

# SOMERSAULT

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SIGNALLING RECORD SOCIETY OF VICTORIA INC



*The 40 lever unilever panel at Burnley signalbox on the occasion of this year's SRS Showday tour. This panel, and the signalbox containing it, was brought into use on 4 December 1966 when the quadruplication between Flinders Street E signalbox and Burnley was brought into service. The panel replaced a 42 lever A pattern tappet frame in a signalbox dating from 1926. Unlike most panels, Burnley has seen significant alterations over the years and the number of working levers has steadily increased. When first provided only 12 levers were working. This increased to 27 levers in 1973 when the bi-directional Centre line was provided between Burnley and Hawthorn, and 40 levers when the Burnley Stabling Sidings were provided in 1997.*

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### MINUTES OF MEETING HELD FRIDAY SEPTEMBER 15, 2000,

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

Present: - J.Black, W.Brook, B.Cleak, G.Cleak, B.Crosby, G.Cumming, M.Drew, C.Gordon, W.Johnston, K.Lambert, D.Langley, B.McCurry, J.McLean, T.Murray, C.Rutledge, B.Sherry, R.Smith & A.Wheatland.

Apologies: - I.Chan, G.O'Flynn, P.Silva, A.Waugh & R.Whitehead.

The President, Mr. David Langley, took the chair & opened the meeting @ 20:04 hours.

Minutes of the July 2000 Meeting: - Accepted as published. J.McLean / K.Lambert. Carried.

Business Arising: - Nil.

Correspondence: - Payment for the use of the meeting room for the July 2000 Meeting was sent to the Surrey Hills Neighbourhood Centre. A completed membership application form & subscription was received from Steve Malpass & acknowledgment had been sent. A completed membership application form & subscription was received from Geoff Lambert & acknowledgment had been sent. Letters were sent to Alstom, Bayside Trains, Connex Trains & Victrack Access requesting permission for & concerning arrangements for the forth coming signal box tour. B.Sherry / W.Johnston. Carried.

Reports: - An Archives report was received from Bob Whitehead & was read by David Langley. Ian Cordwell from Victrack had visited the rooms at Seymour & it is hoped that works will take place to on the roof & interior of the rooms we are leasing. The P.R.O. has noted our concerns regarding historical documents at Spotswood as outlined in the letter tabled at the last meeting. The details of the signal box tour to take place tomorrow were discussed.

General Business: - Chris Gordon asked about the aspects that can be displayed on the departure home signals at McIntyre Loop. After considerable discussion, it was agreed that the departure home signals at McIntyre Loop could show yellow aspects as well as green aspects. Arrangements at other North East SG loops were discussed. Other locations on the North East SG Line where the departure home signals can show yellow & green proceed aspects include Tallarook Loop - Seymour Loop & Alumatta Loop on the down. Colin Rutledge explained that the North East SG Line was designed with a signal spacing of approximately 9000 feet. When the next signal in advance is less than 9000 feet in advance, then it is possible for yellow & green proceed aspects to be displayed. Green aspects only are displayed when the next signal in advance is 9000 feet or greater in advance. The reason given for this was to prevent a driver travelling long distances on a restrictive aspect & possibly "forgetting" the last signal aspect seen. Keith Lambert noted that the departure home signals at Lyndbrook Loop can't display yellow proceed aspects. The operation of the North East SG CTC system was discussed & comparisons were made with the Junee - Albury system. The operation of the Junee - Albury single line system was noted as being similar to the Victorian system, however, the intermediate signals on the Junee - Albury system were set up on the "home & distant" arrangement. This arrangement can also be seen on sections of double line in New South Wales. Attention turned to the Yarragon - Trafalgar - Moe sections where in recent years some automatic signals had been removed & alteration to the aspects on other signals had been made. It was noted that the government report on increasing train speeds to regional centres had suggested singling the line on the down side of Sunbury.

Jack McLean noted that the reference to Divisible Staff in the recent issue of Somersault should have referred to Divided Staff. Jack McLean also noted that the Divided Staff at Lake Charm was used so often that a staff exchange box & a staff ticket exchange box were provided. Discussion then turned to the use of terminology & the origins of the names Divisible Staff, Divided Staff & Composite Staff. It was noted that

these examples of staff working were restricted to the East Coast with no known usage in South Australia or Western Australia.

Keith Lambert spoke about the work carried out at Elphinstone Tunnel in 1935. A signal box was provided at each end of the tunnel to control traffic on the gauntlet track through the tunnel while work was taking place. Track circuits & motor operated lower quadrant signals were provided, powered by primary cells. Members present at the meeting were reminded of arrangements for gauntlet track across the Murray River Bridge at Wodonga. The discussion on the power supplies at Elphinstone Tunnel caused a couple of members to reminisce about working with primary cells. Each cell produced 1.2 volts each & had to be refilled every 8 - 12 weeks.

The Holmesglen collision was discussed. Four inquiries are underway - Victoria Police, Connex Trains, Workcover & Department of Infrastructure. The damage to the rollingstock & the design of the body shells & the use of collision beams was discussed.

The A.T.S.B. Report on the collision at Ararat was discussed. The report commented on the 5 locations where the security of main line points was similar to the arrangements at Ararat & the performance of the anti - climbers on the G class locos.

Keith Lambert reported that the Lydiard Street gates at Ballarat had been removed & that traffic lights were being installed.

Keith Lambert noted that both platforms at Flemington Racecourse would be in use for the coming Spring Racing Carnival. Keith asked when the 2nd class platform was last in regular service.

Keith Lambert spoke about a proposal for power signalling for Greensborough - Eltham - Hurstbridge, worked from Eltham, with a back platform road at Hurstbridge. With the introduction of a new timetable in November 2000, Diamond Creek would be open as a crossing station in the afternoon peak.

Tom Murray asked about the remaining sections of Train Staff & Ticket working. The remaining sections of TST were discussed.

Glenn Cumming spoke about the current arrangements for the manning of Maroona using staff from Murtoa who start their shift at Murtoa, drive to Maroona & work for a couple of hours before closing Maroona & then returning to Murtoa to finish the shift.

Brett Cleak advised that QR D.T.C. working replaces Train Orders between Toowoomba & Roma this weekend.

Tom Murray noted that the Vintage Train last Sunday ran as a spark Camberwell - Spencer Street, then steam hauled pass to Bacchus Marsh. This was due to problems with access agreements.

Jim Black spoke about a new book titled Railway Safety - Brakes available from Engineers Australia.

David Langley reported on another case of a train operated by Thames Trains running past a red signal at Paddington.

Meeting closed @ 21:50 hours. The next meeting will be on Friday 17 November, 2000 at the Surrey Hills Neighbourhood Centre, 1 Bedford Street, Surrey Hills, commencing at 20:00 hours (8.00pm).

## SIGNALLING ALTERATIONS

*The signalling alterations have been held over until the next issue.*

## ERRATA

There were a few errors in the last issue. In the description of Lake Charm (page 86) the reference to 'Divisible Staff' should, of course, be 'Divided Staff'. In the description of the NSW Standard Block instruments (page 92), the instruments have been reversed. The instruments shown are for the Down line through Bundanoon and the instrument on the left is the *receiving* instrument for the section in the rear (from Exeter), and the instrument on the right is the *sending* instrument for the advance section (to Wingello).

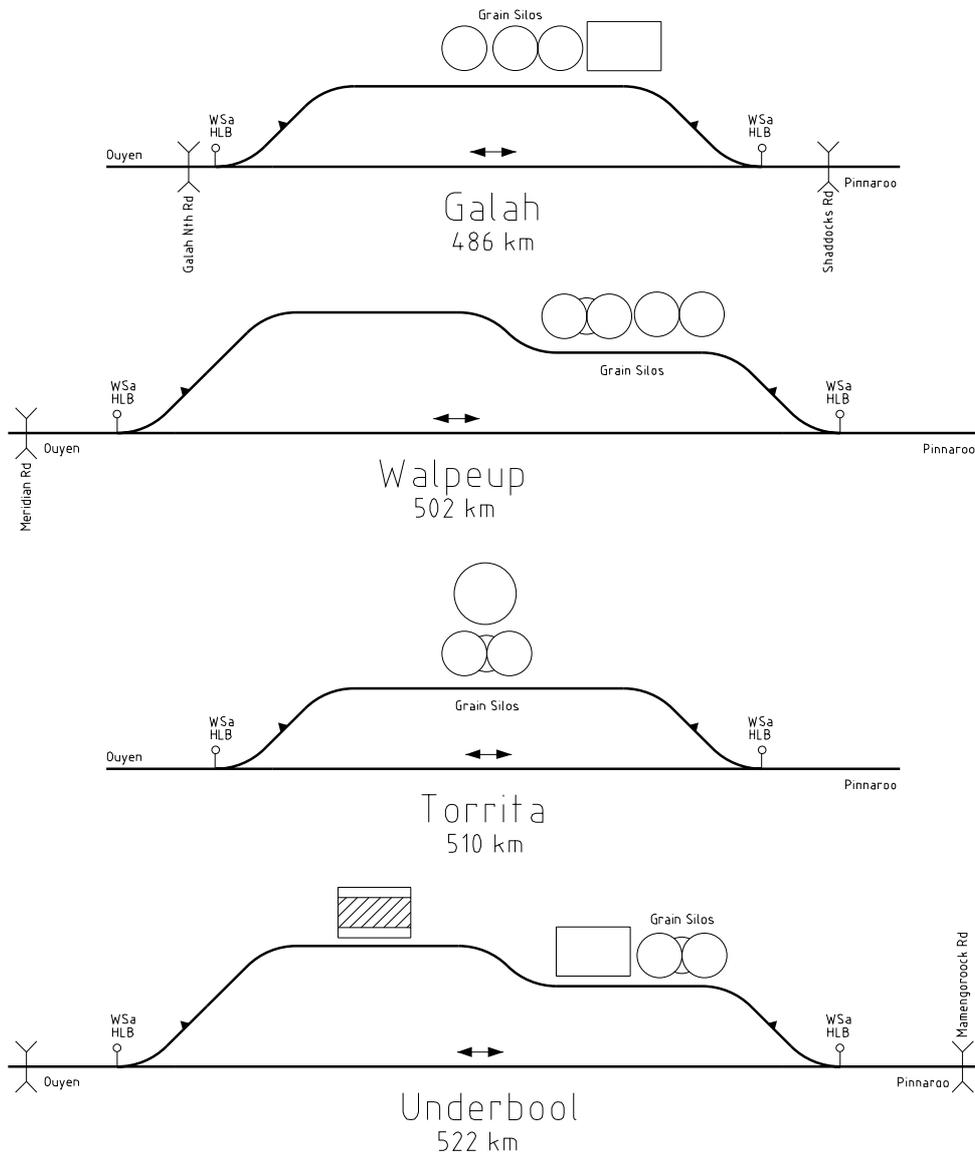
### OUYEN TOWARDS PINNAROO

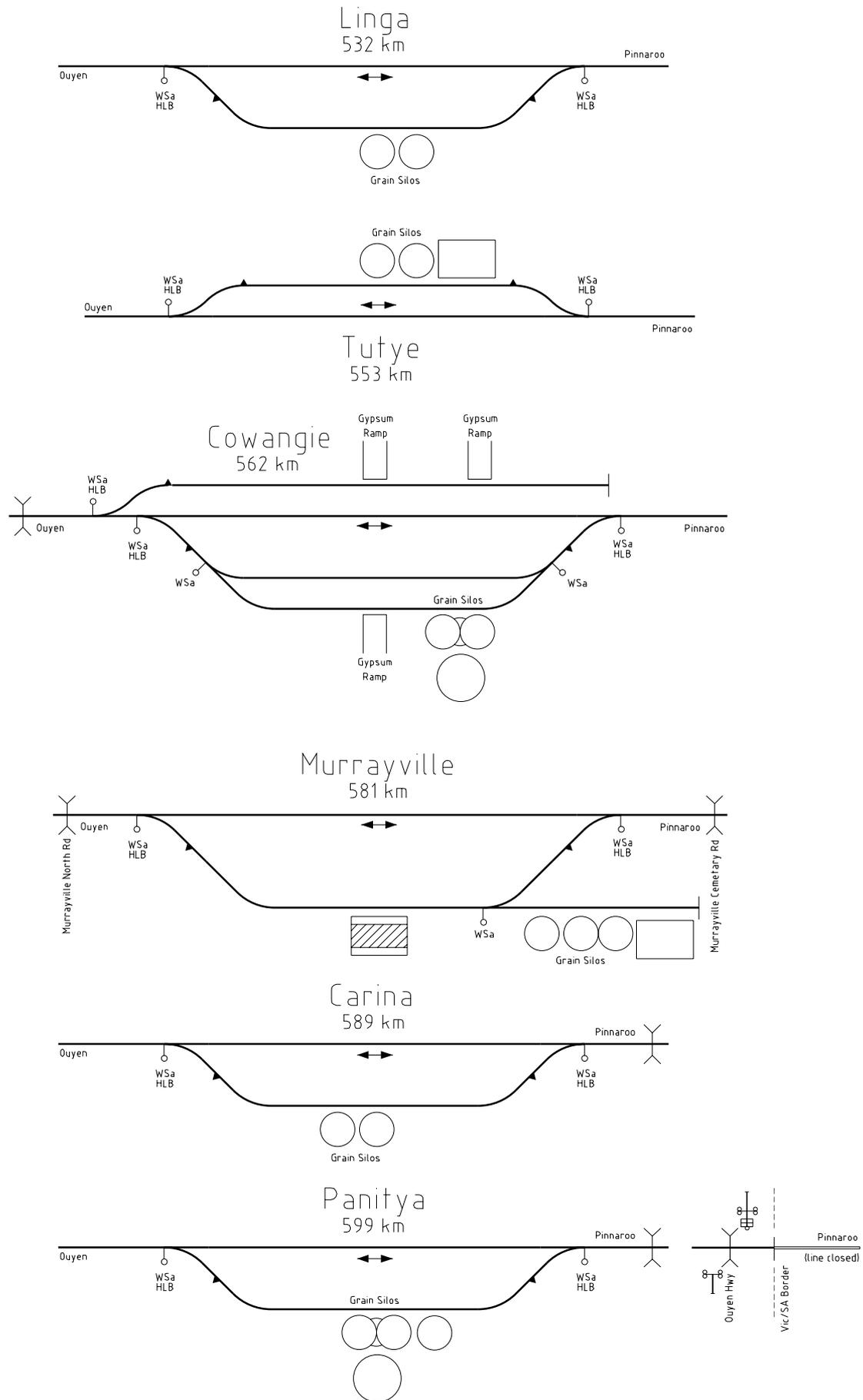
Chris Wurr has kindly forwarded details of the Pinnaroo line as at 14 July 2000.

Chris notes that it is reasonably assumed that there are triangular Location Boards at the Up and Down approaches to all locations on the line, though this is difficult to confirm if one is observing the line from a car. They were noted at some locations.

Chris also poses the question: 'Why is Train Staff and Ticket still used on the line?' The main line points are all secured by Hand Locking Bars and padlocks and so there is

no need for a Staff or Master Key to unlock the points. Some state that there is no Train to Base Radio on the line, but this is incorrect as there are repeaters at Walpeup, Tutye and Carina and the latest (27/8/2000) Network Service Plan gives channel 3 as the 'channel to stay tuned to'. In any case, there was never any Train to Base coverage on the Murtoa - Hopetoun line and radio coverage has now only come with the SMR on that line. We used to do all our Train Order working on the nearest "postal" phone.





### B IS FOR BROADMEADOWS

The editor did not have sufficient time to prepare the usual tour notes; instead these post hoc notes will have to do.

#### Early years

The North East main line was opened from Essendon to Schoolhouse Lane (on the Melbourne bank of the Goulburn River near Seymour) on 18 April 1872. Broadmeadows station, however, was not opened until the 1 February the following year, and then for passengers only. The new station was situated at top of the climb out of Moonee Ponds Creek valley and served the established communities of Keilor (to the west on Moonee Ponds Creek) and Campbellfield (to the east on Sydney Road). Sometime in 1876 Broadmeadows was opened for goods traffic, but the date has not been recorded in the references I have at my disposal.

Broadmeadows was opened as a telegraph station in September 1877 but closed almost immediately in November 1877.

A contract was let for the erection of a "passenger station" on 26 July 1878. The contract was let to Daniel Spence and was for £553/17/10. Similar contracts were let on the same day for passenger stations at Essendon, Violet Town and Springs (Springhurst).

By December 1879, Broadmeadows was a Staff station working with Essendon on the Up and Craigieburn on the Down. The telegraph block (as distinct from Winter's Block) was in use for all trains between Essendon and Craigieburn; Broadmeadows itself, however, was not open as a block post. During March 1880 Broadmeadows was reopened as a telegraph station and became a telegraph block post for Down trains between Essendon and Broadmeadows and for Up trains Craigieburn - Broadmeadows - Essendon. Down trains beyond Broadmeadows were worked under time interval working with an interval of 15 minutes.

Duplication between Essendon and Broadmeadows was brought into use on 16 November 1885 and was extended to Donnybrook on 22 March 1886. At this time traffic was still worked by Telegraph Block and Time Interval; Winter's Block was not introduced between Essendon and Bal-

last Pits Siding until 15 June 1886. By January 1887 the block sections were Essendon - Broadmeadows - Craigieburn.

#### The suburban service

Until 10 October 1887 Broadmeadows was a country station only served by the NE main line trains. The suburban service terminated at Essendon. On that date, however, a limited suburban service was provided between Essendon and Broadmeadows. Initially six suburban trains per day were provided. This had increased to nine trains by 11 August 1890, but had fallen to 5 daily trains by 9 May 1892. Twelve suburban trains were provided by 21 May 1894. By 15 December 1896 still showed 12 daily suburban trains but one was extended through to Somerton.

To assist the working of this suburban service, interlocking came to Broadmeadows on 15 February 1889 when an eight lever ground frame (no spares) was provided. On the 1 July 1899 it was recorded that this frame worked 6 signals, 1 set of points and 1 lockbar. No doubt the interlocked points formed the trailing crossover at the Up end of the platform allowing Up suburban trains to depart from the main (Down) platform.

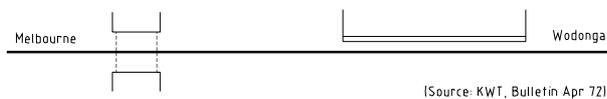
#### Full interlocking

Broadmeadows was fully interlocked on 1 September 1899 when a 14 lever frame was provided. The frame worked 9 signals, 4 points, and 1 lockbar. The diagram in the article is based on the list of signals in the Weekly Notice and the basic track layout is still recognisable today; 101 years later.

A number of minor alterations were carried out over the following decade. In late September 1903 the catch points in the Down main line near the Distant signal were removed. On 3 March 1905 the Up distant was relocated 150 yards closer to the station. In the middle of 1906 the hand gates at No 11 Crossing (10 miles 24 chains, now Camp Road) were replaced by cattle pits.

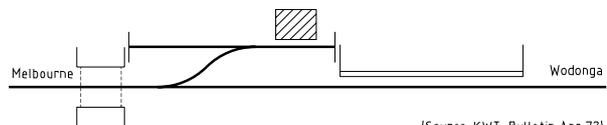
By May 1903 there were daily service of 11 suburban trains (with one train proceeding beyond Broadmeadows to Somerton). These formed a shuttle service between Essendon

Broadmeadows 1873



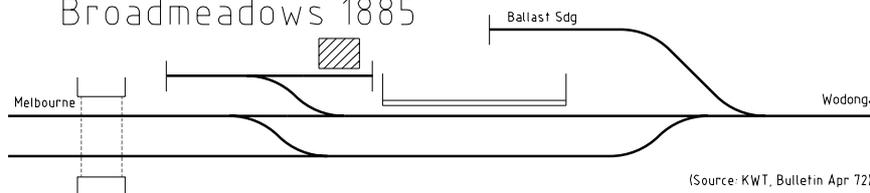
(Source: KWT, Bulletin Apr 72)

Broadmeadows 1881



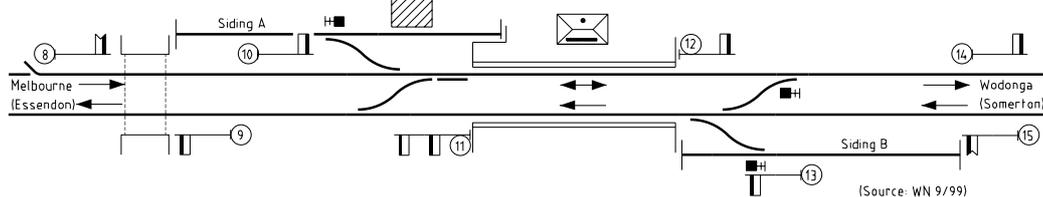
(Source: KWT, Bulletin Apr 72)

Broadmeadows 1885



(Source: KWT, Bulletin Apr 72)

Broadmeadows 1899



(Source: WN 9/99)

and Broadmeadows. By the issue of the 1908 GA the service was carried out by a 'Motor' train; the distinguishing characteristic of which was the absence of a fireman on the locomotive. The Guard was expected to sell tickets and assist the Driver - even drive if that proved necessary. The service remained at this level throughout the first decade of the twentieth century, although the Somerton train would have been withdrawn by October 1903 when that station was abolished as a block post. By December 1913 there were 15 trains daily. These still formed a shuttle between Essendon and Broadmeadows, but the shuttle was not a Motor train.

On 1 June 1909 accepting trains under the 'Section Clear but Station or Junction Blocked' rule was generally prohibited within Victoria except at particular locations. One of these locations was at Broadmeadows where all Down trains could be accepted under this signal (the 1913 GA was at pains to point out that 'all trains' did not include Express or Fast trains not timed to stop). Although Down trains did approach Broadmeadows on a rising 1 in 82 grade, it is more likely that this provision had more to do with the use of the Down platform by terminating suburban trains. It would have been very inconvenient if Down trains could not be accepted from Glenroy (or Essendon) until the Down platform was clear.

In late August 1911 a Down refuge siding was provided. Local geography meant that the siding had to be provided at the Down end of the station. The points were consequently too far from the signalbay to be directly worked. Instead they were locally worked by a lever mechanically crosslocked from the main frame. The frame was extended by one lever on 24 August to accommodate the crosslock lever. Concurrently, Post 14 (Down Starting) was relocated 165 yards further out, and the opportunity was taken to replace Post 11 with a bracket post. A point indicator was subsequently provided on the catch points at the exit of the Refuge Siding in late January 1914.

**Special instructions**

Broadmeadows long had special instructions concerning the working of Up goods trains.

One set of instructions concerned trains with stock for Newmarket and were concerned with ensuring that the relevant trucks could be shunted off at Newmarket without delaying passenger traffic.

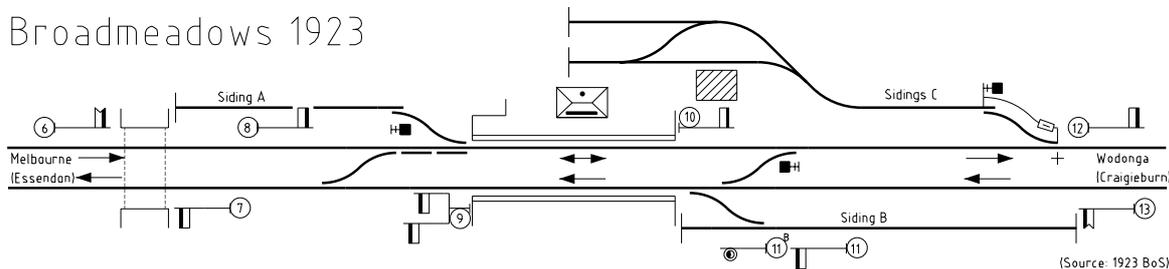
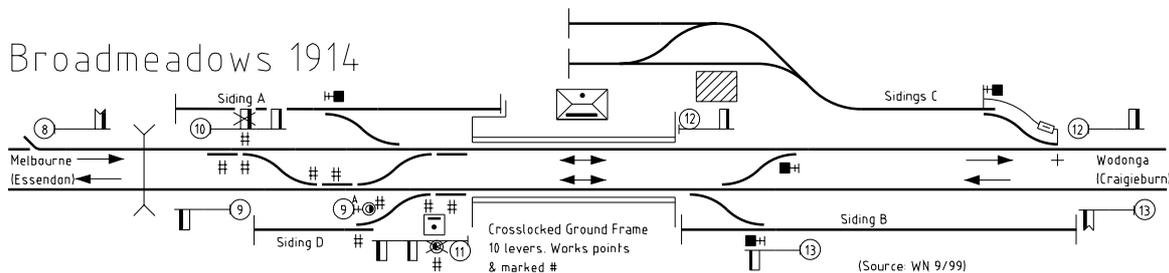
In July 1896 the Weekly Notice instructed that all Up goods trains with trucks to detach at Newmarket were to give two whistles when passing Broadmeadows. The SM,

upon hearing these whistles, was to notify the Signalman at Essendon by telephone. The Signalman at Essendon forwarded the notification on to the Signalman at Newmarket and was not permitted to let the goods leave Essendon within 7 minutes of an Up passenger. In December 1916 the Weekly Notice instructed that if an Up goods required to shunt Newmarket during the time passenger traffic was running, the Guard had to notify the SM at Broadmeadows who would telephone the information to the Signalman at Essendon. If the load of the train exceeded a specified limit (e.g. 315 tons for a DD locomotive) the SM at Broadmeadows also had to telegraph the SM at Newmarket.

The other set of instructions concerned with working of goods trains down Oliver's Bank. In September 1898 instructions were issued that all Up goods trains had to stop for a brake test at Broadmeadows instead of Somerton. By the issue of the 1908 GA, all Up goods trains in excess of 259 tons had to stop at Broadmeadows to perform a brake test. If the test failed, the load had to be reduced to 300 tons. In April 1909 this instruction was modified; it now applied to Up goods trains in excess of 80% of the load the engine could haul up the bank from Essendon had to stop at Broadmeadows and perform a brake test. If the test was failed, the load must be reduced to 80% of the Down load and sufficient hand brakes applied to control the train. Speed was not to exceed 35 mph at the foot of the grade. By the issue of the 1919 GA, all Up goods trains had to perform a brake test and if the test was failed sufficient hand brakes had to be applied to control the train. These last instructions were eventually withdrawn between 1939 and 1953.

**The first world war**

At the outbreak of war in 1914 the Australian government established a training camp just to the east of Broadmeadows. Special arrangements were provided at Broadmeadows to facilitate military traffic. Essentially this involved the provision of a facing crossover to allow Down military specials to terminate in the Up platform and a short engine road (Siding 'D'). An additional arm was provided on Post 10 (Down Main line to Up platform), a disc on Post 11 (Up platform to Siding D), and a new ground disc Post 9A (Siding D to Up platform). The interlocking frame was, of course, far too small to operate the new connections which were worked from a 10 lever Auxiliary Frame crosslocked with the main frame. Two separate crosslock levers were required; one was the lever that formerly worked the facing point lock at the Up end of the Down platform, and the other



was apparently the lever that worked the crosslock for the Down Refuge. The lever working the points to the Down refuge was apparently replaced by an Annett lock (although this did not appear in the Weekly Notice until August 1915). The Auxiliary Frame was only brought into use for special traffic when authorised by the General Superintendent of Transportation. Normally the points were spiked and the signals crossed. The signals did not need to be lit. In February 1916 Post 10 was relocated 10 yards further out.

On 4 September 1916 hand gates were reinstated at the level crossing at the Up end of the yard at 10 miles 24 chains (Camp Road). This was probably due to the road traffic to and from the army camp.

It appears that the suburban service remained essentially unchanged during the war years. In May 1916 the service was still provided by a shuttle from Essendon which ran 15 daily round trips. One alteration during the war years, however, was the provision of a local goods service. Prior to the War goods traffic at Broadmeadows was handled by the through Seymour services. By May 1916, however, there was a daily local goods which arrived from Melbourne at 0620 and returned thence at 0810. The local goods service was retained after the war. The May 1919 WTT shows it running three days a week (MWF) arriving at Broadmeadows at 1220 and returning at 1315.

The special facilities for the military were abolished on 30 January 1919 when the facing crossover, Siding D, the Auxiliary frame, and associated signalling were removed. A set of grain sidings was provided at the Down end leading from Siding B and Post 11B (Disc from Grain Sidings to Up platform) was provided. The crosslock controlling the Down refuge was also restored on this date and the Annett Locks removed. It appears that the Grain Sidings did not have a long life as the application of the Disc on Post 11B was changed in late December 1920 to apply from Siding B instead of the Grain Sidings.

Block Rule 6 (Section Clear but Station or Junction Blocked) was permitted to be used for Up trains that were required to shunt at Somerton as from the middle of December 1920. The use of Block Rule 6 to accept trains shunting in section was reasonably common in Victoria; other examples were McDougall (Broadford - Tallarook) and White's Siding (Ballarat C - Ballarat D). From late March 1925 Up Trains could be accepted under full Line Clear provided the line was clear to Post 9. By the 1928 GA, however, Broadmeadows was classified as a Block Terminal which meant that Up or Down trains could be accepted under full Line Clear provided the line was clear to the Home signal. All other special acceptance conditions had been cancelled.

### Electrification

Electrification came to Broadmeadows on 4 September 1921.

Through trains apparently returned with electrification. By December 1924, there were 24 through trains daily. By December 1927 there were 25 daily trains; roughly one every three off peak services to Essendon continued to Broadmeadows. In addition, one train was stabled at Broadmeadows overnight. By October 1929 there were 33 daily trains to Broadmeadows, but the train service between the peaks and during the evening was served by a three car shuttle between Essendon and Broadmeadows. By October 1939 the service was essentially the same except that there were 43 trains per day to Broadmeadows.

By 1928 the GA noted that the following lines were electrified: both main lines; both crossovers; Siding A and Siding B (to the Stop Board).

The goods traffic continued to be worked by a local goods train on Monday, Wednesday, and Friday throughout the

twenties. By 1936 the Friday train had been cancelled and by 1939 only the Monday train remained.

Post 10 was relocated 10 yards further out on 15 May 1923.

### The Albion goods lines

Significant changes were made to Broadmeadows in the late 1920s due to the construction of the Albion - Broadmeadows goods lines.

The first alteration occurred on 1 April 1927 when Post 7 was relocated 45 yards closer to the station. On 20 September 1927 Post 6 (the Down Distant) was relocated 190 yards further out and Post 8 (the Down Home) was relocated 194 yards further out. A connection was provided to the new lines in early December 1927. The connection trailed into the Down line and was secured by an Annett lock. In late February 1928 the new lines were opened as a Works Siding account the Construction Branch. Only one engine in steam was allowed on the siding at one time.

The Albion - Broadmeadows goods line was opened for traffic on 30 June 1929. The line was worked by three position signalling. In preparation for the opening the existing interlocking frame was replaced by a new 30 lever A pattern Tappet frame. The goods lines junctioned from the main lines just south of the Camp Road gates and appropriate signalling was provided. The remainder of the yard was essentially unaltered, except that opportunity was taken to provide a ground disc (Post 29) applying from the Up platform.

The NE WTT of December 1930 showed that all Down NE goods trains were worked via Albion and the new goods lines except the 0225 Goods which stopped at Newmarket and Essendon to allow passengers (newspaper employees) to alight. On the Up the situation was more complicated, the WTT noting that 'Goods trains are to be routed from Broadmeadows via Albion and Tottenham Goods Lines as arranged by Train Despatchers and SM's Broadmeadows and Albion, except [...] (1) between the hours of 5.0 a.m. and 12.30 a.m. full loads of Live Stock for Newmarket [and] (2) between the hours of 12.30 a.m. and 5.0 a.m. mixed loads of either Live Stock or Perishables and Goods.' This remained the normal routing of goods trains throughout the thirties, although the odd train was tabled to run via Essendon.

On 11 April 1932 electric bell communication was provided from Broadmeadows to the hand gates at Glenroy to announce Up and Down trains when Glenroy was switched out on 11 April 1932.

The locking on the Up Distant signal was altered on 8 November 1937. Previously, the distant could be cleared for either the Albion or Essendon lines, subsequently it could only be cleared for the Essendon line.

On 20 January 1939 the remaining spare levers in the frame were used to work additional disc signals. Ground discs 22B, 23B, and 26B were provided as well as a disc on Post 23. The point indicator on Catch 18 was removed and a point indicator provided on Points 20U. Lockbar 17 was altered to lock Points 18 bothways instead of only normal. The signalling diagram issued to mark these alterations also showed that Post 19 had been relocated 66 yards further out since 1929.

### The second world war

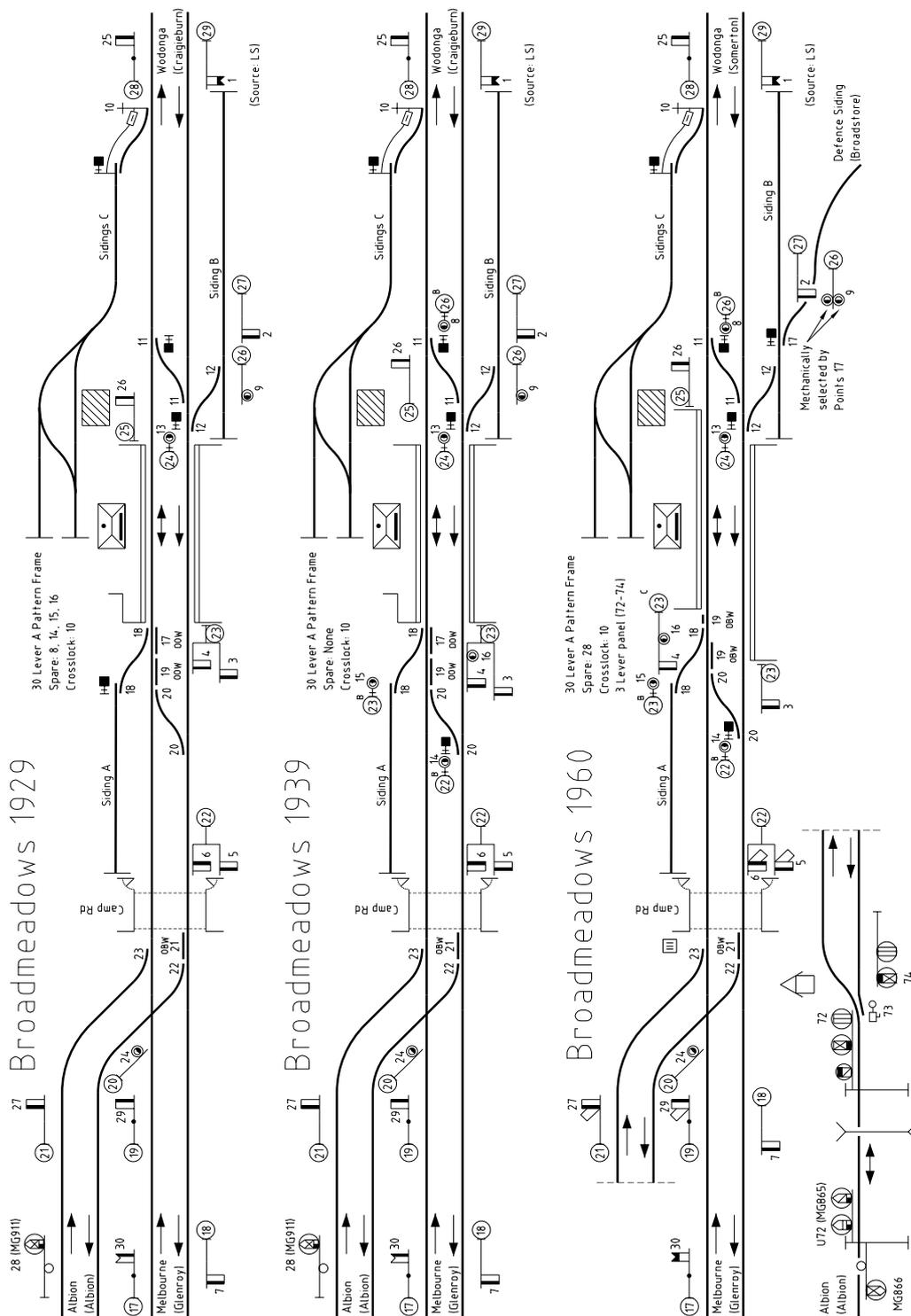
The major change during the second world war was the provision of the Broadstore Siding to the Broadmeadows Army base. This siding junctioned from Siding B, crossed Railway Crescent, and ran due east to the base.

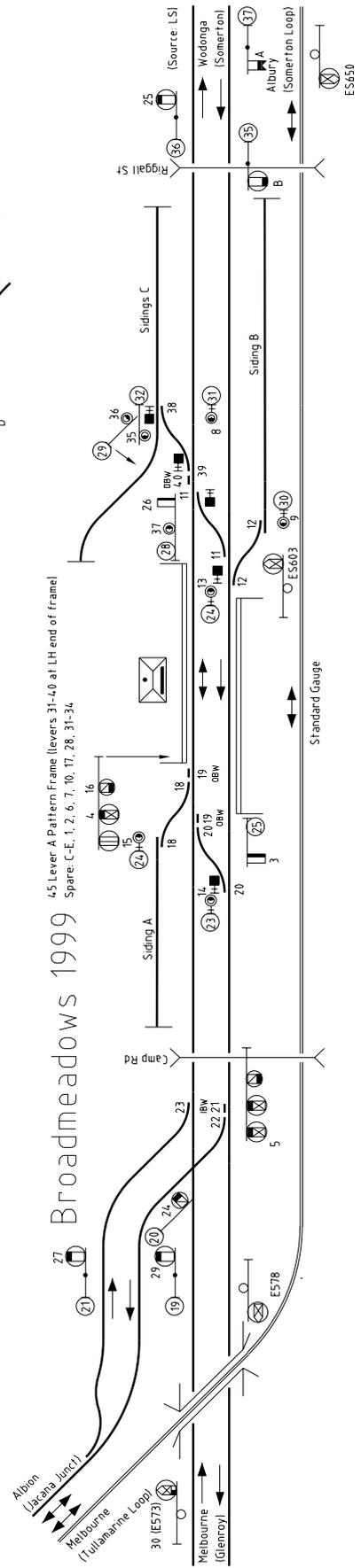
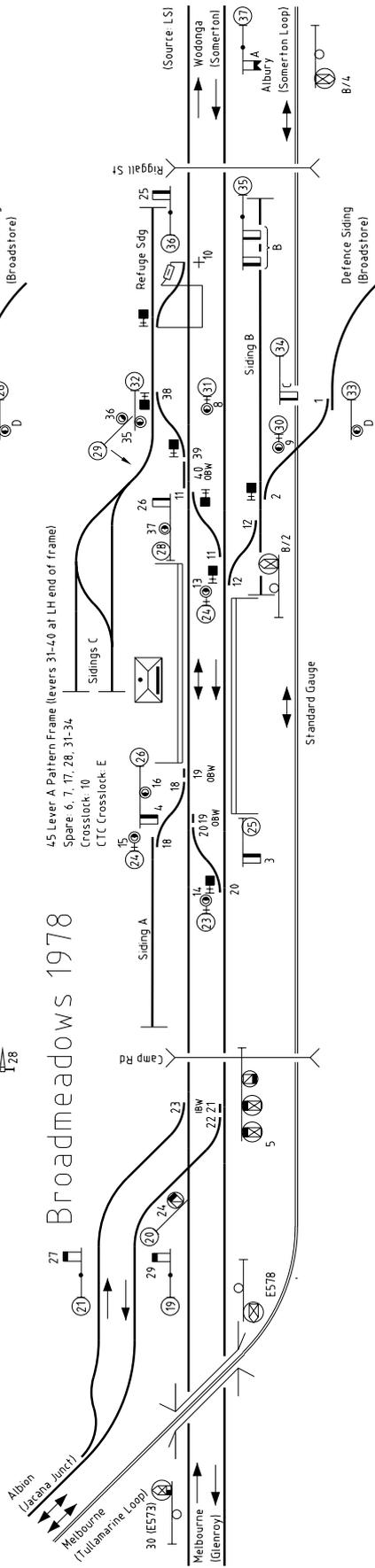
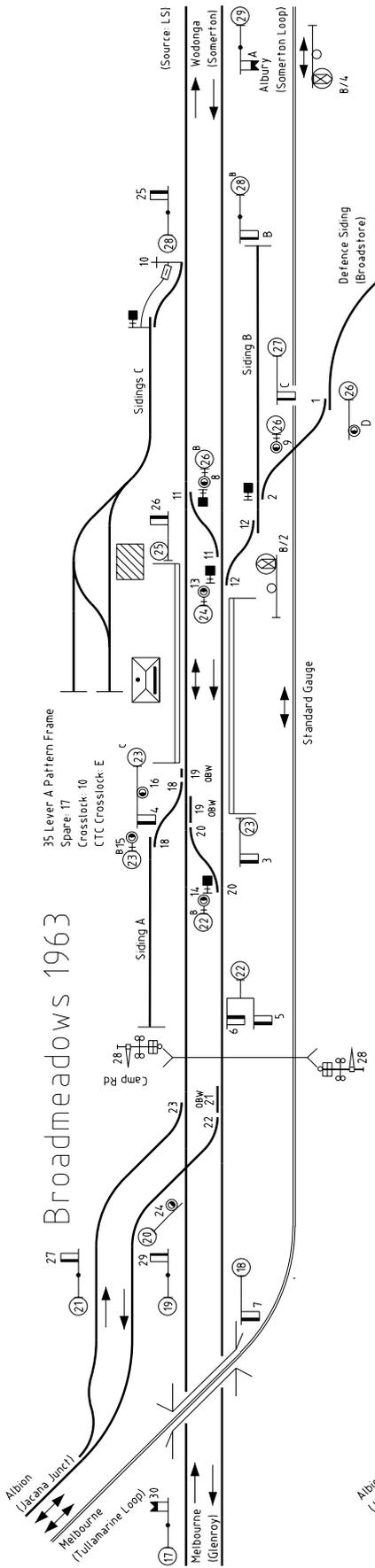
The first alteration at Broadmeadows in conjunction with the provision of this siding was the relocation of Post 27 58

yards further out on 23 March 1942. The points to the siding were connected to the signalbox on the 10 July 1942. This caused some problems because, once again, there were no spare levers in the frame. This was solved by replacing Lockbar 17 with a plunger worked by lever 19 - which lever worked the lockbar on the adjacent Points 20. Lever 17 was used to work the new points in Siding B. Post 26 was relocated and a new disc was provided. Both discs on Post 26 were worked by lever 9; the disc being selected by the position of Points 17. The Broadstore Sidings were completed and available for use as from 12 October 1942. The removal of the lockbar on Points 18 had an interesting result on 21 January 1948 when Points 18 were run through due to the Signaller reversing lever 18 before a Down suburban train had cleared the points. This was possible as Plunger 19 was

not held in by a track circuit. On 23 April 1948 the locking on levers 27 and 29 was altered and a lever lock was applied to lever 19.

The Gatekeeper at Camp Road was provided with controls over the signals on Posts 19, 21, and 22 on 27 November 1942. Bell communication was provided between the Signaller and the Gatekeeper. Down main line trains were signalled by one long ring, Down Albion line trains by one short ring and one long ring. Up trains were signalled by two rings. The signaller was specially instructed not to operate the Up distant until the Home on Post 22 was at proceed. Curiously, no such special caution was issued for the Down distant on Post 17. Nor did the Gatekeeper control the setback disc on Post 20.





### Post war modifications

An additional bell was provided on 22 December 1952 so that Up North Eastern line trains could be specially announced to the Gatekeepers at Pascoe Vale Road, Devon Road, and Glenroy Road.

Bracket Post 23 was replaced by two new straight masts, Posts 23 and 23C on 7 September 1958 to allow the Up platform to be extended by 27 yards at the Up end. On 7 December 1958 Post 23 was relocated 5 yards further out from the platform.

Also in 1958, the overhead over Siding B was extended 340 feet to completely cover the siding and the fixed train stop was removed. This was brought into service on 24 September.

### The standard gauge

The early '60s brought the Standard Gauge to Broadmeadows. Between Albion and Broadmeadows the double track goods line was converted into two single lines. The former Up line became the new Standard Gauge line while the Down line was the new bi-directional Broad Gauge goods line. At both ends a short section of double track was retained to allow goods trains to stand clear of the main line while waiting a path. At Broadmeadows, the Standard Gauge line passed over both Essendon lines south of Camp Road and ran behind the Up platform. It crossed the Broad Gauge Broadstore siding on the level.

The first major work at Broadmeadows was the construction of the Standard Gauge flyover. In conjunction with this work the Down distant signal (Post 17) was relocated 267 yards further out on 11 July 1960 to be clear of the construction works. The distant was now too far to be wire worked and it was simultaneously converted to motor operation. To provide space for the flyover, the Down goods line was slewed further away from the main lines between 16 miles 32 chains and 16 miles 75 chains on 8 October 1960. The Up goods line would have been similarly slewed a short time later, but this was not recorded in the Weekly Notice.

Standard gauge track laying commenced nearly a year later. Post 26 was relocated 87 yards further out on the Broadstore siding on 9 November 1961 to be clear of the new line and renumbered 26C. The righthand disc (applying from Siding B) was removed from Post 26 and replaced by a ground disc situated 9 yards further out between Siding B and the Standard Gauge line.

The Up Goods line to Albion was taken out of use on 26 November 1961 for conversion to Standard Gauge. As previously mentioned a short section of double track was retained at Broadmeadows. The single line junction was worked by a temporary 3 lever panel in the Broadmeadows signalbox. Traffic over the single line was worked under the ATC rules. Concurrently the frame was extended by 5 levers at the lefthand end. These levers were 'numbered' A to E. The points leading to the Broadstore siding were temporarily spiked out of use, however an Up and a Down mechanical Home signal was provided on the Standard Gauge line to protect the Broad Gauge crossing. Levers 17 and B worked the new Home signals. Lever E was the standard gauge Crosslock lever.

The hand gates at Camp Road were replaced by manually controlled boom barriers on 7 December 1961. The booms were worked by lever 28 which had formerly worked the Down Controlled Auto on the Albion line. A crib crossing was eventually provided at the crossing on 17 May 1963.

The Standard Gauge goods service was introduced on 3 January 1962. At this time the Standard Gauge was worked by Miniature Electric Staff south of Seymour with the sec-

tion West Footscray - Somerton. Broadstore siding was still spiked out of use, though it was protected by the two mechanical home signals.

On 4 April 1962 the Up Distant (Post 29) was replaced by a new post further out and a new Up Outer Home (Post 28B) was provided. The distant was now worked by lever A and the new outer home by lever B. Concurrently, the two Standard Gauge mechanical home signals were replaced by Controlled Automatics ES605 and ES632. Both automatics were controlled by lever 17.

The Standard Gauge CTC was brought into use between West Footscray and Tallarook on 4 March 1963, however the Broadstore siding was not recommissioned until the 18 March. On that date the CTC panel gained control of the grade crossing. Controlled Automatics ES605 and ES632 were converted to Homes 8/2 and 8/4 (respectively) and the control by Broadmeadows was removed. The connection to the Broadstore siding was brought into service. The points were worked by lever 2 and the catch by lever 1. Lever E became the Standard Gauge crosslock; it was released by the CTC panel to allow Broad Gauge moves to or from the Broadstore siding.

The final work to do with the Standard Gauge was the transfer of control over the Broad Gauge single line to the CTC panel. This occurred on 25 March 1963 and the temporary panel in Broadmeadows signalbox was abolished.

### Increased stabling accommodation

Immediately the Standard Gauge work was completed work commenced at Broadmeadows to increase the stabling accommodation.

Work commenced on 24 April 1963 when the catch in Siding C was replaced by a turnout, allowing the Siding to be extended in the Down direction. In early August 1963 Siding B was extended at the Down end by 500 feet. On 13 October 1963 a facing connection was provided from the Down main line direct into Siding C. New posts 29 and 32 provided, as was an additional disc on Post 28. Ground disc 31 (formerly 26B) was relocated 80 yards further out. To work the new connections and associated signalling the frame was extended for a second time in 18 months. This second extension, of 10 levers, was also at the left hand end but was numbered 31 to 40). This led to the odd situation of the frame being numbered (from left to right) 31 to 40, A to E, 1 to 30. On 14 May 1964 Siding C was extended 500 feet (to provide 1000 feet of standing room) and Siding B was slewed to provide more clearance from the Up Broad Gauge line.

### Alterations in the sixties and seventies

The Double Line Block working between Essendon and Broadmeadows was replaced by Three Position Automatic Signalling on 15 November 1965. The Down Distant (Post 17) was replaced by a Controlled Automatic (ES573). The Up Starting (Post 18) was removed and Post 22 (Up Junction Homes) was replaced by a three position Home signal worked by lever 5. Levers 6 and 7 became spare. Post 20 (Setback Disc 24) was replaced by a Two Position Light Dwarf signal.

The boom barriers at Camp Road were converted to automatic operation on 6 October 1966. The controlling lever (28) was abolished. On the Up Broad Gauge Albion line Home 27 was converted to motor operation.

On 28 May 1967 Points 18 and Crossover 20 were renewed. The new points had a longer lead and Dwarf 14 was relocated 18 feet in the Up direction. It is likely that Lockbar 19 was replaced at this time with a lever lock on lever 19.

From 2 November 1969 the Signalman at Broadmeadows

had to obtain permission from the Train Controller before permitting an Up Goods to depart towards Essendon. The Train Controller was not allowed to grant permission until sufficient time had elapsed after the departure of the preceding train to ensure that the Goods train had a clear run to the Home signal at Essendon.

Also in 1969, the Up Home on Post 34 was electrically lit. On 4 February 1972 the boom barrier control circuitry was altered, but my sources are silent as to what alterations were made. On 10 September 1972 Post 28 was relocated 45 feet in the Down direction to allow for the platform to be extended. On 6 June 1974 an indicator was provided over lever 25 to indicate when a train has passed Home 25 (Post 36). Concurrently Posts 28, 34, and 36 were electrically lit. A co-acting arm was provided for Home B on Post 35 on 26 August 1975 due to the provision of the Riggall Street overpass. On 23 May 1976 an express/stopping selection button was provided to select the approach track circuit at Glenroy Road (Glenroy). Camp Road level crossing was temporarily relocated 40 metres in the Up direction on 10 June 1976 to allow for the construction of an overpass. The overpass was brought into use on 25 January 1978. In the meantime, a repeater was provided for Home 25 on 16 June 1977.

### **Abolition of the Broadstore siding**

The eighties saw the abolition of the Broadstore Siding, but this took several years. The mixed gauge diamond was temporarily removed on 4 September 1980 and the siding was effectively closed from that date. The diamond had been permanently abolished by 1982. The signalling associated with the siding remained intact, however. On 21 July 1987 the two Standard Gauge signals were renumbered from 8/2 and 8/4 to BME/2 and BME/4. This may have sparked some interest as the two Homes were converted to Controlled Automatics on 16 October 1987, however the signals were not renumbered. The controls were eventually removed from the Standard Gauge signals on 4 April 1989. The two posts were concurrently renumbered ES603 and ES650 - notice that these were different to the numbers the posts originally had between 1962 and 1963 although the posts had not been relocated.

### **Alterations in the eighties and nineties**

A number of minor alterations took place during the late '80s. On 2 September 1987 Lockbar 40 was replaced by a lever lock on lever 40. Concurrently the short dead end at

the Up end of Siding B was removed and Points 12D were converted to set of Catch points. On 10 October 1988 the hand points in Siding C were spiked normal and the goods facilities were taken out of use. A paper release was added to the lever locks on levers 19 and 40 - allowing the points to be released during a track circuit failure. On 19 December 1989 Home 27 was converted to a (two position) light signal and, on 10 April 1990, Home 29 was similarly converted.

On 15 May 1990 the crosslocked connection to Siding C was abolished. Lever 10 was sleeved normal and subsequently removed.

On 30 October 1991 Post 34 (Lever C) was abolished. Post 35 (Lever B) was replaced by a new two position (light) signal located 200 metres further out and worked by Lever C. Post 36 (Lever 25) was replaced by a new two position (light) signal 600 metres further out. On 19 February 1992 flashing lights and audible alarms were provided at the Dunkeld Street pedestrian crossing at 20.268km (on the Down side of Broadmeadows). Concurrently alterations were made in the track circuits associated with Post 36 and a track indication light was provided in the signalbox to indicate when the Down trains had past Post 36.

A 'Signal Indication' light (Guard's Indicator) was provided on the Up end of the verandah on the Down platform. This indication would show a green light when Home 26 is at proceed.

In late September 1993 a special instruction was issued. Down locomotive hauled trains could not be signalled towards Post 36 to wait Line Clear. Instead they had to held in the platform or at Posts 19 or 21.

On 18 December 1993 a CCTV camera was provided to allow the Signaller to observe the End of Train Marker of Up trains as they passed Post 35.

On 13 February 1997 the Guards Indicator Light was relocated inside the station office.

On 17 August 1997 Post 26 was replaced by a three position signal numbered 4. A train stop was provided. Approach locking (of 30 seconds) was provided on the signal. Point detection is provided on Points 18 and 20 and a lever lock on lever 12 to prevent Points 12 from being restored until the train has cleared the points.

Unfortunately time has run out for the mechanical signalling at Broadmeadows and the new SSI interlocking is scheduled to be brought into service on the weekend of the 18 and 19 November.

## B IS ALSO FOR BURNLEY

The line from Richmond (Swan Street) to the Yarra River near Burnley was opened by the Melbourne and Suburban Railway Company on 24 September 1860. The initial terminus was at Pic-nic station which was situated beyond Burnley, probably in Burnley Park to the north of Swan Street. Church Street (East Richmond) was the only intermediate station. The line was extended to Hawthorn on 13 April 1861 after completion of the bridge over the Yarra River. The government eventually purchased the line as from 1 July 1878, but separate management continued until 1881.

The Commissioner's Report first notes 'Burnley Street' in the report for the year ending 31 December 1881, but I do not have a record of the exact date of opening. The station was initially only open for passengers.

Prior to 1883 the line between East Richmond and Hawthorn was not worked under the Staff system, nor was block working used. According to C.D. Gavan-Duffy "the single line rule was that if an engine left East Richmond for Hawthorn, no other engine could enter the single line section until that engine returned. The Victorian Railways [...] put in a crossing loop at Burnley Street but the same method of working continued."

During 1882 work was carried out on duplicating the line between East Richmond and Hawthorn. The first stage of the duplication, between East Richmond and Burnley, was brought into use on 1 December 1882 in conjunction with the opening of the line between Hawthorn and Lilydale. The line between Burnley and Hawthorn remained single as the original line was taken out of use to allow the Yarra River bridge to be redecked and all traffic was worked over the new line.

On the 2 December 1882 there was a collision in the vicinity of Pic-nic station between a Down regular passenger train and an Up Land Sale special. This decision not to bring the duplication into service between Burnley and Hawthorn was taken at the last minute with the result was that the S circular for the Land Sale special did not show the cross at Hawthorn with the regular train. Although the Inquiry was scathing about all this, it was largely irrelevant as the Driver of the regular train involved had not been issued with the S circular and was not aware that the Special running, while the crew of the Special was considered to be deliberately running in advance of their timetable in an attempt to get to Burnley to cross the regular train. Use of the Staff system would, of course, prevented the accident. The duplication between Burnley Street and Hawthorn was subsequently brought into use on 9 December 1882.

The 'Street' was dropped from the station name sometime during 1882 and the station name became plain 'Burnley'. During 1883 work continued on improving the station. On 2 March 1883 a contract was let to E. Cholerton for the erection of shelter sheds for £435/3/0 and a goods siding was provided during the same year.

### The Darling line

The next round of alterations at Burnley resulted from the construction of the Burnley - Waverley Road line. This line was opened on 24 March 1890.

In preparation for the opening Burnley was interlocked on 9 April 1889 with the provision of a 30 lever No 6 Pattern Rocker frame (3 spare). The Register cryptically notes that only the signals were connected, but it is not to be thought that all 27 working levers worked signals. On the 21 March 1890, just before the opening of the branch, the frame was lengthened (or replaced) and it was now 40 levers long with

6 spares. Gavan-Duffy, in a 1952 Bulletin article, noted that the extension to the box to hold the longer frame could be clearly seen. Until electrification, most trains on the branch line terminated at Burnley and the layout was clearly designed around the need to run around the branch train. Apparently few alterations were subsequently made to the layout until the turn of the century. The interlocking register notes that the frame was altered on 16 January 1895 'account No 17'. A new Down Advanced Starting signal was provided on 10 October 1895 leaving 5 spare levers. When the new interlocking register was begun on 1 July 1899 the 40 lever frame was noted as working 16 signals, 9 points, 4 lockbars, 2 wickets, and 2 complete sets of gates.

The Waverley Road line was worked by Staff and Ticket. The initial section was Burnley - Tooronga which was probably worked by a No 3 Pattern Staff with red ticket boxes. Kooyong was briefly a Staff station from 21 September 1891 to 9 May 1892 after which the section reverted to Burnley - Tooronga. Tooronga, in turn, was closed as a Staff and block station on 11 November 1893 leaving the line worked as a single Staff section Burnley - Waverley Road. This Staff was a No 2 Pattern Staff with White ticket boxes. On 9 December 1895 the line was closed beyond Darling and the section became Burnley - Darling, but the Staff pattern did not change.

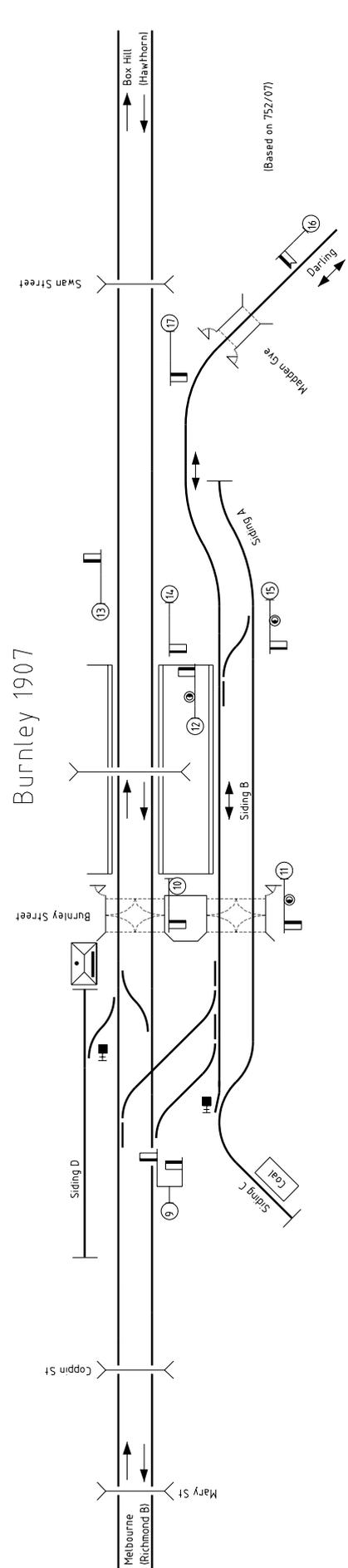
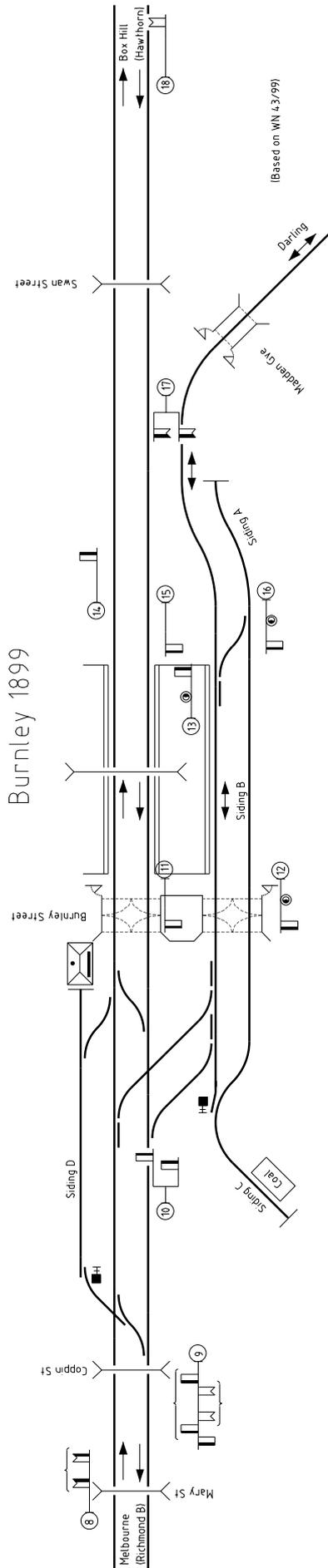
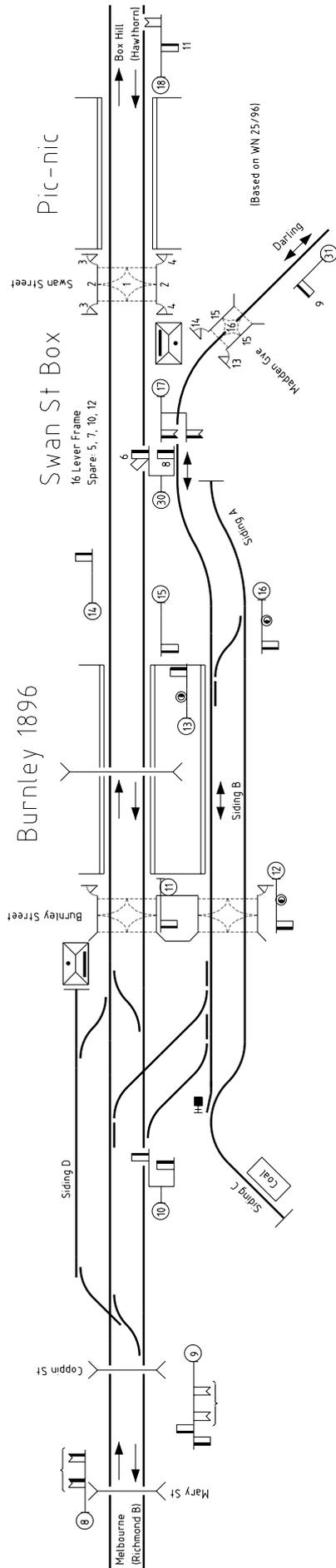
### Swan Street box

On 18 December 1896 a signalbox was provided at Swan Street (on the Down side of Burnley) to work the Swan Street and Madden Gve gates, apparently as part of the provision of an overpass on Swan Street. The box contained a 16 lever frame of which 4 were spare. The gates over Madden Gve were an early installation of 'Cottew' pattern gates. The box was not a block post but Gavan Duffy noted that initially the box rang all trains into Burnley or Hawthorn.

On 20 August 1897 the bell communication between Burnley - Swan Street - Hawthorn was altered. Burnley and Hawthorn were now in direct communication and rang on trains as per the 'usual code'. Swan Street was only connected with Burnley and received the following bell signals: Down Camberwell train (1 long); Up Camberwell train (2 long); Up or Down Glen Iris line (2 short, 3 long); and Cancel (7 short). The bell code was sent for Camberwell line trains when train was leaving Burnley or Hawthorn. The *Gateman* (as the employe operating the Swan Street box was referred to) was only required to ring on Up Glen Iris trains. Gavan Duffy recollected that one of his very early rides on an E class engine from Box Hill was 'much enlivened by the shrill whistling needed to stir the signalman into action - we had nearly stopped when the old straight arm home signal dropped'.

The Swan Street overpass was completed on 13 June 1898 and the box was abolished. Posts 17 and 30 were abolished and the Up Distant for Burnley replaced the Up Home signals on Posts 18 and 31. The Swan Street gates were abolished, but the Madden Gve gates were converted to hand operation. Incidentally, the numbering comes from Gavan-Duffy's sketch; it is interesting to note that the Swan Street gatewheel was at the left hand end of the frame while the Madden Gve gatewheel was at the right hand end (better to see the gates behind the box?)

In early March 1899 the Up Distant was removed from Posts 18 and 31 and relocated to a new Post 17. Post 31 was abolished. On 20 April 1899 a new litho was published and the details published in the Weekly Notice showed that, by



this date, a co-acting arm had been provided for the Down Home on Post 9, and that Point Indicators had been provided at the Up end of Siding D and at the Down end of Siding C. On 10 January 1901 a Down Advanced Starting was provided 200 yards in advance of Post 14.

### **An early trial of Track Block**

On Sunday 8 December 1907 the double line block working between East Richmond - Burnley - Hawthorn was replaced by track block. The Up and Down main lines were completely track circuited and these controlled the starting signals via Reid's signal reversers. Trains were signalled by the block bells using a restricted block code and indicators were provided in the boxes to indicate when each track circuit section was free. At Burnley, Posts 8 (Down Distant), 9 (Up Starting and Down Home), 17 (Up Distant), and the Down Advanced Starting signal were abolished. A new Up Outer Home was provided 520 yards in the rear of the Up Home to effectively divide the Burnley - Hawthorn section in two (a similar signal was provided on the Down line, but worked from Hawthorn). A new Up Distant was provided on the Darling line. The main line crossover and connection to Siding D at the extreme Up end were removed.

Unfortunately the system did not work, and block working was restored. Gavan-Duffy noted 'I was in East Richmond box when word came through to replace the switches in the block instruments and revert to block working! Just prior to this message arriving, I had a vivid recollection of the 5.12 pm Healesville swinging around from Richmond with the "old R" screaming protest at an adverse starter, what time Mick the signalman vainly tried to make that "stick" respond to the pull of the lever!'

Exactly what the problem was is now not clear; the reversers were the pattern subsequently widely adopted (and still in use at a few places today). According to the Age, the system was given a second trial starting on 1 July 1908. That report noted that all trains were being worked between East Richmond and Hawthorn using the system and that everything worked smoothly. All trains, however, were also being signalled by the block instruments. Gavan-Duffy notes that this second trial did not succeed either.

With the restoration of block working, it appears that the Up Outer Home on Post 17 was converted to a Distant signal, however there was no Down Distant. At least, that is what the 1908 Book of Signals says. Very minor alterations were made on 25 May 1908 when Posts 14 and 15 were replaced by a new bracket post (numbered Post 14), and the disc on Post 12 was relocated to the opposite side of the post.

### **Burnley B box**

On 2 May 1910 the Hawthorn block section was divided by the opening of Burnley B box (the original box becoming Burnley A). The new box was tucked away on the Up side of the line almost underneath the Swan Street overpass. Hawthorn B was purely a break section box and contained a 6 lever frame (all working) working the usual set of home, distant, and starting in each direction. The box was only open for the weekday peak hours (0630 to 0930 and 1630 to 2030) and for Saturday morning (0630 to 1430).

By 24 October 1910 the Down line between the Down Home and Down Starting signal at Burnley B was track locked.

### **Minor alterations**

In early November 1911 a Down Distant was finally provided for Burnley A box. It was situated underneath the Down Starting signal (Post 7) at East Richmond. At the same

time a new Up Starting signal was provided (Post 8A) and this also had the East Richmond Distant (also new).

An additional pair of wicket gates was provided at Burnley Street level crossing in August 1911. These were located between the Up line and the Glen Iris line and provided greater control over pedestrians. At the same time the Up Distant from Glen Iris (Post 16A) was relocated to the left hand side of the line.

### **Safeworking on the Darling line**

On 1 December 1911 Tooronga was reopened as a Staff station (No 1 Pattern Lock Staff), the sections being Burnley - Tooronga - Darling.

Train operation over these sections were controlled by block instruments (presumably electric staff instruments were in short supply). The Tooronga block instrument at Burnley was located in a room on the Glen Iris platform, not in the signalbox, and it was worked by the member of the station staff responsible for working the Tooronga Staff.

The Down Home on Post 12 (governing access to the single line) was fitted with a reverser (triggered by a treadle) and was controlled by a lever on the platform.

Minature Electric Staff working replaced the Train Staff and Block between Burnley - Tooronga - Darling on 9 December 1912. The instrument at Burnley was located in a special room on the platform and was worked by a 'qualified employee' under the supervision of the SM. The qualified employee continued to control the Home on Post 12 'according to requirements'.

As from late March 1913 permission was granted to withdraw a Staff from the Tooronga instrument under the 'Release Staff for Shunting' signal (5-2) after passenger traffic ceased for the night. The Staff was held by the Signalman and restored to the instrument the following morning using the 'Shunting completed. Staff replaced' signal (2-5). The Weekly Notice states that this was because the shunting of goods trains at Burnley required the branch line to be occupied outside the Home signal (Post 14).

In October 1920 Heyington was opened as a Staff station and the section became Burnley - Heyington.

### **Additional siding accommodation**

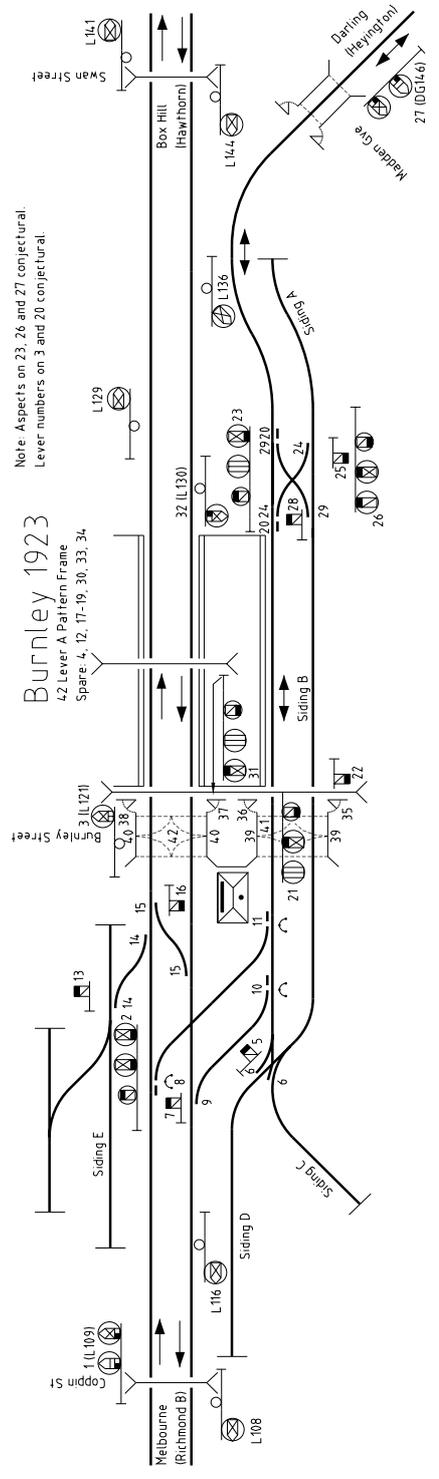
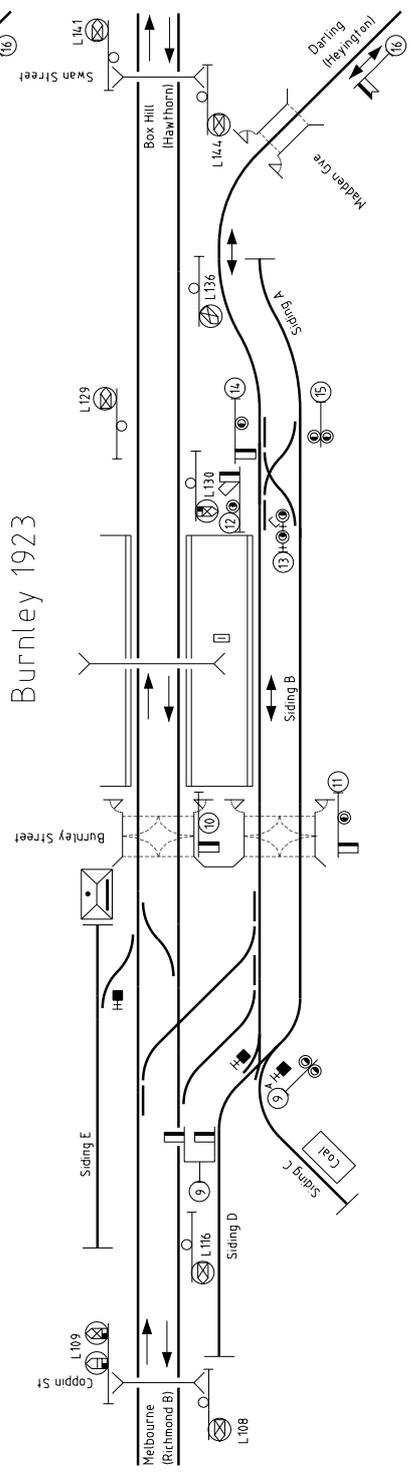
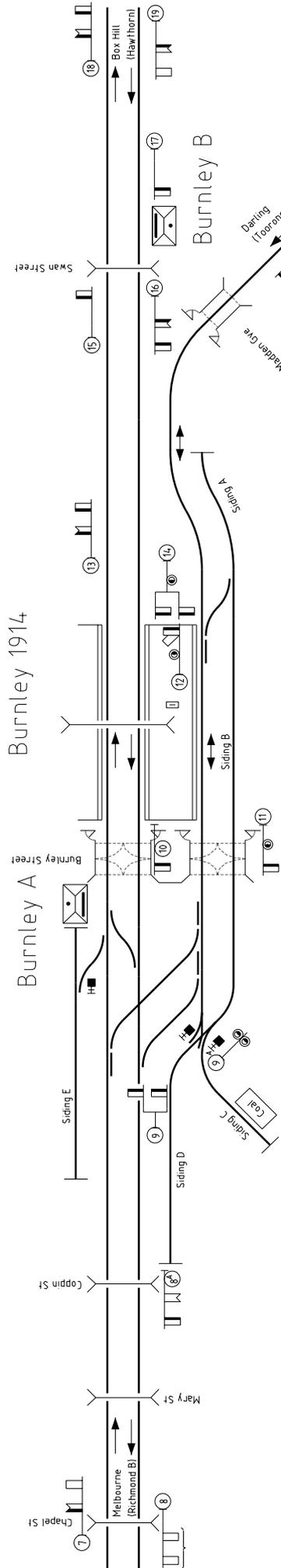
In late May 1912 a new general goods siding (Siding D) was provided leading off the Coal Stage Road (Siding C) and running parallel to the Up Main. The new siding was 850 feet in the clear and provided 736 feet of loading space. Siding C was extended by 66 feet.

On 8 May 1914 Post 9A was provided at the exit of Sidings C and D. Its two discs applied to moves to the Glen Iris platform or Siding B. Burnley was so busy at this time that it was necessary to issue an additional instruction concerning these sidings in late August 1914. Engines waiting in Sidings C or D were prohibited from moving down to Post 9A until a disc on that post was cleared for the engine. If there were two engines in the sidings, the drivers had to take the 'utmost precautions' for safety and not move until an arrangement had been arrived at.

### **The return of Track Block**

Track locking returned to the sections of line between East Richmond - Burnley - Hawthorn in the middle of June 1913.

In this incarnation the normal double line block working was retained, and the track circuits and reversers merely provided a back up. The main lines were track circuited from end of one platform to a point in advance of the Home signal at the next block post. The track circuiting was not continuous, nor were all Home signals controlled. On the Up line, for example, the track was track circuited from Haw-



thorn to the vicinity of Post 14. The track through the Up platform was not track circuited, however, and the Up Home on Post 14 was not controlled by a reverser. Track circuiting commenced again at Posts 10 and 11 (which were controlled) and ran through to the vicinity of the Up Home at Richmond (which was not controlled). The list of signals in the Weekly Notice implies that the Homes on Posts 8A, 10, 11, and 13 were fitted with reversers.

### Shunting goods trains

In March 1915 it was thought necessary to prohibit goods trains from shunting on either the Up or Down main lines whilst passenger traffic was running, and to absolutely prohibit the engine from being detached from a goods train whilst it was standing on the main line.

It appears that the crossover leading from Siding A to the Glen Iris platform was relocated further out in July 1922. Post 14 was relocated 80 yards further out on 24 July, and Post 12 65 yards further out on 27 July.

### Electrification and the end of double line block

The new electric services to Box Hill and Darling commenced on 17 December 1922. The new electric service was far more intense than the old steam service. In 1916 there was around 200 trains per day on the main line, with 8 through Darling trains, and 20 local Darling trains. In 1924 there were around 500 trains per day, including around 100 Darling trains.

In preparation for this significantly improved service, three position automatic signalling had been provided between East Richmond and Hawthorn on 15 October 1922. Burnley B box was abolished on this date. The two position signalling at Burnley itself was initially retained. Alterations were limited to the abolition of the Down Distant (Post 7), Up Starting (Post 8A), Down Starting (Post 13) and Up Distant (Post 16). Three position automatic posts L109, L116, L129, L130, and L136 were provided - the first named controlled by Burnley. Post 14 was replaced by a straight mast.

On 10 August 1923 a delta crossover was provided at the Down end of the Glen Iris platform in conjunction with electrification of Siding B. New Posts 13 (two ground discs) and 15 were provided for moves from Sidings A and B. The disc on Post 14 was removed. Siding B was electrified as far as the footbridge and electric trains could only gain access to Siding B via the new crossover. The December 1924 WTT showed that the last Up Darling service terminated at Burnley and formed the first Down Darling service the next morning. This working had ceased by 1927.

### Resignalling and the new box

All the two position signalling at Burnley was replaced by three position signals on 11 November 1923. A new signalbox with a 42 lever A pattern tappet frame was provided opposite the old box between the Main and Glen Iris line. Opportunity was taken to extend Siding E over the site of the old box to give increased goods standing room.

Electric bell communication was provided to the gatekeeper at Madden Gve in the middle of November 1924. Burnley announced Down trains, and Heyington Up trains.

### Duplication to Heyington

On 8 August 1926 the Darling line was duplicated between Burnley and Heyington. The duplicated line was worked by three position automatic signalling which replaced the electric staff working. The platform control on Home 23 was abolished. The Up line was an extension of Siding C, which resulted in some signalling alterations. Up Home 26 was relocated to the left hand side of the new Up line, while Up Dwarf 25 was relocated between the tracks. Catch 28 was

provided in Siding B and Dwarf 28 was henceforward worked by lever 23 and known as Dwarf U23.

The Darling line, incidentally, was extended to Eastmalvern on 1 February 1929 and to Glen Waverley on 5 May 1930.

The goods sidings were electrified in late January 1929 in preparation for running the local Burnley goods using the electric locomotives. Sidings B, C, and D were electrified, as was the goods siding adjacent to the Down main (except the dead end at the Down end) and the Flour Mill siding (to the Stop Board). Probably as a result of the lack of overhead over the dead end, Dwarf 13 was altered to apply only for moves to the Down line on 2 April 1929.

In late June 1935 the Gatekeeper at Madden Gve gained control over DG145 and DG146. Home 21 was removed from the footbridge on 28 February 1941 and replaced by a ground mast located on the right hand side of the track 10 feet from the platform.

By 1938 additional special instructions had been issued to cover shunting at Burnley. When it was necessary to place trucks on the Up main line between East Richmond and Burnley the instructions concerning 'Shunting at Incline Stations' had to be followed and before the trucks were drawn back into the Darling platform the air brake had to be in use and an employee had to ride the rear vehicle. When the number of vehicles being handled exceeded the number that could be accommodated in the Darling platform, the run around movement had to be made on the Down Darling line. The trucks were to be drawn forward until the rear vehicle was in the rear of Post 21. The locomotive then ran to Heyington and back. The locomotive had to be accompanied by the Burnley Operating Porter who operated the frame at Heyington and the hand gates at Madden Gve.

### The Burnley fly-over

The middle of World War 2 was an odd time to provide an improvement that benefited only suburban commuters. None-the-less, 1943 saw the provision of a flyover to take Down East Malvern trains over the Up and Down Box Hill lines. Prior to this all East Malvern trains, Up or Down, had to use the single back platform at Burnley, and all Down East Malvern trains had to cross over the Up Box Hill line on the flat.

The first action was the relocation of the Madden Gve level crossing further out to give space for the ramp off the flyover. Post DG146 was relocated 154 yards further out on 8 April 1943 and renumbered DG152. The next day the level crossing (2 miles 74 chains 85 links) was relocated 5 chains 70 links further out. The hand gates and control of the automatic signals was retained. On 19 April 1943 Post DG145 was replaced by a new post DG149 250 yards further out. By early May an Up Approach Bell had been provided at the level crossing. This replaced the ringing on of Up trains from Heyington. Down trains continued to be rung on from Burnley.

On 6 August 1943 Down Automatic L129 was relocated 12 yards further out.

The new flyover was brought into use on 15 August 1943. The new Down Glen Waverley line junctioned from the Down Box Hill line at the Down end of the platform and passed over the Up and Down Box Hill lines near the Swan Street overpass. Automatic L129 was redressed to become a Home signal and renumbered Home 33. The former Down Glen Waverley line was taken out of use from Points 24U to the junction of the new line and Crossover 24 was spiked reverse. Siding B was temporarily dead ended at the Down end. Catch 28 and Crossover 29 were taken out of use as were Dwarfs U23 and 25.

On 29 August 1943 the Up Glen Waverley was slewed to connect with the former Down Glen Waverley line at Madden Gve and the connections at the Down end of the platform would have been removed. Post 23 was replaced by a new post 82 yards further out. Post 26 was replaced by a new post 98 yards further out.

On 10 September 1943 the alterations were completed when the connections at the Down end of Siding B were simplified and restored to use. The new connections were further out to allow the goods trains to run around without

needing to run via Heyington. The former delta crossover was replaced by a single crossover worked by levers 28/29. Dwarfs U23 and 25 were relocated and restored to use. The stub of the former Up Glen Waverley line became Siding A. Interestingly, the new layout was almost identical to the layout prior to 1923.

In early October 1943 the special instructions at Burnley were amended to remove the instructions regarding the shunting via Heyington.

(To be continued)

