking arrangements took effect.

* Operating procedure 130, Section 34, Book of Rules, was reissued due to the interlocking of Home TRG02 with the release of the Annett key. Removal of the Annett key will now secure Home TRG02 at Stop
* Instructions for the operation of Home TRG30 when a train is to depart with a Train Authority
* A staff releasing box was provided, and Operating Procedure 130B, Section 34, Book of Rules, was provided. The staff releasing box allows the Train Staff to be accessed by a Driver when Traralgon is unattended. The releasing box is secured in a locked cabinet on the wall of the station building. The door to the releasing box is secured by an electronic lock operated by a numeric keypad. When the releasing box is to be used the Signaller is to enter a new keycode and, after testing the electronic lock, secure the Train Staff in the box. The keycode is to be faxed to the Train Controller and confirmed. The Train Controller will provide the keycode when the Driver is to obtain the Train Staff.

17.10.2006 **Bairnsdale** (SW 305/06, WN 41)

From Tuesday, 17.10., Operating Procedure 130D, Section 34, Book of Rules, was altered to reflect no-signaller operation at certain times of the day. Signallers will not be in attendance for trains scheduled to arrive and depart on the Train Staff, and the Driver will be responsible for signalling. A Signaller will be in attendance for all trains arriving or departing on Train Staff Ticket, and for all moves to or from the

Bosworth Rd siding. When in attendance the Signaller will operate the signals.

21.10.2006 **Network Service Plan** (SW 309/06)

From 0000 (sic) hours, Saturday, 21.10., a new issue of the Network Service Plan was issued. The new issue will only be available electronically. It can be accessed at http://www.pacificnational.com.au/services/network_access/vic_track_access_info.asp

22.10.2006 **Sale** (SW 303/06, WN 42)

From Sunday, 22.10., Sale will be opened as a Train Staff and Ticket station by Train 8410 each Monday, and will be closed by Train 9442 each Friday (if Train 9442 does not run, Sale will be closed by Train 8432). It will be re-opened as a Staff station by Train 8406 on Sunday, and closed by 8416 the same day.

22.10.2006 **West Tower** (SW 310/06, WN 42)

On Saturday, 21.10, and Sunday, 22.10., Dwarfs 186, 188, 280, and 284 at Reversing Loop Junction were equipped with Westinghouse LED heads. Dwarf 284 was replaced by a new mast located 14 metres in the Up direction. Amend diagram 30/01 (Melbourne Yard).

23.10.2005 **Winchelsea** (SW 313/06, WN 42)

From Monday, 23.10., the sidings were booked out of use and Winchelsea is not available to cross trains. The main line points and adjacent signal levers will be secured with a special padlock. The signal levers on the platform will remain available for use to allow them to be placed at stop when required. When it is necessary to use the sidings at Winchelsea for track maintenance work (e.g. stabling track machines or ballast trains), the station will be attended. The Train Order status of Winchelsea remains unaltered.

(24.10.2006) **Willaura - Portland** (SW 311/06, WN 42)

Diagrams 50/06 (Willaura - Grampians Loop), 52/06 (Hamilton - Heywood), and 54/06 (Portland) replaced 18/97 (Willaura - Grampians Loop), 42/86 (Hamilton), and 14/97 (Chrome - Portland) as in service.

(24.10.2006) **Traralgon** (SW 303/06, WN 42)

Permission is granted for Train 9441 to use the Staff Releasing Box.

(24.10.2006) **Sale** (SW 303/06, WN 42)

Permission is granted for Train 9441 to use the Staff Exchange Box.

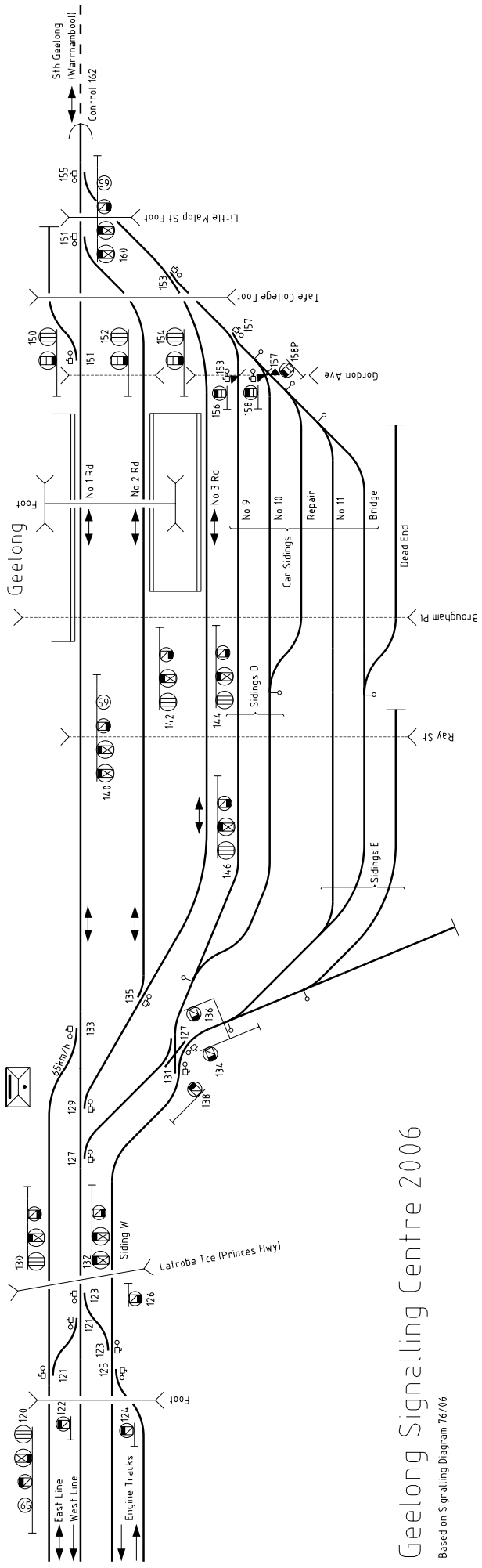
25.10.2006 **Geelong** (SW 315/06, WN 42)

On Wednesday, 25.10., No 4 Road and the Down end of No 5 Road in the Maitland Street sidings (Loco Depot) will be booked out of use for construction work.

25.10.2006 **Flemington Racecourse** (SW 262/06, WN 43)

On Wednesday, 25.10., two sets of security gates were commissioned. Gates 81 are situated on the Up and Down lines between Posts 62, 63, and 67. Gates 80 are situated on the Loop line between Posts 64 and 69.

The interlocking was altered. When Down Home 58 (Down line to B towards No 2 Track) is reversed with Down Home 24 (B to No 2 Track) normal, Derail 77 will remain locked normal until a time-out has expired.



29.10.2006 **Geelong** (SW 317/06 & SW 316/06, WN 42)

On Sunday, 29.10., alterations were commissioned at the Down end to ensure that an overlap past Home GLG160 is available for the single line release to be given to South Geelong even though Nos 1, 2, and 3 Roads are occupied. The overlap will be towards No 9 Road. Roll out protection has been provided in No 10 and 11 Roads.

TPWS was provided at Home GLG 150 (sic). Catch 153 at the Down end of the Car Sidings was removed and Dwarf GLG156 was abolished. Points 153U, Points 157 and Derail/Crowder 157 was provided. Dwarfs GLG156 and GLG158 were provided. A co-acting signal for GLG158 was provided.

Diagram 76/06 (Geelong) replaced 62/05. Operating Procedures 54, 61, 62, and 63 were altered.

29.10.2006 **Avenel** (SW 318/06, WN 43)

On Sunday, 29.10., a two position Down Automatic signal was provided between the platform and Bank St (116.126 km). The signal is located 40 metres on the Down side of the platform on the Down side of the line. The normal position of the signal is at 'Proceed', but it may be restored to 'Stop' from a three position V5PSW key switch at the Down end of the platform. Operating the key switch to 'Cancel' (to restore the signal to stop) will have no effect unless a train is in the platform track. Diagram 86/06 was issued.

29.10.2006 **Blackburn** (SW 271/06, WN 43)

On Sunday, 29.10., Down Homes BBN306 and BBN308 were converted to LED (although the low speed light remains an incandescent light). Up Automatic L578 was relocated 30 metres in the Down direction and converted to LED. Point machines were fitted to Crossovers 215 and 217, but not brought into service. Track circuits 306T, 310T, 313T, 315T, 319T, 321T, and L580T were commissioned. Temporary stage Train Stops were provided, but not brought into service. Amend Diagram 41/06.

(31.10.2006) **Maroona** (SW 322/06, WN 43)

Diagram 48/06 replaced 18/03 as in service.

(31.10.2006) **St Arnaud** (SW 322/06, WN 43)

Diagram 74/06 replaced 76/06 (sic) as in service.

(08.11.2006) **East Richmond** (SWP 7/06, WN 44)

Operating Procedure 36A, Section 34, Book of Rules, was issued to describe the emergency operation of the electro-hydraulic points on Crossovers 228 and 291 using an emergency pump handle.

12.11.2006 **Greensborough** (SW 289/06, WN 45)

On Sunday, 12.11., Crossover 8 at the Up end was renewed as a Tangential type on concrete sleepers with claw locks.

12.11.2006 **Blackburn** (SW 281/06 & 286/06, WN 45)

On Sunday, 12.11., the low speed lights on Down Homes BBN306 and BBN308 were converted to LED. The Up Automatic L598 was converted to a tri-colour LED.

12.11.2006 **Mordialloc - Aspendale** (SW 285/06, WN 45)

On Sunday, 12.11., automatic pedestrian gates were provided at the pedestrian crossing at Pine Crescent (28.724 km).

17.11.2006 **Spencer St** (SW 288/06, WN 46)

On Friday, 17.11., Homes 258 (No 5 Track) and 308 (No 6 Track) were converted to LED.

17.11.2006 **Brighton Beach** (SW 290/06, WN 46)

From Friday, 17.11., No 1 Track was booked out of service and the overhead isolated. Points 6 and 9U were secured normal. Sidings A and B were booked into service for the Vicers project. Points 7 were provided with a hand locking bar and key lock to secure the points normal. The hand locking bar is secured by a special lock which will impound the key ('Key A') when the points are unlocked. Key A can also be used to secure the overhead isolating switch for Sidings A and B in the 'earthed' position. In this position Key B can be removed (impounding Key A). Key B can be used to release six Key C's, which are used open the access gate to the maintenance platform. The keys are held captive in the access gates while they are open. 'Key A' is normally held by the Signaller. Hand operated gates across the sidings were provided on the Down side of the WSa points.

Movements to and from Sidings A and B are supervised by a Level 3 Safeworking Co-ordinator, who will obtain Key A from the Signaller and retain it until the day's activities have been completed. Trains for Brighton Beach must run to Sandringham and return to Brighton Beach on the Up line. Prior to returning to Brighton Beach permission must be obtained from the Signaller at Brighton Beach. The signaller will be advised by the Safeworking Co-ordinator when permission has been obtained from the Site Supervisor for a train to arrive or depart from the sidings.

19.11.2006 **Footscray** (SW 293/06, SW 294/06 & SW 299/06, WN 46 & 47)

On Sunday, 19.11., Down Automatic M235 was replaced by a new LED signal on a raisable (cess pole) mast. The mast supports a counter-balanced signal which can be raised or lowered to allow easy access for maintenance. Maintenance must only be undertaken after the passage of the last suburban service at night and before the first suburban service the next morning. Before commencing maintenance work, permission must be obtained from the Western Panel signaller, Metrol. Before granting permission, the signaller must ensure that no train is approaching the signal and sleeve the Home signals in the rear. The fuse in the controlling circuit for M235 must be removed to ensure it is showing Stop, and a hand signaller showing a Stop signal must be in place at the signal.

(21.11.2006) **Remote Controlled Level Crossings** (SW 336/06, WN 46)

Monitoring is being provided for all 'active control' level crossings. The monitors will automatically send alarms to Centrol. The most common alarm being generated is short warning time due to excessive train speed on the approach. The most common level crossings where this occurs are Hesse St and Cressy Rd (Winchelsea), Goulburn Valley Hwy (Murchison East), and Bosworth Rd (Bairnsdale).

(21.11.2006) **Siemens Trains** (SW 296/06, WN 46)

Due to Siemens trains over-running platforms in low adhesion conditions, when a Siemens train is scheduled to stop at a platform where there is a level crossing or pedestrian crossing at the far end the speed through the platform must not exceed 25 km/h. When approaching a signal at Stop, the approach speed for a platform length must not exceed 25 km/h.

26.11.2006 **Heathcote Junction** (SW 311/06, WN 46)

On Sunday, 26.11., automatic pedestrian gates were provided at the Up end of the station platforms (53.403 km) over the broad and standard gauge lines. The broad gauge gates will be operated by a Harmon crossing predictor. Gates over the standard guage lines will also be commissioned by ARTC. Diagram 84/06 (Craigieburn - Wallan) replaced 28/91.

26.11.2006 **Bayswater** (SW 303/06, WN 47)

On Sunday, 26.11., traffic light co-ordination was provided at Mountain Highway.

26.11.2006 **Cheltenham** (SW 295/06, WN 48)

On Sunday, 26.11., automatic pedestrian gates were provided at Park Road (22.216 km)

26.11.2006 **Brighton Beach** (SW 300/06, WN 47)

On Sunday, 26.11., Down Automatic BBH908 was relocated 18 metres in the Up direction. Amend Diagram 37/05.

(28.11.2006) **Altona Junction - Westona - Laverton** (SW 305/06, WN 47)

Diagram 125/06 replaced 71/87 as in service.

(28.11.2006) **Jolimont - Macleod** (SW 305/06, WN 47)

Diagrams 131/06 (Jolimont - Merri & Westgarth) & 111/06 (Dennis - Macleod) replaced 03/02 and 7/00 respectively as in service.

(28.11.2006) **Flinders St East - Richmond** (SW 305/06, WN 47)

Diagram 99/06 replaced 41/05 as in service.

(28.11.2006) **East Richmond - East Camberwell** (SW 305/06, WN 47)

Diagrams 105/06 (East Richmond - Glenferrie) and 107/06 (Auburn - East Camberwell) replaced 21/05 and 23/05 respectively as in service.

(28.11.2006) **Blackburn - Ringwood** (SW 305/06, WN 47)

Diagram 137/06 replaced 41/06 as in service.

(28.11.2006) **Riversdale - Alamein** (SW 305/06, WN 47)

Diagram 109/06 replaced 5/04 as in service.

(28.11.2006) **Heathmont - Belgrave** (SW 305/06, WN 47)

Diagram 113/06 replaced 31/05 as in service.

02.12.2006 **Somerton** (SW 309/06, WN 48)

On Saturday, 2.12., the Down line was slewed to a new alignment on the Down side of the line between the Down side of Somerton Road and the Down side of the new Roxburgh Park station. A co-acting signal Post 9P is provided for the Down Starting signal Post 9. The co-acting signal is on a separate mast to the left of Post 9. Amend Diagram 24/00 (Glenbervie - Somerton).

03.12.2006 **Mitcham** (SW 306/06, WN 48)

On Sunday, 3.12., traffic light co-ordination was provided at Mitcham Road.

03.12.2006 **Heatherdale** (SW 306/06, WN 48)

On Sunday, 3.12., traffic light co-ordination was provided at Heatherdale Road.

(05.12.2006) **Flinders Street** (SW 311/06, WN 48)

Diagrams 75/06 (Flinders Street West) and 81/06 (Flinders Street East) replaced 13/00 (Flinders St) as in service.

(05.12.2006) **Camperdown** (SW 405/06, WN 48)

Repair work following the derailment has been completed and Nos 2 & 3 Tracks are booked into service. Camperdown is now available for crossing trains. SW 402/06 is cancelled.

(05.12.2006) **Sunbury** (SW 400/06, WN 48)

The requirement to clip Points 27 is cancelled due to rectification of the point blades.

(05.12.2006) **Northcote - Reservoir** (SW 311/06, WN 48)

Diagram 133/06 replaced 17/88 as in service.

(05.12.2006) **Hurstbridge** (SWP 8/06, WN 48)

Operating Procedure 35 covering Driver-in-charge working was reissued.

(05.12.2006) **Carnegie - Yarraman** (SW 311/06, WN 48)

Diagrams 127/06 (Carnegie - Clayton) and 129/06 (Westall - Yarraman) replaced 39/05 and 03/04 (respectively).

10.12.2006 **Richmond Junction** (SW 321/06, WN 49)

On Sunday, 10.12., the electro-hydraulic (clamp lock) point machines on Points 686 and Crossover 687 on the leads between the Caulfield Loop and the Caulfield Through Lines were replaced by M3A point machines.

10.12.2006 **Ferntree Gully** (SW 316/06, WN 49)

On Sunday, 10.12., automatic pedestrian gates were provided at the down end of the platforms at 35.983 km.

12.12.2006 **Benalla** (SW 418/06, WN 49)

On Monday, 11.12, and Tuesday 12.12., two position LED Up Home and Distant signals were provided. Home BEN2 protects Nunn St and is situated 15 metres from the Up end of the platform. BEN2 is operated either by a VDU at the Train Control Centre Melbourne, or, in emergency, by a V5PSW key switch on the platform. The Home will only clear if the platform track circuit is occupied, the Up end main line points are normal, and, if a train is at a stand at the platform, when the boom barriers at Nunn St are horizontal. Distant BEN6 is fixed at caution and is situated 2000 metres from the Down end points on the left hand side of the line. The Up location board was abolished. HXP operation of the level crossing for Up broad gauge moves was abolished. The notice board for Up trains departing the platform was abolished. Diagram 98/06 replaced 02/02.

New Operating Procedure 105 was issued.

Benalla is an Intermediate Siding in the Riggs Creek Loop - Bowser Block Point Train Order section. Only trains proceding to the secondary corridor (Oaklands line) can lock away at Benalla whilst trains pass through on the main corridor. A train order can be issued to an Up Oaklands line train to proceed towards Benalla while train orders are in force over the primary corridor. A train order must not be issued to depart from Benalla from the station yard while a conflicting train order is in force over the primary corridor.

The level crossing at Arundel St is provided with a Harmon level crossing predictor and operates automatically. A notice board lettered 'Shunting trains must not enter roadway until flashing lights are operating' is provided on the down side of Arundel St facing Up trains.

The level crossing at Nunn St is provided with a Harmon level crossing predictor and operates automatically for down through movements and down movements along Y track. A board lettered 'Track Y 10 km/h' is provided adjacent to Y track near the crossover. For up movements from the platform track, it operates in conjunction with Home BEN 2. For up movements along Y track, the boom barriers are worked from a V5PSW key switch situated near the points to the goods yard adjacent to a notice board reading 'Stop - do not proceed until the booms are horizontal'.

Down movements to the Oaklands line must not proceed beyond Roe St unless in possession of a train order. Up movements from the Oaklands line must stop at the board lettered 'Stop - do not proceed without permission of the train controller'. The train controller must not grant permission if another train, track machine, or vehicle is operating in the yard. The line between the main line points and the stop board is considered a siding.

13.12.2006 **Franklin St** (SW 324/06, WN 50)

On Wednesday, 13.12., the circuits were altered such that Home 557 must be at proceed before Homes 531 or 541 can be cleared.

16.12.2006 **Lilydale** (SW 322/06, WN 50)

On Saturday, 16.12., the signalling to and from Sidings A, B, and C was altered.

Dwarfs LIL309 (from Siding A), LIL 311 (Siding B), and LIL313 (Siding C) were abolished. Derails 209 (Siding A), 211 (Siding B) and 213 (Siding C) were abolished. New Dwarf LIL309 and Derail 213 were provided at the neck of Sidings A, B, and C for moves towards No 1 Track. A theatre indicator was provided adjacent to Dwarf LIL309. The indicator displays 'A', 'B', or 'C' when LIL309 is at Proceed (note that this indicator displays the route from which the train is signalled). Dwarf 309 displays a purple light for Stop. Derail 213 is equipped with an electro-hydraulic point machine. Points 209 and 211 were converted to electro-hydraulic point machines. An intermediate train stop was provided in No 1 Track. This train stop will normal be lowered, but will rise if a train passes the fouling points in Sidings A, B, or C when Dwarf LIL309 is at Stop. The levers on the panel were renumbered. Lever 309 was renumbered 309A, 311 was renumbered 309B, and 313 was renumbered 309C.

Trains must not pass the fouling point of Sidings A, B, or C until Dwarf LIL309 displays 'Proceed' and the theatre indicator displays the siding they are departing from.

Dwarfs LIL315 (Siding D) and LIL 317 (Siding E) were converted to LED and will display purple for stop.

16.12.2006 **Brighton Beach** (SW 329/06, WN 50)

On Saturday, 16.12., automatic pedestrian gates were provided at South Road (16.094 km)

(19.12.2006) **Ballarat - Ararat** (SW 422/06, WN 50)

Diagrams 90/06 (Beaufort) and 88/06 (Ararat) replaced 10/04 and 14/05 respectively as in service.

(19.12.2006) **Albion - St Albans** (SW 332/06, WN 50)

Diagram 97/06 (Albion - St Albans) replaced 34/01 as in service.

GLENHUNTLY

The editor hasrecently moved to McKinnon, and this inspired some curiousity about the signalling history of the Frankston line. In the 1880s, the Brighton area was the political territory of Thomas Bent. Among the more positive things that can be said about that gentleman was that he was a very effective local member, adept at obtaining government plums for his constituents. Among other plums Tommy Bent obtained for the locals was the Frankston railway. The line between Caulfield and Mordialloc was opened on 19 December 1881 and was extended to Frankston on 1 October 1882.

Located at 7 miles 47 chains 85 links from Melbourne, Glenhuntly station is the first station south of Caulfield. At Caulfield the Eastern line runs roughly northwest/southeast, and the Frankston line starts with a long 22 chain righthand curve, which turns it to run southwest, followed immediately by a 25 chain lefthand curve to bring the line to run almost due south. Apart from a few minor curves, the line continues to run south until it encounters the Nespean Highway at Moorabbin. The Neerim Road level crossing (7 miles 28 chains 96 links) is located about half way along the 25 chain curve, and Glenhuntly station is located immediately south of Glenhuntly Road (7 miles 43 chains 46 links). Since 1913 an electric tramway has crossed the railway at Glenhuntly road. The tramway is responsible for much signalling interest, and is responsible for the retention of a signalbox at Glenhuntly today. Until the '20s the area south of Caulfield was predominantly given over to market gardens. The major town was at Cheltenham, with a smaller town at Bentleigh and a village at Moorabbin. Although there were some optimistic subdivisions during the 1890s between Caulfield and Bentleigh, suburban development primarily occurred in the 1920s.

'Glen Huntly Road' station was opened with the line to Mordialloc on 19 December 1881. The Mordialloc line did not appear in the Service Time Table until the issue of 3 April 1882. When it did appear in the time table, the line was shown to be worked by Staff and Ticket and all of the stations were shown as staff stations. This undoubtedly reflected the fact that station masters were provided at all stations, and not the density of traffic. The staff sections were Caulfield - Glen Huntly Road - North Road (now Ormond).

Glen Huntly Road was not initially open for goods traffic, so a good guess as to the layout around opening is a simple loop siding on the down side of the line (the main station building was on the Up side of the line), protected by up and down home signals. A carriage dock was provided and was probably located at the down end of the main platform on the up side of the line. No interlocking was provided and the points would have been secured by hand locking bars. Gates would have been provided at Neerim Road and Glenhuntly Roads.

By the December 1885 issue of the Working Time Table, the 'Road' had been dropped from the station name. Glen Huntly was now opened for 'Light Goods', but not for goods in truck loads. It appears that a siding had been provided by this time, possibly on the Up side of the line north of Glenhuntly Road.

Duplication between Caulfield and Mordialloc was brought into use on 9 December 1888 and Staff and Ticket working gave way to double line block using Winters instruments. The sections remained the same, Caulfield B - Glen Huntly - North Road. Starting signals would have been provided, but it does not appear that distants were provided.

On 14 November 1894 all the station staff, except for the station master, were withdrawn from Glen Huntly. The SM's hours then became 0800 to 1900 hours Monday to Saturday, and for all trains on Sunday. The Weekly Notice noted that arrangements would be made to relieve the station master every alternate Sunday! In the early morning and late evening Guards took care of selling and collecting tickets.

As a result of this reduction in staff, Glen Huntly was closed as a block post with the block section now became Caulfield B - East Brighton (now Bentleigh). The starting signals at Glen Huntly were crossed, but the home signals remained in use and were normally at 'all clear'. They had to be put back to danger to protect a train that was detained longer than usual at the platform. The 1898 General Appendix subsequently noted that block instruments were provided at Glen Huntly "in case of emergency".

Glen Huntly was also closed for goods traffic, but 10 days later, on the 24 November, was re-opened for light goods. Because the crossover had been spiked out (or removed?) when the station was closed as a block post, trucks for Glen Huntly were to be taken on to East Brighton and returned by an Up train. This clearly indicates that the siding trailed into the Up line, and was consequently probably north of Glenhuntly Road. By the issue of the December 1894 timetable the carriage dock had been removed. Goods traffic was supervised by the Station master at Caulfied.

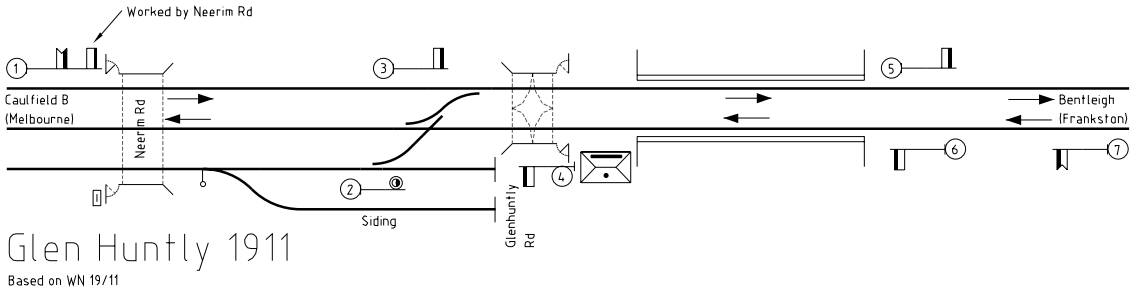
In late 1895 the Caulfield Tramway Company Ltd opened a horse drawn tramway along Glenhuntly Road to terminate just west of the station. This was a branch of their existing main line which ran from Elsternwick station to Caulfield station via Glenhuntly Road, Kooyong Rd, Glen Eira Rd, Bambrook Rd, and Station Street. Regular traffic ceased on the Caulfield portion of the main line on 31 December 1906, but the section between Elsternwick and Glen Huntly stations remained in use until 31 December 1911.

The 1898 General Appendix noted that the "Long Race Siding at Caulfield is connected to Up Main Line near Glen Huntly. Points Spiked." The exact date this third track was extended through to Glen Huntly is elusive, but it appears to have been in the period 1894 to 1898. It is very likely that by this date, the goods siding at Glen Huntly led from this 'Long Race Siding' near Neerim Road, and that good traffic for Glen Huntly was worked over this siding from Caulfield. By the issue of the 1908 General Appendix the Long Race Siding was connected to both the Up and Down lines but was still spiked. The special instructions now stated "In order to avoid pushing trucks to Glen Huntly after dark, a Down Mordialloc Line Goods train must, when necessary, work at this Station during daylight. Trucks to be previously marshalled at Caulfield by the Oakleigh Shunting engine."

Reopening as a block post and interlocking

In late May 1909, a stationmaster and assistant was reappointed to Glen Huntly and the station was reopened as a block post for all trains. The four signals (two homes and two starting signals) were brought back into service. The goods yard was now shunted by the 2008 down Melbourne - Oakleigh goods train (1915 Saturdays). In July 1910 the following instructions were issued regarding the Neerim Road gates. As these were priviledged gates, they were closed and locked across the railway line after the last passenger train until early the following morning. If it was necessary for the Oakleigh goods to shunt Glen Huntly goods yard after the gatekeeper had finished duty, the Guard or Shunter

Before the resignalling in 1986, Glenhuntly had a number of interesting mechanical signals. This is the Down Home Post 4 which protected the level crossing gates across Glenhuntly Road, the tramway crossing, and the crossover into the goods yard. It was a very short co-acting post. The co-acting arm was provided on this post in December 1914. The lattice mast was probably provided either then or in 1911 when the signal was relocated to the "opposite" side of the line. The reason for the co-acting signal can be glimpsed at the left of the photograph - the ornate station verandah on the up platform. The upper arm was provided so that the signal could be seen as an up train approached the platform, particularly when the platform was full of commuters heading for work. The lower arm was provided because verandah obscured driver's view of the upper arm when the train was standing at the signal. The Reid's patent reverser was provided in 1933 when automatic signalling was provided between Caulfield and Glenhuntly. On the right of the photograph can be seen a corner of Glenhuntly signalbox. Access to the signalbox was by the curious verandah running across the front of the station building. It is known that the signalbox was provided in 1925, and that the previous signalbox (or bay?) was located on the Up side of the line but further away from the level crossing. It is quite possible that the original box was located in the gap between the platform and the 1925 signalbox - note the point rodding running out of the station building in this area. This photograph was taken on 12 April 1985. Even at this date, the signal was still lit by oil lamps. The lower photograph shows the up station buildings, Post 4, signalbox, and level crossing on 19 February 1986 just before the station building was demolished for the provision of the third track. The very heavy overhead portals on each side of the level crossing were required to support the complications of the tram/rail overhead. Just under the verandah, between the second and third verandah posts from the left, can be seen the 'Limit of Shunt' board. Note that this applies to trains approaching Post 4 at the end of the platform. This board will be further discussed later in the article.



in charge of the movement had to collect the keys to the gates from the signalman at Caulfield B. By December 1913, the General Appendix noted that the trucks for Glen Huntly were marshalled at Caulfield and placed by the Oakleigh shunting engine.

On 10 February 1911 a 21 lever A pattern tappet frame was provided. This was an early tappet frame (the first tappet frame had been provided in May 1910 at Flinders Street D). Initially this had only four working levers (the four signals). The interlocking register noted this as a 'temporary arrangement'. Full interlocking was not provided until the 1 May 1911 when the gates at Glen Huntly road were connected to the frame, as were the crossover and points to the goods road to Caulfield. Up and Down distants were provided for the first time. The Down distant was in the rear of the Neerim Road gates, and probably to prevent confusion and consequent unfortunate incidents on the part of drivers, a Down home worked by the gatekeep was also provided. The frame now contained 8 spare levers. The Weekly Notice referred to this as an 'interlocking installation'. The frame was not located in the signalbox in use at the end of mechanical signalling, but further away from the level crossing. It is possible that it was located in a signalbay between the final site of the signalbox and the end of the Up platform. On 4 May 1911 the Down Home protecting the level crossing was relocated to the "opposite" side of the line. Presumably, this indicates that the post had formerly been on the Down side of the line.

The tramway crossing

In 1913 the Prahan and Malvern Tramway Trust constructed a single track electric tramway along Glenhuntly Road from Brighton Road (Nepean Highway) to Grange Road, crossing the Sandringham line at Elsternwick and the Frankston line at Glen Huntly. The tramway signalling at both Elsternwick and Glen Huntly was brought into use on 12 November 1913 and the tramway was opened the following day. Heavy handbraked electric trams, with large loads of passengers, were considered a safety hazard and protection was provided for the railway in in the form of a catch point to derail an approaching tram when it was not safe to cross. The fact that the tramway company had to pay for the protection probably encouraged provision of signalling! The position of the catch point was shown by a disc signal which worked in conjunction with the catch. Both the disc and the catch point are worked by one lever in the signalbox. Normally, separate levers were provided for east and west bound trams. This allowed the catch to be opened immediately between two trams proceeding in the same direction without waiting for the first tram to clear the level crossing. That this protection was (and is) necessary is shown by the road surfaces between the catch and the railway line. Every crossing I have seen has had a scored road surface showing that trams have been derailed at the catch points. At both Elsternwick and Glen Huntly the interlocking register classified the two new levers as signal levers in 1913 and did not use distinguish them as 'tramway' levers. At this time, no specific instructions were issued as to the working of the level crossing. By the issue of the 1919 General Appendix, the instructions for working a tramway level crossing were:

Level Crossings at which tramway traffic regulated by fixed signals.

1. At a Level Crossing where Disc Signals are provided to govern movements of Tram Cars over the Railway Line, the Disc Signals work in conjunction with Derail Points in the Tramway, clear of the Level Crossing Gates. The following instructions must be observed by the Signalman, i.e., the employe in charge of the Gates and Signals:-

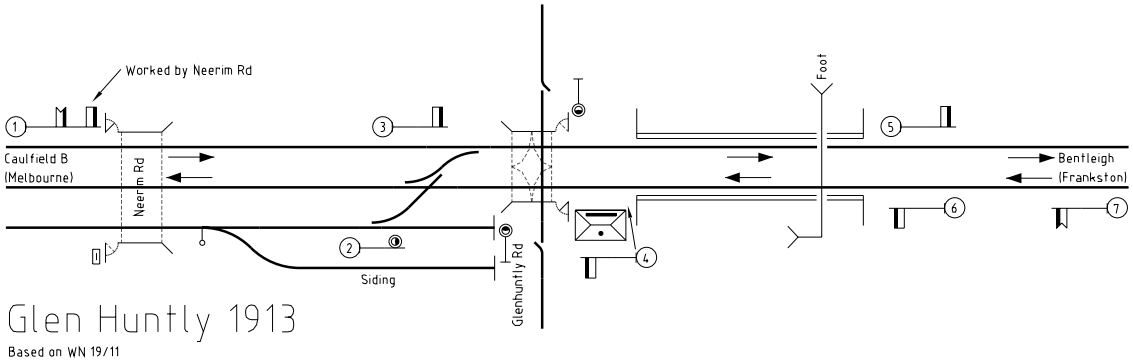
(a) The Signalman must closely observe the working of the Tramway Disc Signals in order to see that they work well and show properly, and, as far as is reasonable practicable, he must also observe the working of the Derail Points

(b) The Derail Points must be cleaned once at least on each shift, or if necessary, more frequently.

(c) In the case of any disarrangement of the overhead electric equipment of the Railway or Tramway system, the Signals must be exhibited to stop trains and trams until the Signalman has seen that the traffic can pass in safety.

Consistent with the safe and proper working of Trains, the working of the Trams over the Level Crossing must be conducted by the Signalman with the least possible delay.

(d) The normal position of the Tramway Disc Signal is at Stop, and a Disc Signal must not be turned off for a Tram to pass over the Level Crossing unless the



The westbound tram disc at Glenhuntly with the disc off for car 1000 on route 67 to proceed to the city. Tramway discs consisted of a standard disc mounted directly on top of a decorative cast iron standard. Exactly why such a decorative design was adopted is not known, although they did provide a smaller obstruction to street traffic than a standard lattice or wooden mast. Later discs were mounted on a plain tubular steel pole that was not nearly so decorative. One feature of the standard that was not just decorative, but was also functional, was the two shapely cast iron arms located just underneath the disc. These supported the ladder when it was necessary to access the light at the top of the standard. At the foot of the cast iron standard can be seen the various plates that cover the operating connections. The disc was operated by rod from the signalbox. The rod ran under the footpath. Near the foot of the mast was an escapement crank which worked the tramway catch and disc. In the background can be seen one of the portals that supported the tram and railway overhead over the level crossing. A large box can be seen on the righthand stanchion. This housed the massive switch that connected either the 1500V railway supply or the 600V tramway supply to the overhead over the level crossing. Between the tram and the tramway disc can be seen a flashing light mast. This was not yet in commission and was a sign of the resignalling that would shortly sweep the tramway disc away.

Signalman is satisfied that the Tram can proceed over the Level Crossing without causing delay to a train.

(e) During the time the Signal-box is closed, or when it is necessaryfor the Signalman to leave his Box whilst on duty, the Gates must be left open for road traffic, and the Tramway Disc Signals turned off.

The Signalman must not reverse a Disc Signal against an approaching Tram except in case of urgency.

(2) In the even of a derailment or accident, from any cause,to a Tram Car at a Level Crossing, the Station-master or other responsible employe must obtain the name of the Driver in charge of the Tram Car, the distinguishing number of the car and time of car trip, which,with full particulars of injuries or damage, must be specified in his report.

Around May 1914 a siding was provided at Glen Huntly for the Caulfield City Council. It was only open for inwards goods in truck loads, probably road making materials such as crushed rock and bluestone pitchers. The siding led off the dead end public siding near Neerim Road and, crossing the station access road, entered the council depot. A building was constructed over the line towards the end of the siding, the entry to which was too low for engines. A scotch block and gate were provided, the keys to which were held by the Signalman at Caulfield B. The siding was supervised by the Stationmaster, Caulfield.

In late December 1914 co-acting arms were provided for the two Up home signals on Posts 4 and 6. In both cases, the co-acting arm was placed on the same post as the original arm. It is not clear why these signals were suddenly required. The obstruction to the home on Post 4 is relatively clear, the verandah on the up platform, but this verandah had been in existance since shortly after the line had been opened. The need for a co-acting arm for the up home is less clear as there appears to have been no obstruction in the rear and the line was dead straight.

By December 1919 the instructions dealing with the goods road had been made much more explicit:

(a) Trucks for Glen Huntly must be marshalled at Caulfield and placed at Glen Huntly by the Oakleigh Shunting engine.

(b) Down Goods trains for the Mordialloc, Frankson and Stony Point Line, after shunting in the Caulfield Goods Yard, may be permitted to depart at the Glen Huntly end of the yard.

(c) Drivers of Down Goods trains, which are waiting to leave the Caulfield Sidings for the Down Mordialloc Line, must stand clear of the Neerim Road Level Crossing until the Disc Signal, which applies from the Sidings at Glen Huntly to the Down Mordialloc Line, is turned off for the movement. This

is to prevent the blocking of Road traffic over the level Crossing.

(d) Up Goods trains must not be sent into the Caulfield Goods Yard at Glen Huntly, unless circumstances arise rendering such a course imperatively necessary owing to an emergency. The Signalman at Glen Huntly in such a case to first confer with Signalman at Caulfield "B" Box and then caution the Driver as to the state of affairs in the Caulfield Sidings.

The maximum speed of any train whlst travelling in the Sidings must not exceed 5 miles per hour.

From these instructions it can be seen that the goods road between Caulfield and Glen Huntly could be used for the departure of Down Mordialloc line goods trains, which would regain the Down main line at Glen Huntly via the crossover. It would be hard to see any benefit from trying to put an Up goods train into the goods road since there was no direct connection between the Up line and the goods road. It would be necessary to reverse back over the crossover to the Down line and then draw forward into the goods yard. It would have been far faster to run to Caulfield and enter the goods yard there. These instructions, with their quaint wording, stood until the resignalling in 1986.

Electrification

Electrification of the Frankston line had interesting consequences for Glen Huntly. The first section of the line to be electrified was the short portion between Caulfield and Glen Huntly on 5 March 1922. A through electric service was introduced on that date between Williamstown, Flinders Street, Oakleigh, and Glen Huntly. The steam service beyond Glen Huntly was retained and continued to work through to Flinders Street.

Clearly this was designed to avoid terminating electric trains at Caulfield, but why this was important is not so clear. Caulfield had four platforms (and an additional two roads which could be used for through trains). All of the platforms were bi-directionally signalled and could easily be used to terminate trains. None-the-less, it was decided to terminate the trains at Glen Huntly until the service could be extended to Mordialloc.

This required terminating facilities at Glen Huntly. The initial facilities were provided on 27 January 1922 and allowed terminating Down trains to commence their Up journey from the Down platform. These facilities consisted of the provision of facing point locks on the crossover points and the points to the good road, a new Up starting signal (Post 2B), and a new Post 4B controlling movements from the Down line to the Up line or Goods siding. The Up Starting signal was also controlled by the gatekeeper at Neerim Road as an Up Home signal.

This was followed by the provision of a second trailing crossover; this time situated at the Down end of the platforms. Post 6 was relocated 80 yards further out on 2 February 1922, and Post 7 was relocated 17 yards further out on 3 February. In late February 1922 the trailing crossover was provided together with two new signals. An Up disc was provided on a new Post 7 for moves from the Down line to the Up line, together with a new Down Home Post 5 protecting the crossover. All of the levers in the frame were now working.

The terminating facilities were only really used for a short period. The overhead to Mordialloc was energised around 4 April 1922, and the electric service was extended to Mordialloc on 6 June 1922. At this time, roughly half of the Glen Huntly locals were extended to Mordialloc. Most of the remaining Glen Huntly locals were cancelled when electrification was extended to Frankston on 27 August 1922. However, a few trains continued to terminate at Glen Huntly each day for a number of years.

In November 1929 permission was granted for shunting electric trains to be pushed (that is, driven in reverse). Specific instructions were given in the Weekly Notice for shunting at individual stations. At Glen Huntly the staff were instructed that when a Down train terminated in the Down platform, the crew changed ends at the platform, then pushed (reversed) the train on the Down line until it was clear of Crossover 14, and then drove forward through the crossover to the Up platform. There was no mention of departing directly from the Down platform to the Up line over Crossover 12, but this was not, of course, a shunting move.

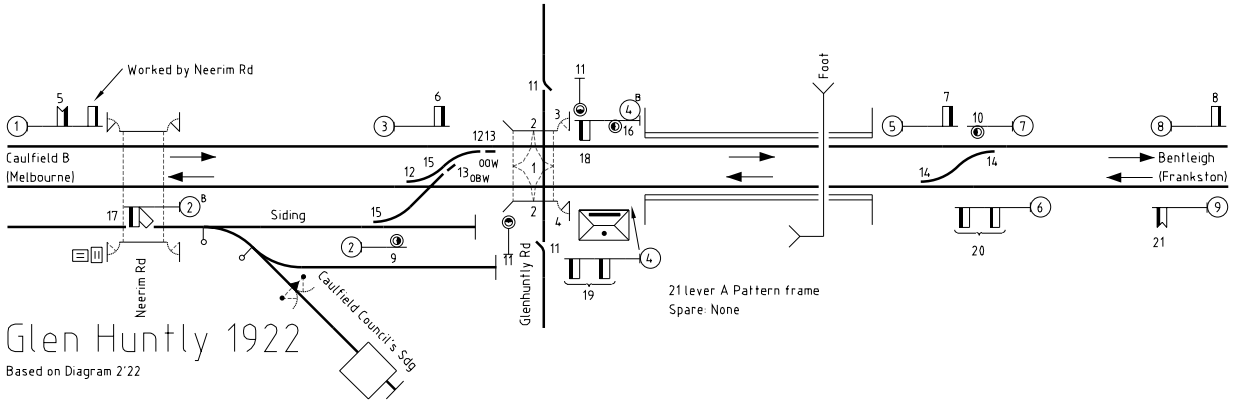
Of course both main line crossovers were wired for electric traction upon electrification, and it appears that the goods road was similarly wired at, or shortly after, this. The goods sidings at Glen Huntly, however, were not wired until the midle of December 1924 when the two dead end goods sidings electrified together with the track leading to the Council's siding as far as a stop noticeboard. Power to these sidings were controlled by an earth switch, the keys to which were held by the SM Caulfield.

Electrification brought overhead complications at the tramway crossing as it had to be arranged that the 1500V DC railway supply should never enter the 600V tramway overhead otherwise severe damage would be caused to the electrics of any tram that happened to be under the wires. To prevent this, the overhead over the crossing was isolated from both the railway and tramway power. A massive electric switch, operated from the gatestop lever, was provided to feed the correct voltage to the square depending on whether the gates were open or closed.

After electrification

A new signalbox was erected immediately adjacent to Glen Huntly Road and the interlocking frame was relocated to the new box on 19 July 1925.

On 1 September 1925 electric bell communication was provided between Caulfield B and the Neerim Road gates.



The gates at Glenhuntly Road were a variation of the standard Victorian design.The slight difference was the use of wooden gate posts, as seen here, instead of the more common cast iron posts. Wooden gate posts were once not uncommon, but almost all had been abolished by the time this photograph was taken in 1986 (the last set in use were at Kooyong). Wooden gate posts were, no doubt, cheaper than the cast iron version, but would have had greater problems resisting the turning moment imposed by the gates and would have been suseptible to rot. Examination of photos of Glenhuntly suggests, in fact, that one of the wooden gateposts had been replaced by a steel beam by 1986. Wooden gateposts were only used with Cottew pattern gate gear. In this design, the gate is driven by an above ground connection which can be seen in this photo at the foot of the gatepost. The traverse movement of the operating rods is transferred to the gate by means of a massively constructed lift crank. The gates at Glenhuntly were the standard 15'0" (measured from the centre of the vertical gateshaft to the outer edge of the flying style). This gate an opening to the road of around 30 feet. Even on a narrow road, such as Glenhuntly Road, the replacement of the interlocked gates with boom barriers has allowed the width of the road available for traffic to be significantly increased.

The departure of every Down train was signalled by one long bell. Similar electric bell communication was provided between Glen Huntly and the Neerim Road gates in late December 1926 and the departure of every Up train signalled to the gatekeeper.

The electric tram became a more significant competitor to the railway line from 29 August 1926 when the cable line in Swanston Street, St Kilda Rd, and Brighton Rd was converted to electric traction and connected with the line in Glen Huntly Rd. Tram passenger consequently could now travel all the way into the city on a fast electric tram. Shortly afterwards, on 19 December 1926 the tramway was extended from Grange Road to Koornang Rd.

By the issue of the 1928 General Appendix, the instructions for the operation of the goods road had been further augmented and now commenced:

Siding B (a) The extension of Siding "B" between Caulfield and Glen Huntly is a Goods Running Road, and, as far as practicable, vehicles must not be left standing on this Road after shunting is completed.

(b) In the event of it being necessary to allow vehicles to stand on this Road, the Shunter in charge must first obtain permission from the Signalman at Caulfield, and on granting permission the Signalman at Caulfield must inform the Signalman at Glen Huntly of the circumstances. Each Signalman must make a note in his Train Register Book and place sleeves on the levers of Signals leading towards the extension of "B" Siding. If practicable, the vehicles must be left well clear on the Down side of Points leading from "B" to "C" Siding [at Caulfield]. They must be secured by hand brakes. After sunset, or during foggy weather, a Red light must be fixed at each end of the vehicles.

(c) When the vehicles are removed, the Signalman at Caulfield must again be advised by the Shunter in charge, and the sleeves may then be removed from the Levers, and the Signalman at Glen Huntly advised. The time vehicles are cleared must be shown in the Train Register Book at each Signalbox.

(d) During the time that vehicles are standing on the extension of "B" Siding, the Signalman at Caufield and Glen Huntly must arrange for the Driver of any train or engine proceeding towards the vehicles to be verbally warned.

Interlocked wicket gates were provided on the up side of Glen Huntly road on 19 January 1930.

The provision of the crossover at the Down end would have made it difficult to accept trains from Ormond when it was in use, and by 1928 Glen Huntly was made a Block Terminal in the Up direction. This meant that trains could be accepted under Rule 4 if the line was clear to Post 6. In late

February 1930, the block acceptance conditions were altered. The block terminal conditions were replaced by special acceptance conditions. Up trains could be accepted in clear weather if the line was clear to the Up end of the crossover at the Down end of the station. Once an Up train had been accepted from Ormond, no train could use the Down end crossover. Down trains could now be accepted in clear weather if the line was clear to Post 5.

Locking alterations were made to the frame on 20 March 1931 to prepare for the duplication of the electric tramway. This involved the addition of an additional tramway lever (lever 10), so that the westbound and eastbound tramway catches were once again worked by separate levers. Unfortunately, as there were no spare levers, this involved the frame being extended by one lever at the righthand end, and probably significantly re-arranged. The extension of a tappet frame by one lever was quite unusual and involved the provision of a special length of locking trough. The tramway was not, however, duplicated at this time.

On the 26 November 1933 the two mechanical boxes at Caulfield were replaced by the new power box. As part of this work the double line block working to Carnegie and Glen Huntly was replaced by three position automatic signalling. This was probably to avoid requiring the signalman at Caulfield from having to deal with block working. At Glen Huntly, Post 1 (the Down Distant, lever 5) and Post 2B (the Up Starting 17) were abolished and three position light signals provided in their place. The gatekeeper at Neerim Road was provided with two miniature levers to control the Up and Down Automatics protecting his level crossing. Homes 6, 18, and 19 were equipped with reversers, as was Distant 20. Curiously, while Caulfied was resignalled using upper quadrant semaphore signals, the short automatic signalling section between Caulfield and Glen Huntly was resignalled with light signals.

The tramway was finally duplicated through the level crossing on 23 January 1934. The improved tramway service may have led to delays to tramway traffic and the Metropolitan District Superintendent penned the following memo to the SM at Glen Huntly on 11 May 1934:

Working of tramway traffic over Glenhuntly Road Crossing, Glenhuntly

In order to avoid unecessary delays to Tramway traffic over this crossing, it is important that signalmen at Glen Huntly be constantly on the alert for approaching trams. In this connection the following points should be observed.

1) In the event of both tram and train approaching crossing together, preference must be given [to] the train.

2) If a tram is closely approaching crossing and it can clear crossing and gates be closed within one minute prior to arrival of train, the tram should be given [a] proceed signal.

3) Any instance of delay by the electric tram driver not responding quickly when gates are open and "proceed" signal displayed to be brought under notice, giving time and number of car.

The object should be to work both train and tram traffic over this crossing with as little delay as possible consistent with the safe and proper working of both systems.

Glen Huntly was renamed Glenhuntly, one word, in late April 1937.

Renewal at the Up end

The facilities for terminating trains at the Up end were removed on 24 August 1945 after the Chief Civil Engineer raised the need to renew the crossover and the Traffic Branch agreed that it was no longer necessary to originate Up trains from the Down platform. On that date the single compound in the Up line was removed, leaving a straight crossover from the siding to the Down line. The plungers worked by lever 13 were removed, as was Up Home 18 on Post 4B. Points 12U (in the siding) were connected to lever 15. Levers 12, 13, and 15 were removed from the frame.

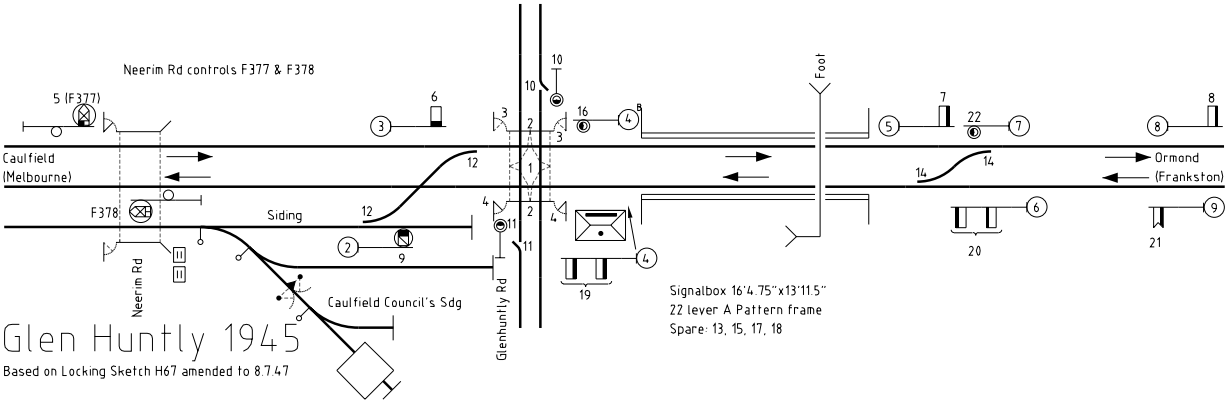
On 20 September 1945, Down Home 6 was converted to a track controlled motor operated signal, and Disc 9 was replaced by a light dwarf signal that could display stop and low speed caution. The tramway crossing was renewed on 23 September 1945 and the AGST noted "The track circuit control of the gate stop lever will be arranged". The lever lock on the gate stop lever prevented reversal of the gate stop lever until the train was proved clear of the level crossing by means of track circuits. Clearly, it was not possible to track circuit the level crossing itself, and so short track circuits were provided on each side of the level crossing. Once the track circuit on the approach side of the level crossing had dropped, it would not pick up until the track circuit on the far side of the level crossing had dropped and then picked up (indicating that the signalled train had passed over the level crossing).

The 1500V/600V switching to the tramway square was altered on 10 June 1962. A mechanically operated change over switch was provided on the Down mast of structure No 387+54 instead of 1500V switching in the switch house.

By 1963 a second goods siding had been provided in the goods yard, parallel to the existing siding. This was balanced by the removal of the Council's siding sometime between 1963 and 1968.

End of block working

On 10 November 1974 the double line block working between Glenhuntly and Bentleigh was replaced by three position Automatic signalling. To maximise the capacity of the

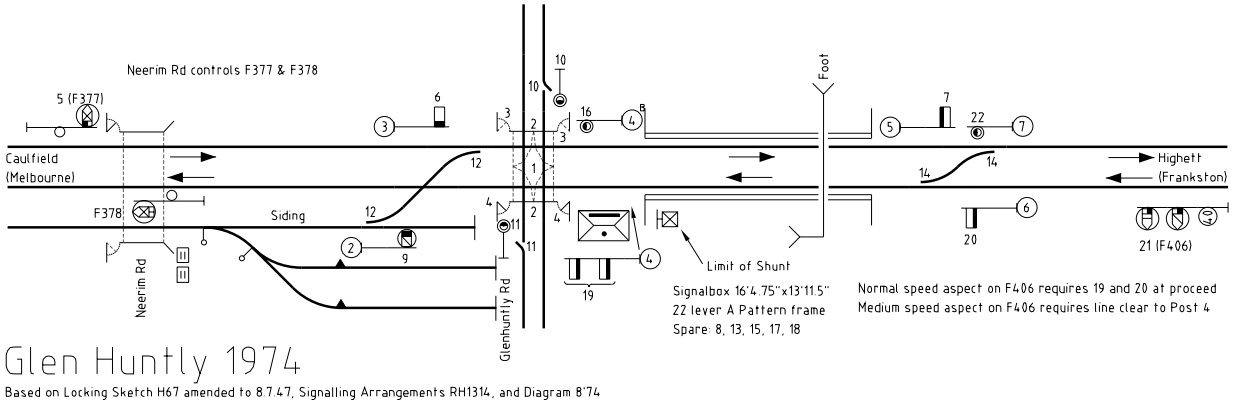


This "Limit of Shunt" board was suspended from the verandah on the Up platform. I took a picture of it on 12 April 1985 (on only the seventh roll of film I took of signalling matters) because I had never seen one before. It was only when I began to prepare this article that I wondered why it was provided. As shown on the 1974 diagram (below), the board faced Up trains arriving into the Up platform and so was routinely passed by every through Up train. The answer, gained after a few inquiries, was that the board was provided in conjunction with the track circuit locking of the gatestop lever (and hence the overhead power switching). The goal was to prevent the overhead power being switched while a train was passing over the crossing. Clearly it was not possible to provide a track circuit through the level crossing as the tramway track would short circuit the track circuit. Instead short track circuits were provided on each side of the crossing. When the track circuit on the approach side of the level crossing dropped, it remained down until the track circuit on the departure side had, in turn, dropped and cleared. While the track circuit was down the gatestop lever was locked, preventing the overhead power being switched. Unfortunately, the distance between Post 4 and the gates was very short, and the Up approach track circuit extended to the rear of Post 4. The start of this track circuit was marked by this "Limit of Shunt" board. Any train passing this board locked the gate stop lever until it had passed over the crossing. So if the train was not going to pass over the crossing (e.g. it was to shunt to the Down line via the Down end crossover, it should not pass this board.

double line, the new Automatic signals had four aspects with a medium speed of 40 mile per hour (65 km/h). The design headway was 2 minutes for both stopping and express trains, and the line was signalled for a maximum speed of 60 mph.

Glenhuntly itself changed relatively little with the provision of automatic signalling. The Down Starting (Post 8) and Up Distant (Post 9) were abolished. Counterbalancing that, the final Up Automatic (F406) was controlled by Glenhuntly. This signal, incidentally, was interesting as it could not show Normal Speed Warning (yellow over red). It could show Clear Normal Speed when both Up Home signals in advance were at clear (which meant the gates were open for railway traffic and the tramway catches open and the discs on). F406 could show Medium Speed Warning if the track was clear to the level crossing. Homes 7 and 20 were provided with reversers.

Glenhuntly was closed to goods traffic on the 29 March 1977. The two dead end goods sidings were shown on Diagram 15'80, but had been removed by the issue of 47'85.



Post 2 (left) was a three position 'Dwarf' signal (which could only show two aspects - stop and low speed caution). As the photo shows, however, there was nothing small about the signal. It had a full sized head and was mounted on a short post. The Dwarf signal was provided in 1945 and replaced a disc signal. It is possible that the provision of a full sized light signal head on a post was related to the use of the Through Siding by Down Frankston line goods trains. Once it was decided to provide a light signal, it had to be a Dwarf signal or a Home signal (as light disc signals are not provided in Victoria). (Upper right) The Neerim Road hand gates from the south on the 14 February 1986. These gates spanned three tracks, although a close examination of the photograph will reveal that by this date the Through Siding had been lifted south of Neerim Road to allow to be slued to form the new Up line. The gatekeeper at Neerim Road was provided with a typical wooden gatekeepers cabin of absolutely no architectual pretensions whatsoever. By the beginning of 1986 the cabin was becoming rather decrepit. (Lower right) The gatekeeper at Neerim Road controlled the Up and Down automatic signals. The control was via the two miniature levers shown in this photograph. The levers were essentially hand operated circuit controllers. There was no interlocking between the position of the hand gates and these levers.

The third track

The resignalling satisfied the requirements for increased capacity for about a decade. In the middle '80s, however, a further improvement was required. The solution adopted was the provision of a third track between Caulfield and Moorabbin. The new Centre line was bi-directionally signalled and carried express trains into the city in the morning peak, and from the city in the evening peak. At Glenhuntly the Up platform became an island platform, with the former Up platform serving the new Centre line and a new Down platform was provided at the rear of the existing platform. This required replacement of the original timber station buildings and signalbox on the Up platform. (The timber portable station buildings on the Down platform survive to this day, and are among the last in use in Melbourne.)

The first alteration at Glen Huntly was the abolition of the Through Siding. On 18 May 1986 the connection to the Through Siding was taken out of use. Points 12D in the Down main line and the diamond crossing were straight railed. Probably at this time Dwarf 9 and Disc 16 were abolished. The Through Siding was formally baulked on the Up side of Neerim Road on 19 July. The Through Siding would form the new Up line, and would be slewed further east between Neerim Road and Glenhuntly Road to run behind the Up platform. On 28 August, the eastbound tramway catch points were relocated 10 metres eastward to provide room for the new track. The sources are a little contradictory, but it appears that both tramway catches were converted to motor operation, and the disc signals were replaced by light signals at this time. The new tramway signals showed a red 'T' when the catch was open and a green 'T' when a tram was signalled over the level crossing.

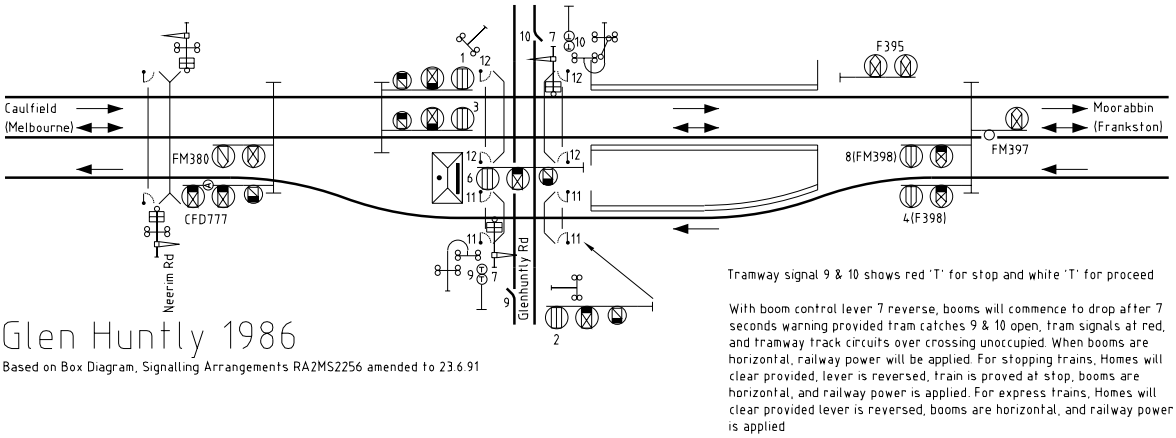
The overhead was removed from Crossover 14 on 13 September 1986. Curiously, repeaters were provided for Homes 7 and 21 on 17 September. Probably the new overhead portals at the Down end were obstructing the Signalman's view of these signals.

Manually controlled boom barriers were provided at Glenhuntly Road on 21 September and the interlocked gates were abolished. Gate wheel 1 was removed from the frame, but the gatestop lever 2 remained in use to work the boom barriers and to switch the overhead power. The boom barriers were articulated to clear the tramway overhead. Theouter ends of the booms are hinged and, with the booms vertical, droop down. A cable connects the hinged portion to the mast and, as the boom drops, the hinged portion is lifted and becomes horizontal. The manually controlled wickets remained in use at this time.

On 9 October 1986 Crossover 14 was removed, together with Disc 22 on Post 7. Levers 14 and 22 were sleeved normal. South of Glenhuntly, the new track was on the Down side of the existing line and would form the new Down line, while the former Down line would become the Centre line. It appears that the new Down line was brought into service late in 1986 or early 1986 (the latest it was brought into service was the 21 February 1987 when the line south of Ormond was resignalled). When the new Down line was commissioned, the new Down signals and Up signals on the Centre line were provided. Post 5 was replaced by Automatic F395 and Post 6 was replaced by Automatic FM398. Neither post was provided with an illuminated '65' indicators. Up Automatic F406 was abolished, and F416 was replaced by a new signal F418 on a signalbridge slightly further out. A pedestrian crossing with automatic gates was provided about 400 metres south of the platform, but the footbridge at Glenhuntly was removed. These alterations probably occurred with the issue of Diagram 55/86, but this was not published in the Weekly Notice.

The mechanical signalbox was abolished on the 9 May 1987, together with the last two remaining mechanical sig-


UP
N3
DOWN



nals, Posts 3 and 4. A new signalbox containing a panel was provided on the Up side of Glenhuntly Road. The new box, which appeared similar to a Portacabin, was located between what would become the new Centre and Up lines, and faced Glenhuntly Road. This perhaps reflected the fact that the focus of the Signalman was the tram traffic on Glenhuntly Road. The mechanical wickets at Glenhuntly Road were replaced by four motorised pedestrian gates. The boom barriers and pedestrian gates remained manually controlled. New Up and Down Home signals (Posts 1 and 6) were provided, and a control was provided on FM398. The overhead power switch remained on the overhead mast on the Up side of the level crossing, but was motorised. A manual override was provided if the motor failed. The tracks between Neerim Road and Glenhuntly were resignalled. Up Automatic F378 was replaced by a new post FM380 located on a signalbridge. The hand gates at Neerim Road were retained at this time, and the gatekeeper gained control of FM380.

On 20 June 1987 the section between Caulfield and Neerim Road was resignalled. The hand gates at Neerim Road were replaced by Boom Barriers and pedestrian gates on the Up side of the level crossing. The control was removed from FM380 and it was altered to be capable of displaying a 'Reduce to Medium Speed' aspect. All of the posts on the Up side of Neerim Road were replaced by new posts located on signalbridges, with F365, FM366, and F379 being provided.

The new Up line was brought into service on 27 June 1987. The former Up platform at Glenhuntly was converted into an island platform. The full signalling was brought into use between Caulfield and Moorabbin, however on 28 June the former Up line (now the Centre line) was taken out of service. All trains ran via the Down line and the new Up line. Three track running was brought into use as from the 5 July 1987, though this date was not published in the Weekly Notice.

Use of the three tracks is very asymetrical. In the morning peak, Up stopping trains use the Up line, Up express trains use the Centre line, and all Down trains use the Down line. In the evening peak, the Centre line is used for Down express trains. Outside the peak times, all Down trains use the Centre line and Up trains the Up line.

Very little change has occurred at Glenhuntly since the provision of the third track. One alteration was the provision of LED co-acting signals for Homes 2 and 6 on the 13 May 2006. The co-acting signals were mounted on the posts.