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Engineering & Systems
Operations
Guideline

# Network Information Book Coast A Telarah (exc) to Kempsey (exc)

OGW-30-21

# **Applicability**

Interstate Network

#### **Publication Requirement**

Internal / External

#### **Primary Source**

Local Appendices North Volume 2

Route Access Standard – Defined Interstate Network Section Pages D33

#### **Document Status**

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
2.7	2 Feb 2024	Configuration Management Administrator	Corridor Assets & Operational Representatives	Configuration Manager	Head of Operations Standards

# **Amendment Record**

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	14 Nov 2016		Initial issue
1.1	30 Jan 2018	Various	Bulliac level crossing updated, diagram legend updated & safety interface agreement details added. Coast C network control board reference removed.

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2.0	30 Oct 2019	Various	Train control contact details and section operating equipment updated. Level crossing details updated. Wayside equipment and North Coast Remote Control Signalling details updated. All locations and corresponding diagrams updated. Kempsey diagram added to show board boundary.
2.1	10 Jul 2020	2.2, 2.11, 2.13, 2.20, 2.22 & 2.28	Level crossing details updated at Paterson, Gloucester and Coopernook. North Craven diagram updated. Lansdowne location renamed as Kundle Kundle. Kundabung & Kempsey diagrams updated.
2.2	15 Mar 2021	2.6, 2.11, 2.12, 2.13	Dungog, Craven, Berrico and Gloucester locations updated.  Dungog & Berrico diagrams updated.
2.3	5 Aug 2021	1.19, 2.26 & 2.27	Wauchope & Telegraph Point locations updated. Wauchope, Wauchope – Telegraph Point and Telegraph Point diagrams updated. Drawing legend updated.
2.4	21 Oct 2021	2.1, 2.3 & 2.5	Mindaribba location updated. Martins Creek & Wallarobba diagrams updated.
2.5	13 Jan 2023	1.1, 2.19, 2.20	Board Extent updated. South Craven, Taree, Taree - Melinga diagrams updated.
2.6	15 Jun 2023	1.1, 1.5.3, 1.8, 2.1, 2.3, 2.4, 2.8, 2.9, 2.11	Board Extent, Interlockings & Sidings & Level Crossings table updated. Martins Creek, Stroud Road & Craven locations text updated. Mindaribba & Kilbride locations updated with field telephone removals. Duralie Coal location deleted. Stroud Road, Weismantels & South Craven diagrams updated.
2.7	2 Feb 2024	2.12, 2.26	Gloucester location text and diagram updated. Telegraph Point diagram updated.



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# 1 General Information

Note: All kilometre references in this document are based on the ARTC KM App and are only

to be used as a guide.

#### 1.1 Board Extent

Telarah exclusive Up Home signal MD306NC (195.759km) and Down signal MD305NC (195.015km) to Kempsey exclusive signal 30-1 (500.863km)

This area is controlled by the Coast A Network Controller, Network Control Centre South (NCCS).

**Contact Numbers:** 

Normal: (02) 6924 9811

Priority: (02) 6924 9841

Emergency: (02) 6924 9871

Train Transit Manager: (02) 6930 5311 or (02) 6924 9809

NOTE: For work between Telarah signals MD305NC & MD306NC and Mindaribba 0203 signal,

both Coast A & Lower Hunter network controllers will be affected.

# 1.2 Safe Working System

Rail Vehicle Detection (RVD)

#### 1.3 Applicable Rules

The Network Rules and Procedures apply to the sections covered by this Information Book

#### 1.4 Adjacent Train Control Boards / Centres

ARTC Lower Hunter Phone: (02) 4902 7909

ARTC Lower Hunter Emergency: (02) 4902 7969

ARTC Coast B Normal: (02) 6924 9812

ARTC Coast B Emergency: (02) 6924 9872

#### 1.5 Section Operating Equipment

#### 1.5.1 Motorised Point Machines

Nippon

Westinghouse

Vossloh Cogifer



# 1.5.2 Operation of Power-operated Points in an Emergency

Main line points worked from NCCS are electrically power-operated.

If these points fail to operate correctly, a transit alarm will show on the Phoenix screen and the Network Controller must try to restore the points to their previous position to allow trains to continue running. However, if it is necessary to alter the route, the points may be manually operated.

The Signals maintenance representative must be promptly advised of the circumstances.

#### 1.5.3 Interlockings and Sidings

Km	Interlocking, Station, Platform or Siding	Length of Passenger Platform in Metres
204.229	Mindaribba	Main No. 1, 5
212.379	Paterson	Main No. 1, 5
218.295	Martins Creek	Main No. 1, 76
223.458	Kilbride	
226.380	Hilldale	Main No. 1, 5
231.684	Wallarobba	Main No. 1, 38
233.901	Wallarobba crossing loop	
237.972	Wiragulla	Main No. 1, 5
244.989	Dungog South	Main No. 1, 215 Back No. 2, 213
247.162	Dungog North	
254.026	Monkerai	
267.305	Stroud Road	
290.225	Craven South	
291.780	Stratford Colliery balloon loop	
292.305	Craven North	
309.358	Gloucester	Main No. 1, 153
323.979	Bulliac	
334.539	Bundook	
341.919	Mt George	
360.892	Killawarra	
367.004	Wingham	Main No. 1, 167
378.143	Taree	Main No. 1, 182
387.930	Lansdowne Engineering siding	
392.774	Melinga	
403.590	Coopernook	



417.062	John's River	
433.019	Kendall	Main No. 1, 92
445.845	Kerewong	
455.045	Wauchope	Main No. 1, 194
472.735	Telegraph Point	
487.226	Kundabung	

NOTE: On track signage displays the entry and exit speeds through main line turnouts. Where there is no signage displayed the entry/exit speed through a mainline turnout defaults to 25km/hr

# 1.6 Train Braking Requirements

#### **Brake Holding Tests for the Rearmost Vehicles (retention tests)**

The following apply:

- 1. The operator **shall** put into place systems for conducting brake holding tests.
- 2. The number of vehicles (or for articulated or permanently coupled vehicles the number of triple valve control units) required to conform to the requirements of this sub-section shall be:
  - a. Three (3) for freight trains operated in New South Wales;
  - b. Two (2) for freight trains not entering New South Wales; and
  - c. One (1) for all passenger trains where a guard is provided or three (3) for passenger trains without guards.
- 3. The vehicle operator shall ensure that air and hand brakes operate correctly.
- 4. The air brakes on the vehicles **shall** remain effectively applied for a period of time, based on train length, considered sufficient for a member of the train (locomotive) crew to reach the vehicles and secure handbrakes in the event of a breakaway en route.
- 5. This time **shall** be ten (10) minutes plus three (3) minutes for each 100 metres or part thereof of train length. For example, a train 1240 metres long will require a holding (retention) time of  $13 \times 3 + 10 = 49$  minutes.
- 6. If any of the required number of vehicles (as specified in item (2) above) fail the above test (as specified in item (5) above), generally known as a holding or retention test, the faulty vehicle(s) **shall** be repaired or the train remarshalled to ensure compliance with the requirements of items (3) and (4) above.
- Brake holding tests successfully completed will remain valid for the departure within a period
  of 24 hours from completion of the test. After that period, the vehicles shall be re-tested.



#### **Freight Trains**

On freight trains, the maximum number of inoperative or isolated brakes permitted on a train **shall** be either of the following:

- 1. One conventional two-bogie vehicle for every ten (10) vehicles in the train where the vehicle is isolated as a unit.
- One bogie for every ten (10) bogies in the train where individual bogies can be isolated or the isolation of triple valve control units affects more than two (2) bogies. This applies, only on the proviso that the total un-braked mass of the train shall not exceed 10% of the total train mass (excluding the mass of the hauling locomotives).

Item (1) above applies where the only vehicles isolated are conventional two-bogie vehicles. In all other cases, the requirements of item (2) **shall** be followed.

For the purposes of this clause, a four-wheel (two-axle) vehicle **shall** be counted as one bogie, and locomotives under power **shall not** be counted as train vehicles.

#### 1.7 Tunnel Locations

Section / location	Name of Tunnel	Length of tunnel in metres	km from Sydney
Hilldale – Wallarobba	Wallarobba Range	303	228.278 - 228.581
Monkerai - Stroud Road	Monkerai Range	755	254.693 - 255.448
Gloucester – Bulliac	Bulliac	222	321.458 - 321.680
Kerewong – Wauchope	Kerewong	65	447.755 - 447.820



# 1.8 Level Crossings

NOTE: All active level crossings on the Telarah – Acacia Ridge Corridor have Cerberus Remote Monitoring.

A manual operation switch has been provided on the side of the level crossing locations. The Manual Operation Switch is to be used by a Competent Worker in accordance with Network Rule ANGE 218 for operating the level crossing warning equipment in an emergency or for the movement of track vehicles over the level crossing.

ALCAM ID is the number allocated from the Australian Level Crossing Assessment Model used by rail and road managers across Australia. It's a national database for assessing risk which is overseen by a National Committee and supported by the Rail Industry Safety Standards Board (RISSB).

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
	Telarah Take Off	North Coast	194.840	Take-off		
774	Oakhampton Road	North Coast	198.613	Road	Public	Primary Flashing Lights
4050	Mindaribba Lxing	North Coast	202.395	Road	Private	Stop Signs
4294	Mindaribba Service Lxing	North Coast	203.622	Road	Service	Stop Signs
4051	Paterson Lxing	North Coast	211.370	Road	Private	Stop Signs
776	King Street Paterson	North Coast	213.698	Road	Public	Half Boom Flashing Lights
4052	Paterson Lxing	North Coast	215.310	Road	Private	Stop Signs
4053	Paterson Lxing	North Coast	215.773	Road	Private	Stop Signs
777	Public Road Paterson	North Coast	216.054	Road	Public	Stop Signs
778	Cory Street Martins Creek	North Coast	218.690	Road	Public	Primary Flashing Lights
4054	Martins Creek Lxing	North Coast	221.406	Road	Private	Stop Signs
779	Mirari Road Kilbride	North Coast	222.653	Road	Public	Half Boom Flashing Lights
780	Hilldale Road Hilldale	North Coast	226.515	Road	Public	Primary Flashing Lights
781	Off Hilldale Road Kilbride	North Coast	227.581	Road	Public	Stop Signs
	Wallarobba Lxing	North Coast	228.980	Road	Service	Stop Signs
4055	Wallarobba Lxing	North Coast	229.960	Road	Private	Stop Signs
782	Dungog Road Wallarobba	North Coast	231.383	Road	Public	Primary Flashing Lights
4056	Wallarobba Lxing	North Coast	232.631	Road	Private	Stop Signs
4057	Wallarobba Lxing	North Coast	234.964	Road	Private	Stop Signs
-						





ALCAM ID	Road Name	Line Segment	КМ	Traffic Type	Access	Control Type
4058	Wallarobba Lxing	North Coast	235.507	Road	Private	Stop Signs
4060	Wirragulla Lxing	North Coast	239.873	Road	Private	Stop Signs
1816	Dungog Ped Xing	North Coast	245.141	Pedestrian	Public	Flashing Lights
783	Stroud Hill Road Dungog	North Coast	245.780	Road	Public	Half Boom Flashing Lights
4295	Monkerai Service Lxing	North Coast	253.680	Road	Service	Stop Signs
784	Monkerai Private Crossing	North Coast	262.580	Road	Public	Stop Signs
4296	Stroud Road Take Off	North Coast	266.627	Take-off	Private	
787	Public Road Weismantels	North Coast	277.833	Road	Public	Stop Signs
4065	Weismantels Lxing	North Coast	279.010	Road	Private	Stop Signs
4066	Weismantels Lxing	North Coast	280.730	Road	Private	Stop Signs
4067	Weismantels Lxing	North Coast	281.354	Road	Private	Stop Signs
789	Terreel Road (Johnson Creek Road) Wards River	North Coast	283.080	Road	Public	Half Boom Flashing Lights
4068	Craven Lxing	North Coast	284.675	Road	Private	Stop Signs
4069	Craven Lxing	North Coast	285.618	Road	Private	Stop Signs
790	Woods Road Craven	North Coast	290.724	Road	Public	Half Boom Flashing Lights
4071	Craven Lxing	North Coast	293.444	Road	Private	Stop Signs
4072	Craven Lxing	North Coast	293.967	Road	Private	Stop Signs
791	Crowthers Road Stratford	North Coast	295.093	Road	Public	Stop Signs
4073	Stratford Lxing	North Coast	295.677	Road	Private	Stop Signs
4074	Stratford Lxing	North Coast	296.119	Road	Private	Stop Signs
792	Public Road Stratford	North Coast	296.502	Road	Public	Stop Signs
4075	Stratford Lxing	North Coast	297.588	Road	Private	Stop Signs
4076	Stratford Lxing	North Coast	297.849	Road	Private	Stop Signs
4077	Berrico Lxing	North Coast	298.956	Road	Private	Stop Signs
4078	Berrico Lxing	North Coast	300.646	Road	Private	Stop Signs
793	Fairbairns Lane Berrico	North Coast	302.560	Road	Public	Primary Flashing Lights
4298	Berrico Service Lxing	North Coast	304.200	Road	Service	Stop Signs
794	Jacks Road Gloucester	North Coast	305.405	Road	Public	Half Boom Flashing Lights



ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
4079	Gloucester Lxing	North Coast	306.097	Road	Private	Stop Signs
795	Phillips Street Gloucester	North Coast	308.198	Road	Public	Half Boom Flashing Lights
4299	Gloucester Take Off	North Coast	309.160	Take-off	Private	
796	Gloucester Yard	North Coast	309.718	Road	Private	Stop Signs
4080	Gloucester Lxing	North Coast	312.400	Road	Private	Stop Signs
4300	Yumbunga Service Lxing	North Coast	313.100	Road	Service	Stop Signs
4301	Yumbunga Service Lxing	North Coast	314.100	Road	Service	Stop Signs
4081	Gloucester Lxing - For Stock Only	North Coast	315.270	Road	Private	
4082	Gloucester Lxing	North Coast	317.282	Road	Private	Stop Signs
4302	Gloucester Lxing	North Coast	320.340	Road	Private	Stop Signs
797	Bundook Road Bulliac	North Coast	321.220	Road	Public	Primary Flashing Lights
798	Public Road Bulliac	North Coast	321.900	Road	Public	Stop Signs
4303	Bulliac Take Off	North Coast	324.030	Take-off	Private	
4083	Bulliac Lxing	North Coast	324.303	Road	Private	Stop Signs
1898	Public Road Bulliac	North Coast	325.289	Road	Private	Stop Signs
4304	Bulliac Service Xing	North Coast	325.730	Road	Service	Stop Signs
4084	Bulliac Lxing	North Coast	327.864	Road	Private	Stop Signs
799	Off Bundook Road Bulliac	North Coast	328.165	Road	Public	Stop Signs
800	Off Doon Ayre Road Bulliac	North Coast	330.363	Road	Public	Stop Signs
4305	Bundook Service Lxing	North Coast	331.550	Road	Service	Stop Signs
4306	Bundook Service Crossing	North Coast	332.025	Road	Service	Stop Signs
4307	Bundook Service Crossing	North Coast	332.240	Road	Service	Stop Signs
4308	Bundook Take Off	North Coast	334.550	Take-off	Private	
4085	Bundook Lxing	North Coast	339.672	Road	Private	Stop Signs
4309	Mt George Service Crossing	North Coast	340.750	Road	Service	Stop Signs
4086	Bundook Lxing	North Coast	341.060	Road	Private	Stop Signs
4087	Mt George Lxing	North Coast	341.382	Road	Private	Stop Signs
4088	Mt George Lxing	North Coast	341.583	Road	Private	Stop Signs



ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
801	Mt George Station Yard	North Coast	341.865	Road	Public	Stop Signs
4089	Mt George Lxing	North Coast	342.428	Road	Private	Stop Signs
4090	Mt George Lxing	North Coast	343.112	Road	Private	Stop Signs
4310	Mt George Lxing	North Coast	344.480	Road	Public	Stop Signs
4091	Mt George Lxing	North Coast	344.903	Road	Private	Stop Signs
802	Public Road Mt George	North Coast	345.687	Road	Public	Stop Signs
4093	Mt George Lxing	North Coast	346.693	Road	Private	Stop Signs
803	Public Road Mt George	North Coast	346.854	Road	Private	Stop Signs
4094	Jacks Road Mt George	North Coast	351.928	Road	Private	Stop Signs
4312	Killawarra Take Off	North Coast	360.292	Take-off	Private	
4311	Killawarra Loop Take Off	North Coast	360.292	Take-off	Private	
804	Dolly's Flat Road Killawarra	North Coast	362.885	Road	Public	Half Boom Flashing Lights
805	Primrose Street Wingham	North Coast	367.691	Road	Public	Half Boom Flashing Lights of Pedestrian Warning Lights
806	Wingham Road Wingham	North Coast	368.048	Road	Public	Half Boom Flashing Lights
4095	Kolodong Lxing	North Coast	372.503	Road	Private	Stop Signs
	Kolodong Road Wingham	North Coast	374.480	Road	Private	Primary Flashing Lights
4106	Kolodong Lxing	North Coast	375.440	Road	Private	Stop Signs
807	off Kolodong Road Kolodong	North Coast	375.822	Road	Public	Stop Signs
808	Muldoon Street Taree	North Coast	377.378	Road	Public	Half Boom Flashing Lights
809	Macquarie Street Taree	North Coast	378.920	Road	Public	Half Boom Flashing Lights
1498	Bushland Drive Taree	North Coast	380.791	Road	Public	Primary Flashing Lights
811	Lansdowne Road Kundle Kundle	North Coast	387.409	Road	Public	Half Boom Flashing Lights
4107	Taree Lxing	North Coast	390.628	Road	Private	Stop Signs
812	Taree Lxing	North Coast	391.976	Road	Public	Stop Signs



ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
813	Lansdowne Rd Melinga	North Coast	393.580	Road	Public	Primary Flashing Lights
4108	Melinga Lxing	North Coast	394.732	Road	Private	Stop Signs
814	Lansdowne Road Melinga	North Coast	394.982	Road	Public	Primary Flashing Lights
4109	Melinga Lxing	North Coast	395.577	Road	Private	Stop Signs
4110	Melinga Lxing	North Coast	397.387	Road	Private	Stop Signs
4111	Melinga Lxing	North Coast	397.769	Road	Private	Stop Signs
4112	Coopernook Lxing	North Coast	398.795	Road	Private	Stop Signs
815	Off Lansdowne Road Coopernook	North Coast	401.451	Road	Public	Stop Signs
816	Off Lansdowne Road Coopernook	North Coast	401.954	Road	Public	Stop Signs
817	Lansdowne Road Coopernook	North Coast	402.919	Road	Public	Primary Flashing Lights
4113	Coopernook Lxing	North Coast	403.100	Road	Private	Stop Signs
818	Coralville Road Moorland	North Coast	410.121	Road	Public	Primary Flashing Lights
819	Henrys Lane Coopernook	North Coast	411.047	Road	Public	Stop Signs
4114	Coopernook Lxing	North Coast	411.509	Road	Private	Stop Signs
4115	Coopernook Lxing	North Coast	412.073	Road	Private	Stop Signs
820	Off Pacific Hwy Coopernook	North Coast	414.326	Road	Public	Stop Signs
4116	Coopernook Lxing	North Coast	415.794	Road	Private	Stop Signs
4314	Johns River Take Off	North Coast	417.800	Take-off	Private	
821	Wharf Road Johns River	North Coast	418.812	Road	Public	Stop Signs
4118	Johns River Lxing	North Coast	421.165	Road	Private	Stop Signs
822	Watson Taylor Road Johns River	North Coast	423.700	Road	Public	Stop Signs
4119	Johns River Lxing	North Coast	425.068	Road	Private	Stop Signs
4120	Johns River Lxing	North Coast	426.295	Road	Private	Stop Signs
4121	Off Pacific Hwy Johns River	North Coast	427.060	Road	Private	Stop Signs
823	Ross Glen Road Johns River	North Coast	428.407	Road	Public	Half Boom Flashing Lights
4122	Johns River Lxing	North Coast	429.755	Road	Private	Stop Signs



ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
824	Graham Street Kendall	North Coast	433.290	Road	Public	Primary Flashing Lights
825	Dunwoodie Street Kendall	North Coast	434.080	Road	Public	Stop Signs
4123	Paul Adams Road Kendall	North Coast	439.150	Road	Private	Half Boom Flashing Lights
4124	Kendall Lxing	North Coast	441.644	Road	Private	Stop Signs
4125	Kendall Lxing	North Coast	443.978	Road	Private	Stop Signs
826	Public Road Kerewong	North Coast	449.067	Road	Public	Stop Signs
4126	Kerewong Lxing	North Coast	449.651	Road	Private	Stop Signs
4127	Kerewong Lxing	North Coast	450.113	Road	Private	Stop Signs
827	Kings Creek Road Kerewong	North Coast	451.370	Road	Public	Half Boom Flashing Lights
828	Oxley Highway Ped Xing Kerewong	North Coast	454.740	Road	Public	Pedestrian Maze Flashing Lights
828	Oxley Highway Kerewong	North Coast	454.740	Road	Public	Half Boom Flashing Lights
	Wauchope Take Off	North Coast	454.770	Take-off		
4128	Wauchope Lxing	North Coast	459.296	Road	Private	Stop Signs
4316	Telegraph Point Take Off	North Coast	472.480	Take-off	Private	Stop Signs
4129	Telegraph Point Lxing	North Coast	479.886	Road	Private	Stop Signs
829	Wharf Road Telegraph Point	North Coast	485.137	Road	Public	Stop Signs
830	River Road Telegraph Point	North Coast	486.827	Road	Public	Stop Signs
4317	Kundabung Take Off	North Coast	487.020	Take-off	Private	Stop Signs
831	Kundabung Road Kundabung	North Coast	491.534	Road	Public	Stop Signs

# 1.9 Emergency Local Releases

Nil

# 1.10 Maximum Permanent Speeds and Permanent Speed Restrictions

Refer the Route Access Standard - Defined Interstate Rail Network Section Pages D51 for all speed information.

# 1.11 Maximum Train Length

Maximum train length is 1500 metres



#### 1.12 Structure Clearances

Refer Route Access Standards for Rolling Stock Outlines

#### 1.13 Communications

The National Train Communications System (NTCS) is the Primary communications system for the ARTC controlled rail network and is mandatory for all operators to operate their locomotives using a NTCS ICE (In-Cabin Equipment) Unit as the primary communications device.

A standard ICE unit is installed with the following components

- Telstra NextG<sup>™</sup> transceiver
- Iridium satellite transceiver
- UHF Radio
- GPS

The ICE unit primary communications is via the Telstra NextG<sup>™</sup> and backup communications is provided via the Iridium Satellite network. The ICE unit will automatically call the Junee network control centre when the routine and emergency buttons are pressed.

The UHF radio is used for the Local train Radio - Train to Train and train to track Side communications.

UHF Local Train Radio (LTR) frequency details

Frequency: 418.425 MHz (UHF),

Bandwidth: 12.5 KHz,

EIRP: 41W (remote/low density areas), 8.3W (medium & high density areas)

Tx CTCSS: 162.2 Hz

Rx CTCSS: 162.2 Hz

Selcall: disabled

Alternate Communication for this section is by mobile or satellite phones.

Date Reviewed: 2 Feb 2024



# 1.14 Wayside Monitoring Systems

Dragging Equipment Detector Wauchope 455.540km

# 1.15 Ruling Gradients

Telarah to Kempsey	1 in 80	
Kempsey to Telarah	1 in 80	

# 1.16 Curve and Gradient Data

For all Curve and Gradient data, refer to the ARTC Internet.

https://extranet.artc.com.au/eng\_network-config\_cd.html

# 1.17 Lookout Working Hazardous Areas

The below list of locations are hazardous for Lookout Working and may require an additional Lookout or a higher level of protection to undertake work in these areas.

The Protection Officer is responsible for conducting a safety assessment and confirming that Lookout Working is suitable for the work to be performed at the location. This may require the use of an additional Lookout to ensure adequate minimum warning time to easily reach a Safe Place. If the safety assessment determines that Lookout Working is not suitable a higher level of protection must be applied.

Area	KM From	КМ То	Line	Line Direction	Up/Down	Reason Unsuitable
Monkerai to Stroud Rd	254.445	266.095	Single Main	Bi-directional	Both	Tight radius curves weaving through mountains with steep grade.
Bundook to Mt George	334.940	341.300	Single Main	Bi-directional	Both	Tight radius curves weaving through mountains with steep grade.
Johns River to Kendall	418.160	432.615	Single Main	Bi-directional	Both	Tight radius curves, higher speed track adjacent to the noisy Pacific Highway



# 1.18 Telarah – Acacia Ridge Corridor Remote Control Signalling

#### Introduction

Rail Vehicle Detection System is in operation on all Main Line and Crossing Loops between Maitland (Telarah) and Acacia Ridge.

The points, signals and electric releases at all locations from Maitland (Telarah) to Acacia Ridge (signal AR1 at 971.136km) are remotely operated from Network Control Centre South (NCCS).

#### **Local Control Panels**

All local control panels in the Telarah – Acacia Ridge Corridor are booked out of use and are not to be used.

#### Locking

Туре	Provided
Approach	Yes
Route	Yes

#### **Operation of Points and Signals**

Colour light signals are of the single light type.

A low speed indication (a small green light) and a shunting signal (a yellow light) with a route indication applicable to both, are provided beneath the main head of the Down home signal and the Up home signal at certain locations.

Entry to the Loop line can be on the authority of the low speed signal with route indication for a running movement, or on the authority of the yellow light in the subsidiary shunting signal with route indication for a shunting movement, where provided.

At certain locations entry into the loop line is on the authority of a pulsating yellow light on the Distant signal and a band of lights below the main head signal on the Home signal.

Entry to the crossing location on the main line will be on the authority of the green light of the main running signal when the starting signal is clear.

When the starting signal is at stop, entry to the main line of the crossing location can be on the authority of the low speed signal with route indication, or on the authority of the yellow light in the subsidiary shunting signal with route indication, where provided.

At certain locations when the starting signal is at stop, entry to the main line of the crossing location can be on the authority of a steady yellow light in the main head of the home signal.

The distant signals show a green indication automatically in response to a proceed indication being displayed by the main line signals in advance.

At locations where the Goods siding connection from the Loop line occurs near the starting signal, trains are permitted to depart from the Goods sidings directly to the main line on the authority of the starting signal being cleared.

#### **Network Control Centre South (NCCS)**

Each Network Control Board for the Telarah – Acacia Ridge corridor (Coast A and B boards) comprises a Phoenix Control System which allows the Network Controller to manage all train movements.



#### **Ground Frame Releases**

The ground frames operating the points between the main line or the loop line and any siding within a location are unlocked by a key from a releasing switch located next to the ground frame.

Releasing switches are released electrically by the Network Controller at NCCS.

A steady light inscribed "Release normal" is displayed in the indicator diagram next to the ground frame points when the releasing switch is normal. When the release is taken, the "Release normal" light will be extinguished.

When required to give the release for a particular releasing switch, the Network Controller at NCCS must:

- normalise all conflicting routes
- where required, admit the train to the line to which the siding is connected by setting the shunting route
- when the light on the indicator diagram next to the ground frame flashes, the Competent Worker must operate the release and work the ground frame points operated, as required.

NOTE: As far as possible, shunting of sidings should always be done from the loop line as this does not involve altering the setting of the main to the loop line points during the shunt. Shunting of sidings from the main line involves delay in obtaining time releases of approach locking whenever the setting of the main to the loop points has to be altered.



# 1.19 Drawing Legend

1.19 Drawing Legend			
	Standard gauge track		Dual gauge track
P -	Advisory Sign or Location Sign	₹75 80	Speed sign
	Pedestrian Crossing		Passive Protection Level Crossing
	Active Protection Level Crossing – Flashing Lights		Active Protection Level Crossing – Lights and Boom
	Bridge or Overpass		Underpass
\frac{\sqrt{\sq}\sqrt{\sq}}}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}} \sqrt{\sq}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}} \end{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}} \end{\sqrt{\sqrt{\sq}}}}}}} \end{\sqrt{\sqrt{\sq}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{	River/Creek or Significant river bridge or Viaduct	Station  Passenger Platform	Station or Platform
	Tunnel	/	Crossover
<u></u>	Turnout	<b>\</b>	Catchpoint
Y 1	Derail	Manual Motorised	Points Operating Mechanism
	Point Indicator		Mechanical Frame
	Automatic Signals		Controlled Signals
	Dwarf Signals	(a) (B) 74,592 km	Signal number reference
	Distant Signal	4	Repeater Signal
PT	Overheight Detectors	>> <<	Wayside Equipment



#### 2 Locations and Sections Information

# 2.1 Mindaribba (MDR)

#### **General Arrangements**

Loop length 1562m

Mindaribba Up starting signals 02-12M and 02-12L are dual controlled with the Lower Hunter Network Controller. The Up route from 02-12M / 02-12L will not clear in the field until the Lower Hunter Controller clicks "Up Accept" on the Phoenix control screen.

#### **Emergency Operation of Points**

The EOL for 51 points is located in the MA5 location cupboard.

The EOL for 52 points is located in the MA11 location cupboard.

#### **Oakhampton Road Level Crossing**

Type F flashing lights and bells are provided at Oakhampton Road level crossing 198.613km. The level crossing is activated by conventional track circuits. The strike points are located at 197.508km in the Down direction and 198.973km in the Up direction and are indicated with crossing approach warning boards.

The signalling at this level crossing is maintained by Maitland Provisioning Centre (Hunter Valley Network).

#### **Half Pilot Staffs**

A half pilot staff is provided inside a locked box mounted on the post of the starting signals for the Mindaribba — Paterson section.

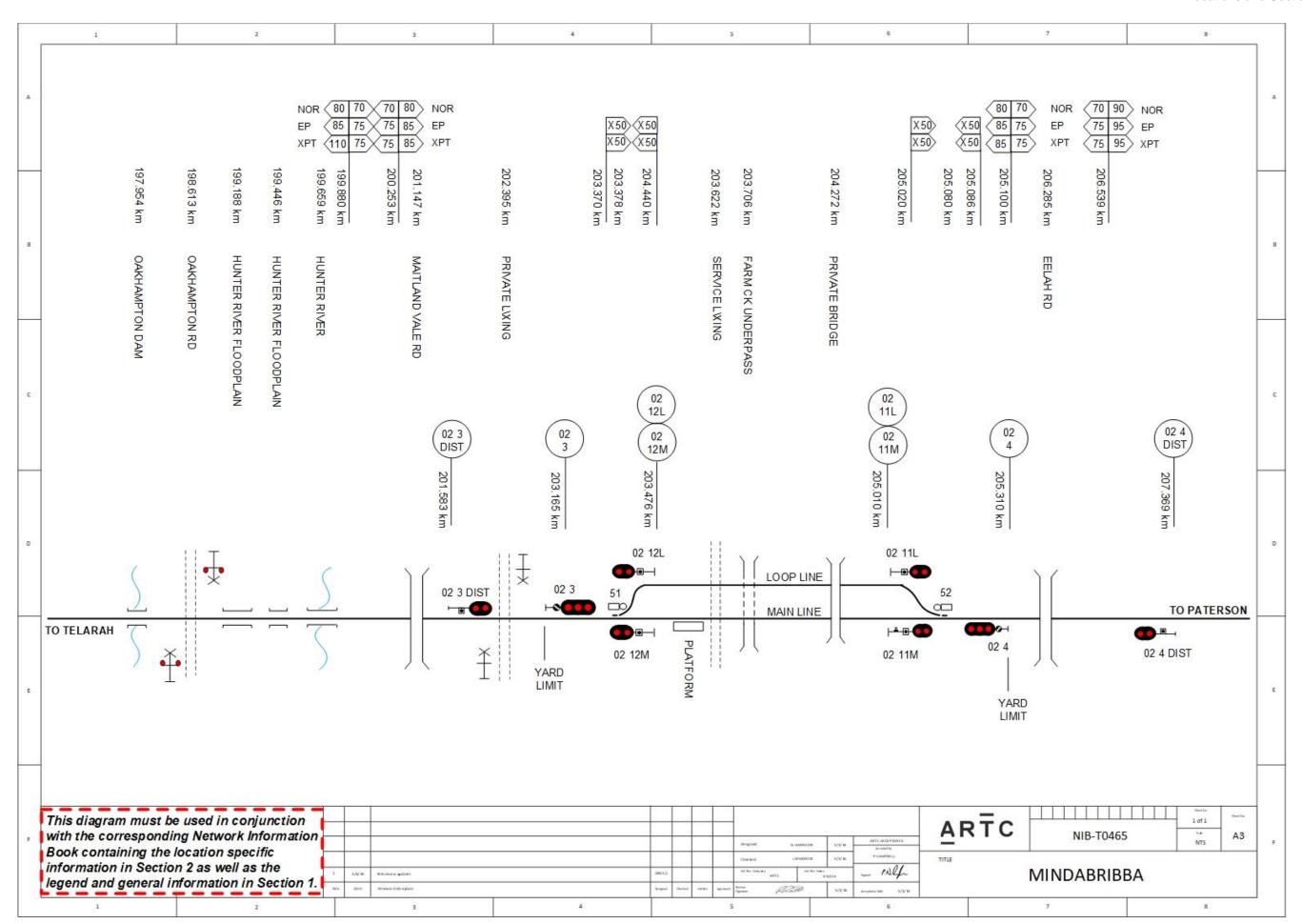
The half pilot staff for the section Mindaribba – Paterson is inscribed "Mindaribba – 02-11M".

There is no half pilot staff for the Telarah - Mindaribba section.

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Locations and Sections Information





# 2.2 Paterson (PTR)

#### **General Arrangements**

Loop length 1787m

Goods siding 437m

The Rail Motor Society siding is connected to the Goods siding. The siding consists of three terminal roads. The points are non-interlocked and operated by Thornley levers. Refer safety interface agreement IA1702 for further details.

#### **Emergency Operation of Points**

EOL's are located in the Traffic Huts on the Sydney and Country ends for 51 and 52 points.

#### **Ground Frame**

Frame C is located on the Down side of the loop line adjacent to the points and provides access to the Goods siding and the Rail Motor Society siding.

No. 1 lever in frame C is unlocked by a key from releasing switch C, which is located adjacent to the lever frame.

Releasing switch C is electrically released by No. 81 releasing switch in NCCS.

Trains are permitted to depart from the Sydney end of the Goods siding directly onto the Main line on the authority of starting signal No. 03-12L being cleared.

# **King Street Level Crossing**

Type F flashing lights, bells and half boom gates are provided at King Street level crossing 213.681km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 212.680km in the Down direction and 214.838km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Down starting signal No. 03-11L or No. 03-11M, or Up home signal No. 03-04 at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal No. 03-11L, No. 03-11M or No. 03-04 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

#### **Half Pilot Staffs**

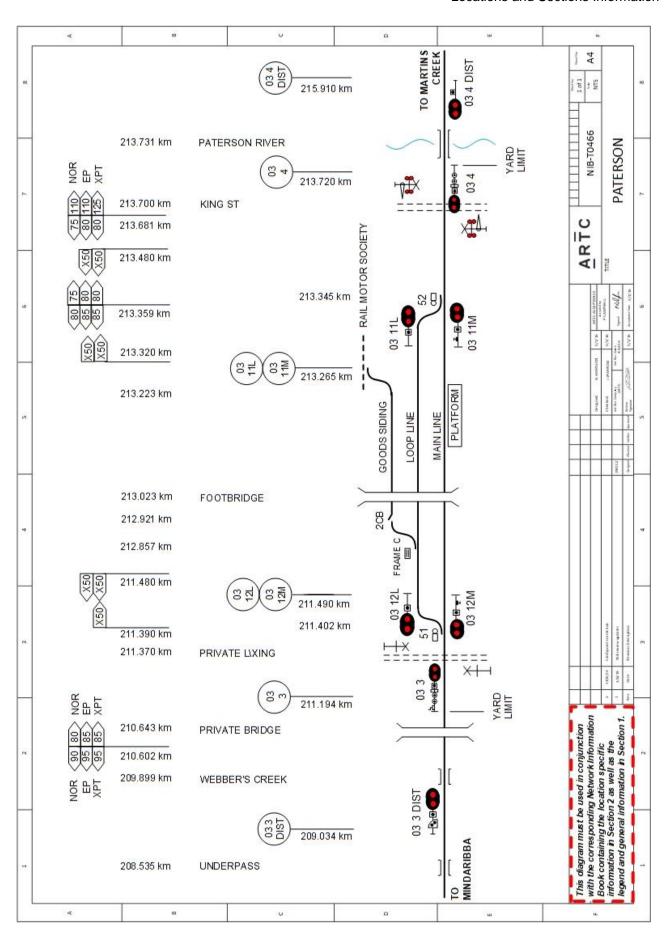
Half pilot staffs are provided in the pilot staff locks inside a locked box mounted on the post of the starting signals for the Mindaribba – Paterson and Paterson – Martins Creek sections.

Date Reviewed: 2 Feb 2024

The half pilot staff for the section Mindaribba - Paterson is inscribed "Paterson – 03-12M".

The half pilot staff for the section Paterson – Martins Creek is inscribed "Paterson – 03-11M".







# 2.3 Martins Creek (MRK)

#### **General Arrangements**

Goods Siding 270m

Quarry Siding - privately owned

Access into Martins Creek Quarry is via an ARTC Goods Siding located on the Up side of the main line. The privately operated Quarry Siding extends into the quarry from the Infrastructure Boundary.

The Infrastructure Boundary for ARTC managed track and the private quarry owner is located at 218.707km, 6 sleepers beyond 3B catch points. Refer safety interface agreement IA1719 for further details, including the safe management of trains in and out of the quarry.

IA 1719 states that: 51 points and turnout indications on 12L and 3 signals have been booked out of order due to insufficient use to keep the track circuits operating reliably.

If the quarry manager wishes to run a program of ballast trains over a period of time, with trains planned to pass into or out of the goods siding at less than 72 hour intervals, the quarry manager may make arrangements with ARTC to have 51 points restored to service for the duration of the ballast train program. The points will remain available for service for 72 hours after the last train, after which they will again be booked out of use.

For single or isolated train movements entering or departing the goods siding a Competent Rail Safety Worker must be supplied by the rail operator, to wind 51 points and hand signal the train past 12L and 3 signals after receiving the authority from the Network Controller. Trains must be less than 365m in length.

The Network Controller will need to be notified by the Competent Rail Safety Worker that they are on site.

ARTC Operations will not accept trains to arrive at Martins Creek until the competent person is in place ready to wind the points.

Trains may be despatched from Paterson and Kilbride at the same time, provided that the route is set for the Down train to enter the Goods Siding at Martins Creek via No. 51 points reverse.

An Up train may be despatched from Kilbride while a route is set for another Up train to depart from the Goods Siding at Martins Creek via No. 51 points.

At all other times, No. 51 points must be left set and locked for the main line.

#### **Emergency Operation of Points**

ESML is located in the traffic hut at 51 points.

#### **Ground Frame**

Frame B is located on the Down side of the main line adjacent to the catchpoints and provides access to the Quarry siding.

Frame B is unlocked by a key from releasing switch B2, which is electrically released by No. 82 release at NCCS.



#### **Cory Street Level Crossing**

Type F flashing lights and bells are provided at Cory Street level crossing 218.690km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 218.068km in the Down direction and 219.504km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Up home signal No. 04-04 or Down starting signal No. 04-11M at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal No. 04-04 or No. 04-11M after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

Quarry Siding Portion of Level Crossing

The main line level crossing equipment does not cover the level crossing on the Quarry siding.

Traffic Control must be in place before any train crosses over the roadway into / out of the quarry.

When trains are required to enter or leave this siding, they must not proceed across the roadway until hand signalled by the Competent Worker after road traffic has been brought to a stand.

WARNING: When a train is to occupy the siding portion of the level crossing, the Network Controller at NCCS must not clear signals to allow trains to pass over the main line portion of the level crossing.

The employee in charge of the shunting train must not allow the train to occupy the siding portion of the level crossing until this employee has informed the Network Controller at NCCS of the movement to be made and has received an assurance that trains will not be allowed to proceed over the main line portion of the level crossing until this employee gives further advice that the siding movement over the level crossing is completed.

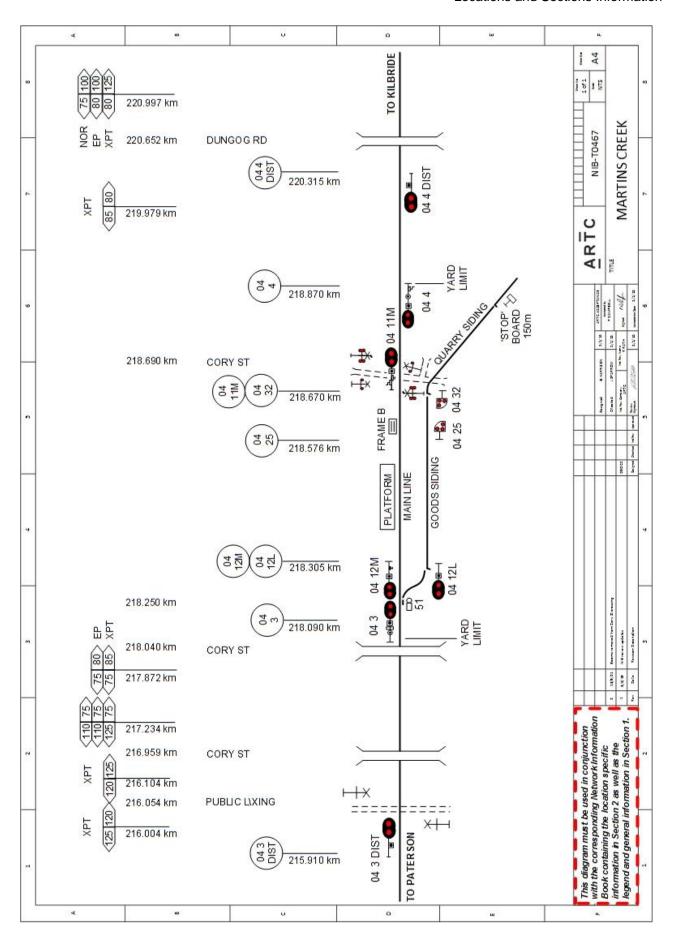
#### Half pilot staffs

Half pilot staffs are provided in the pilot staff locks inside a locked box mounted on the post of the starting signals for the Paterson – Martins Creek and Martins Creek – Kilbride sections.

The half pilot staff for the section Paterson – Martins Creek is inscribed "Martins Creek – 04-12M".

The half pilot staff for the section Martins Creek – Kilbride is inscribed "Martins Creek – 04-11M".







# 2.4 Kilbride (KLB)

#### **General Arrangements**

Loop length 1567m

Maintenance siding length 154m

#### **Emergency Operation of Points**

The EOL for 51 points is located in the KE4 location cupboard.

The EOL for 52 points is located in the KE10 location cupboard.

#### **Ground Frame**

Push button operation of No 53 point machines and derail device which will be electrically released by the Network Controller NCCS.

Emergency release key for 53 points is located in the KE8 location cupboard.

#### Mirari Road Level Crossing

Type F flashing lights, bells and half boom gates are provided at Mirari Road level crossing 222.653km. The level crossing is activated by conventional track circuits. The strike points are located at 221.634km in the Down direction and 223.594km in the Up direction and are indicated with crossing approach warning boards.

#### **Hilldale Road Level Crossing**

Type F flashing lights and bells are provided at Hilldale Road level crossing 226.515km. The level crossing is activated by conventional track circuits. The strike points are located at 225.842km in the Down direction and 227.067m in the Up direction and are indicated with crossing approach warning boards.

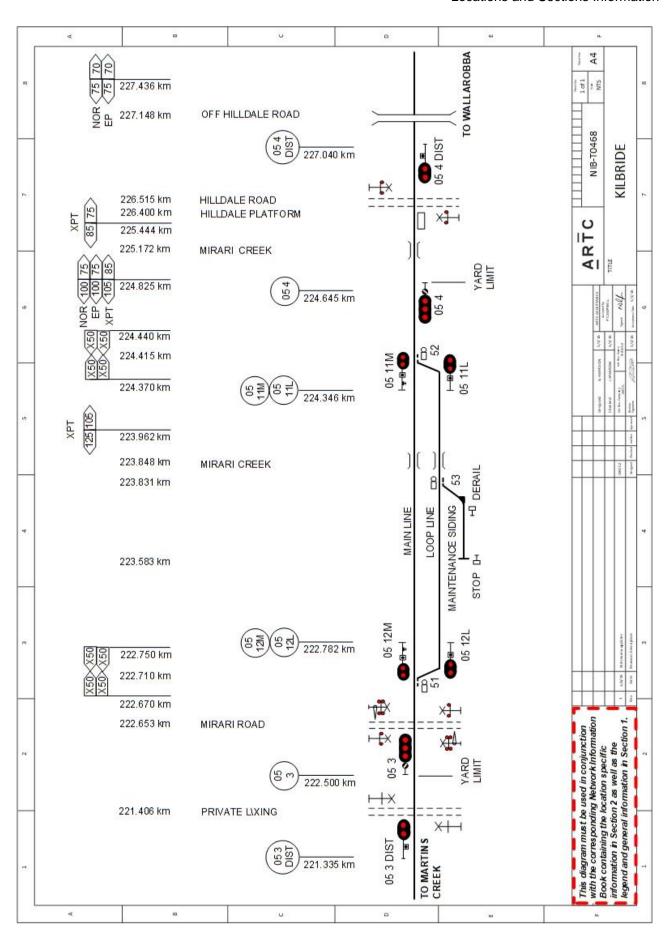
#### **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Martins Creek – Kilbride and Kilbride – Wallarobba sections.

The half pilot staff for the section Martins Creek - Kilbride is inscribed "Kilbride - 05-12M".

The half pilot staff for the section Kilbride – Wallarobba is inscribed "Kilbride – 05-11M".







# 2.5 Wallarobba (WLB)

#### **General Arrangements**

Loop length 1551m

#### **Emergency Operation of Points**

A traffic hut is provided adjacent to Nos. 51 and 52 points and contains a locked ESML cabinet.

#### **Dungog Road Level Crossing**

Type F flashing lights and bells are provided at Dungog Road level crossing 231.383km. The level crossing is activated by conventional track circuits. The strike points are located at 230.626km in the Down direction and 232.233km in the Up direction and are indicated with crossing approach warning boards.

#### Half pilot staffs

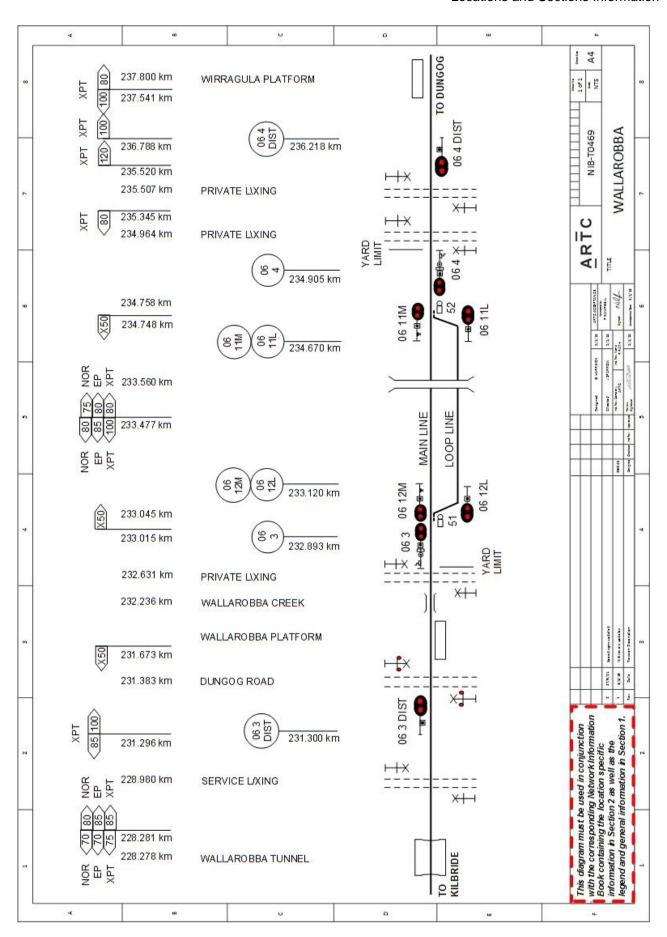
Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Kilbride – Wallarobba and Wallarobba – Dungog sections.

The half pilot staff for the section Kilbride – Wallarobba is inscribed "Wallarobba – 06-12M".

The half pilot staff for the section Wallarobba – Dungog is inscribed "Wallarobba – 06-11M".

Date Reviewed: 2 Feb 2024







# 2.6 Dungog (DNG)

#### **General Arrangements**

South Dungog loop length 760m

Back Platform road length 416m

North Dungog loop length 1575m

NOTE: There is a track restriction on the Back Platform Road – it is only suitable for lightweight passenger and track machines.

#### **Emergency Operation of Points**

South Dungog

The EOL is located in the traffic hut at 51 points

The ESML is located in the traffic hut at 52 points

North Dungog

The EOL for 55 points is located in the DG14 location cupboard

The EOL for 56 points is located in the DG15 location cupboard

#### **Ground Frames (South Dungog)**

A stop block is installed at 244.900km at the dead end of the siding.

Frame E is located on the Down side of the Back Platform Rd adjacent to the crossovers and provides access to the Goods Sidings.

Frame E is unlocked by a key from releasing switch E, which is electrically released by 84 release at NCCS.

Emergency release key for 84 release is located in the Traffic Hut located on the up side of the loop line.

#### **Back Platform Pedestrian Crossing**

Active pedestrian crossing warning equipment is provided at the Back Platform pedestrian crossing at 245.141km.

The warning equipment is automatically controlled by track circuit for Down and Up trains, subject to the clearance of the signals on each side of the crossing.

If a train closely approaches Up shunting signal No. 22 or Down home signal No. 07-3 at stop, the setting of the applicable signal route will cause the level crossing equipment to operate, but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at Up shunting signal No. 22 or Down home signal No. 07-3 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop, and will then cancel automatically.

Special arrangements if there is a failure of the signals protecting Back Platform pedestrian crossing

If either Up shunting signal No. 22 or Down home signal No. 07-3 fails, the Network Controller at NCCS must not authorise a train to pass these signals at stop until:



- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

#### Stroud Hill Road (Dowling Street) Level Crossing

Type F flashing lights, bells and half boom barriers are provided at Stroud Hill Road level crossing 245.780km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 245.408km in the Down direction and 246.575km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Up home signal No. 07-2 or Down 3rd home signal No. 07-11M, No. 07-11L or No. 07-31 at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at Up home signal No. 07-2 or Down 3rd home signal No. 07-11M, No. 07-11L or No. 07-31 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

Special arrangements if there is a failure of the signals protecting Stroud Hill Road level crossing If either Up home signal No. 07-2 or Down 3rd home signal

No. 07-11M, No. 07-11L or No. 07-31 fails, the Network Controller at NCCS must not authorise a train to pass these signals at stop until:

- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

#### **Half Pilot Staffs**

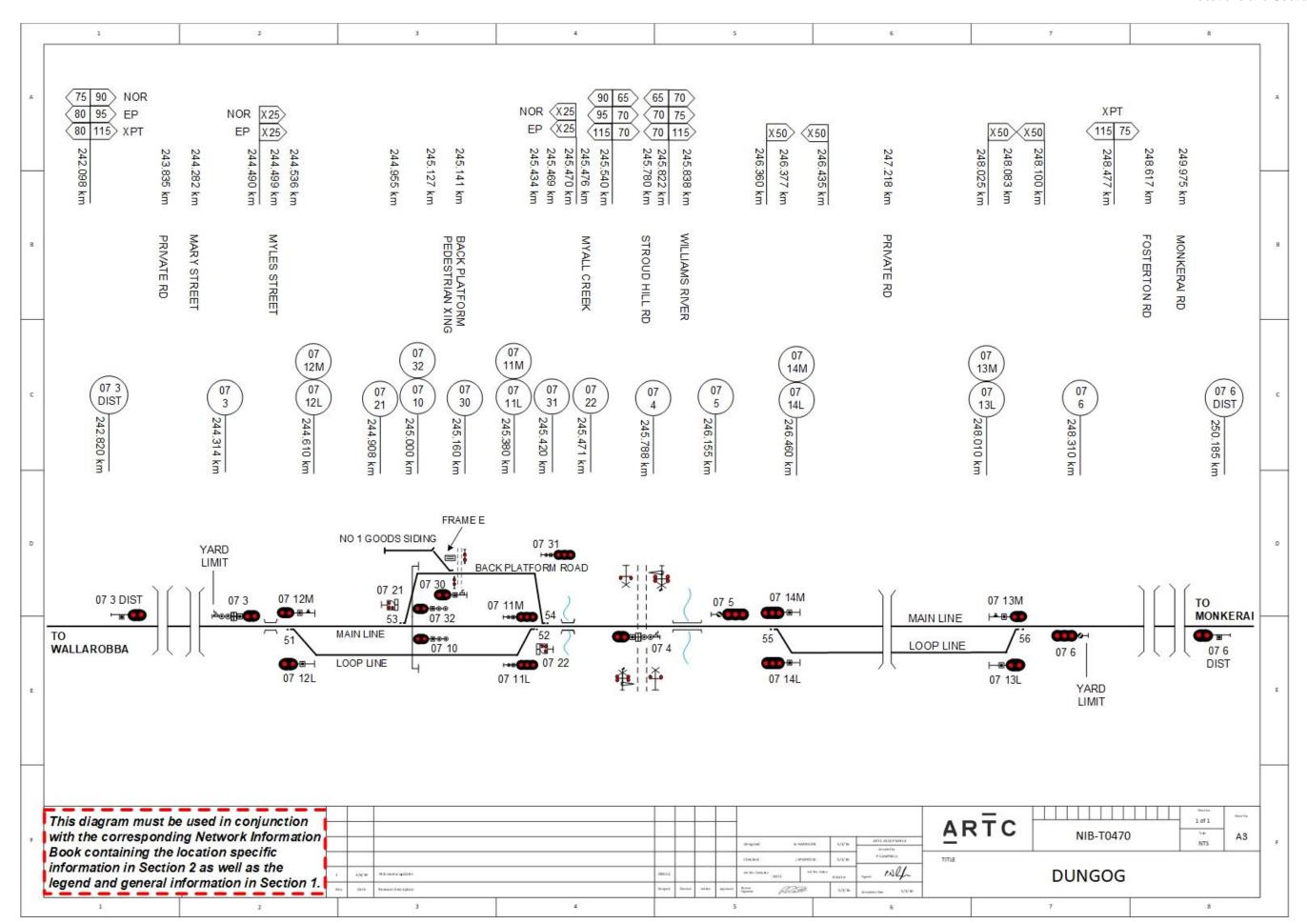
Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Wallarobba – Dungog and Dungog – Monkerai section.

The half pilot staff for the section Wallarobba – Dungog is inscribed "Dungog – 07-12M".

The half pilot staff for the section Dungog – Monkerai is inscribed "Dungog – 07-13M and located at the Down Starting Signal 07-13M".

# ARTC

Locations and Sections Information





# 2.7 Monkerai (MNK)

#### **General Arrangements**

Loop length 380m

#### **Emergency Operation of Points**

ESML locks for 51A and B points are situated in the traffic hut at the Sydney end of the Loop line.

The ESML lock for 52 points is located in the traffic hut at the Country end of the Loop line.

#### **Half Pilot Staff**

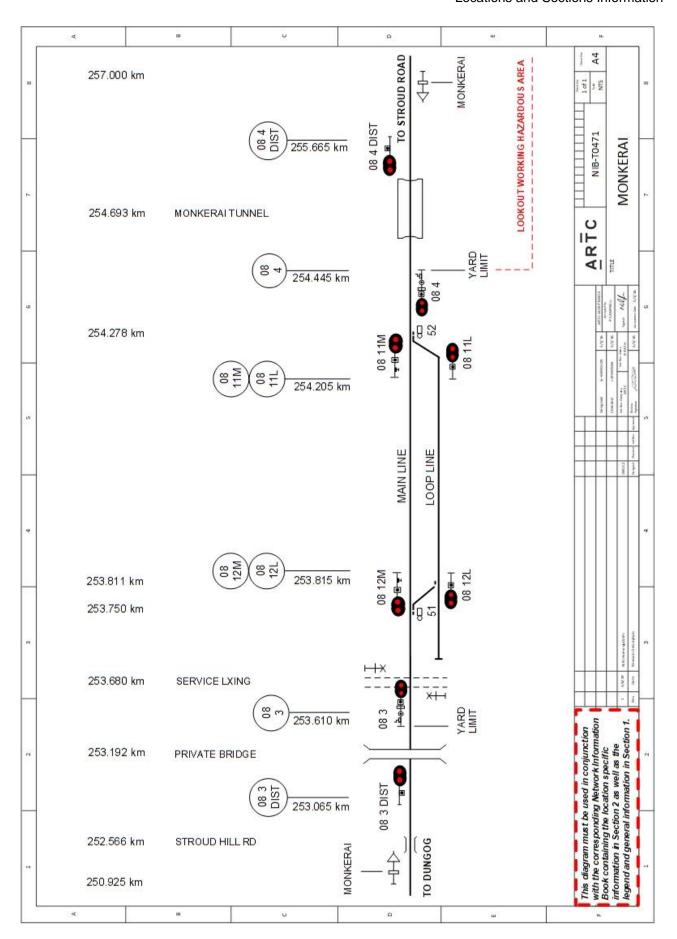
Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Dungog – Monkerai and Monkerai – Stroud Road section.

The half pilot staff for the section Dungog - Monkerai is inscribed "Monkerai – 08-12M".

The half pilot staff for the section Monkerai – Stroud Road is inscribed "Monkerai – 08-11M".

Date Reviewed: 2 Feb 2024







# 2.8 Stroud Road (SRD)

#### **General Arrangements**

Loop length 1888m

Goods Siding 225m

#### **Emergency Operation of Points**

EOLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

#### **Ground Frame**

Frame B is located on the Up side of the loop line adjacent to the crossovers and provides access to the Goods siding.

Frame B is unlocked by a key from releasing switch B, which is electrically released by No. 81 release at NCCS.

Emergency Release for 81 release is located in the Traffic Hut on the UP side of the Loop Line.

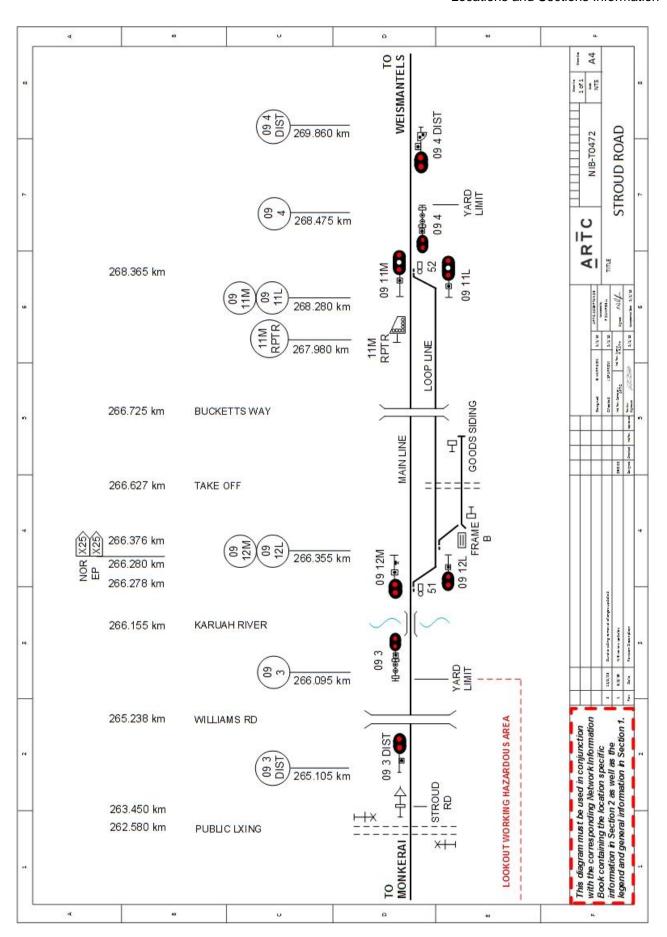
#### **Half Pilot Staffs**

The half pilot staff for the Monkerai – Stroud road section is provided inside a locked box on the home/starting signals for the Monkerai – Stroud Road section and is inscribed "Stroud Road – 09-12M".

NOTE: There are no half pilot staffs for the Stroud Road – Craven section.

Date Reviewed: 2 Feb 2024





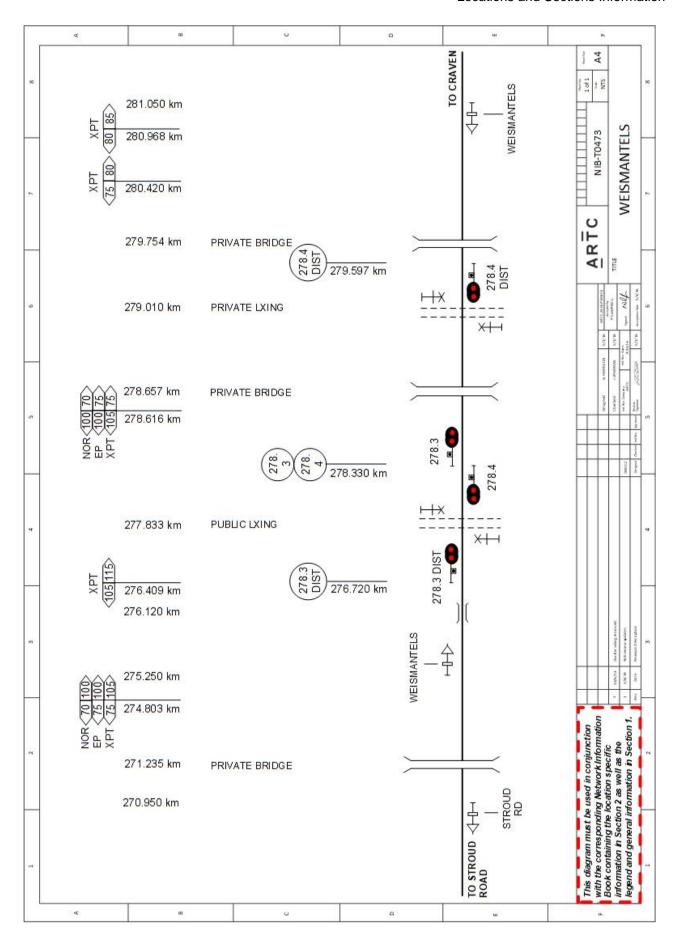




# 2.9 Weismantels

Weismantels is an auto signalled location with no facilities available for crossing trains.







# 2.10 Craven (CVN)

# **General Arrangements**

South Craven loop length 958m

Goods siding 229m

North Craven loop length 1568m

When trains are required to work to and from Craven and Stratford siding, they will operate under Yard working conditions.

Craven interlocking also controls the entry and exit of trains to and from the Stratford siding. Refer safety interface agreement IA1718 for further details.

## **Emergency Operation of Points**

EOLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

The EOL for 56 points is located adjacent to the points on the side of the signal cupboard named CN13.

The ESMLs for 54 points is located adjacent to the points on the side of the signal cupboard named CN11C.

#### **Ground Frame**

Frame B located on the Up side of the Loop line adjacent to the crossovers and provides access to the Goods siding.

The frame is unlocked by a key from releasing switch B, which is electrically released by No. 81 release at NCCS.

Emergency release for releasing switch B is located in the Traffic Hut.

## **Tereel Road Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Tereel Road level crossing 283.080km. The level crossing is activated by conventional track circuits. The strike points are located at 282.359km in the Down direction and 283.729km in the Up direction and are indicated with crossing approach warning boards.

# **Woods Road Level Crossing**

Type F flashing lights, bells and boom gates are provided at Woods Road level crossing 290.724km. The strike points are located as follows and are indicated with crossing approach warning boards:

Down Main 290.031km

Down Loop (South Craven) 290.496km

Up Main 291.850km

Up Loop (North Craven) 291.593km

Stratford Branch 291.849km

Signals 11-11M, 11-11L and 11-4 are interlocked with the level crossing boom gates.



When these signals are cleared in advance for the through passage of a train then the level crossing protection will operate when the train passes the relevant level crossing approach sign.

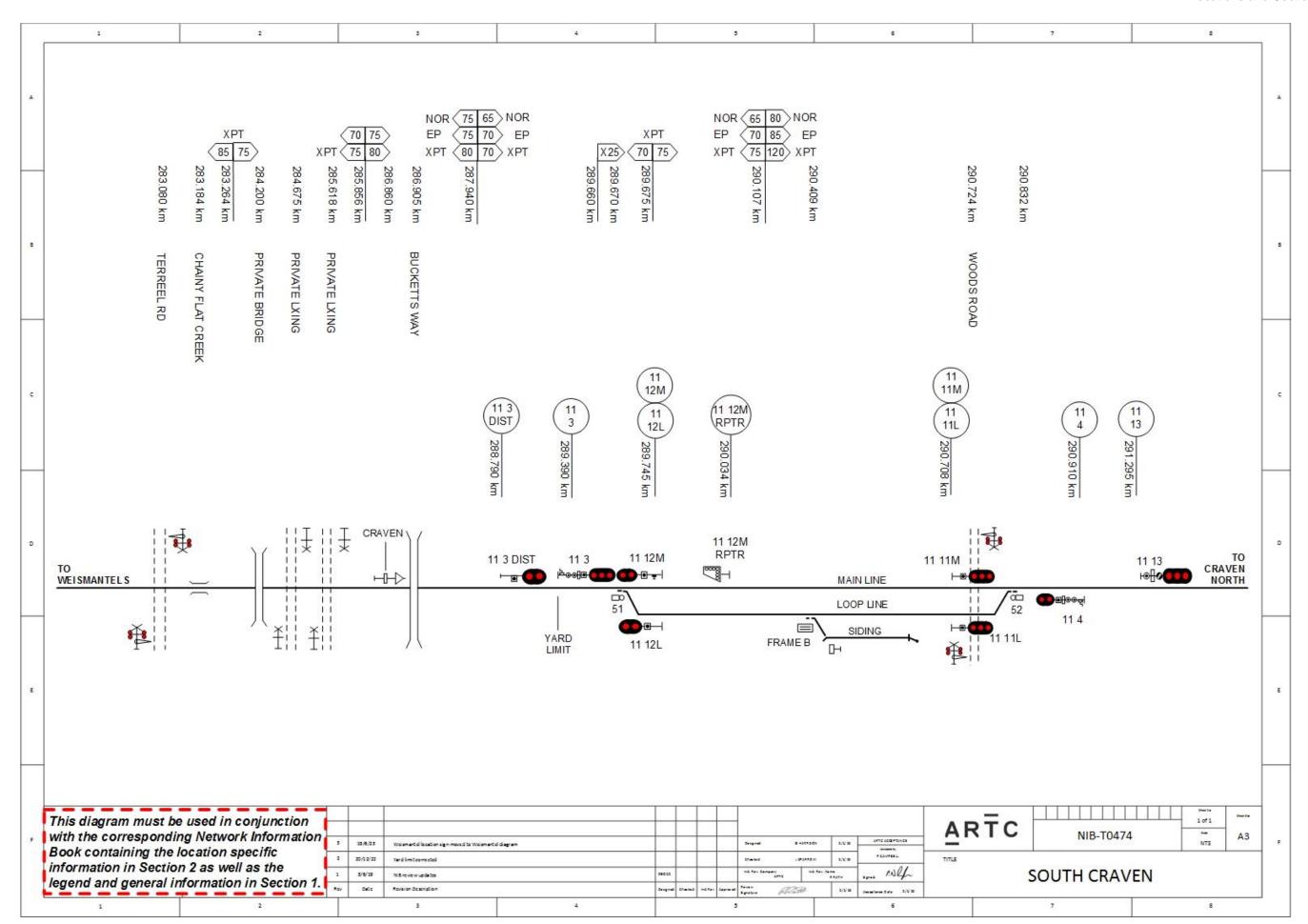
When these signals are at stop, the level crossing equipment will not operate on the approach of a train until the signal route is set. Upon setting the signal route, the level crossing will be activated and when the boom gates are horizontal the relevant signal will clear.

Should it be necessary, due to failure, for 11M or 11L down starting signal to be passed at stop, then the level crossing protection must be activated using the Manual Operation Switch located on the outside of the level crossing equipment hut prior to movement over the level crossing.

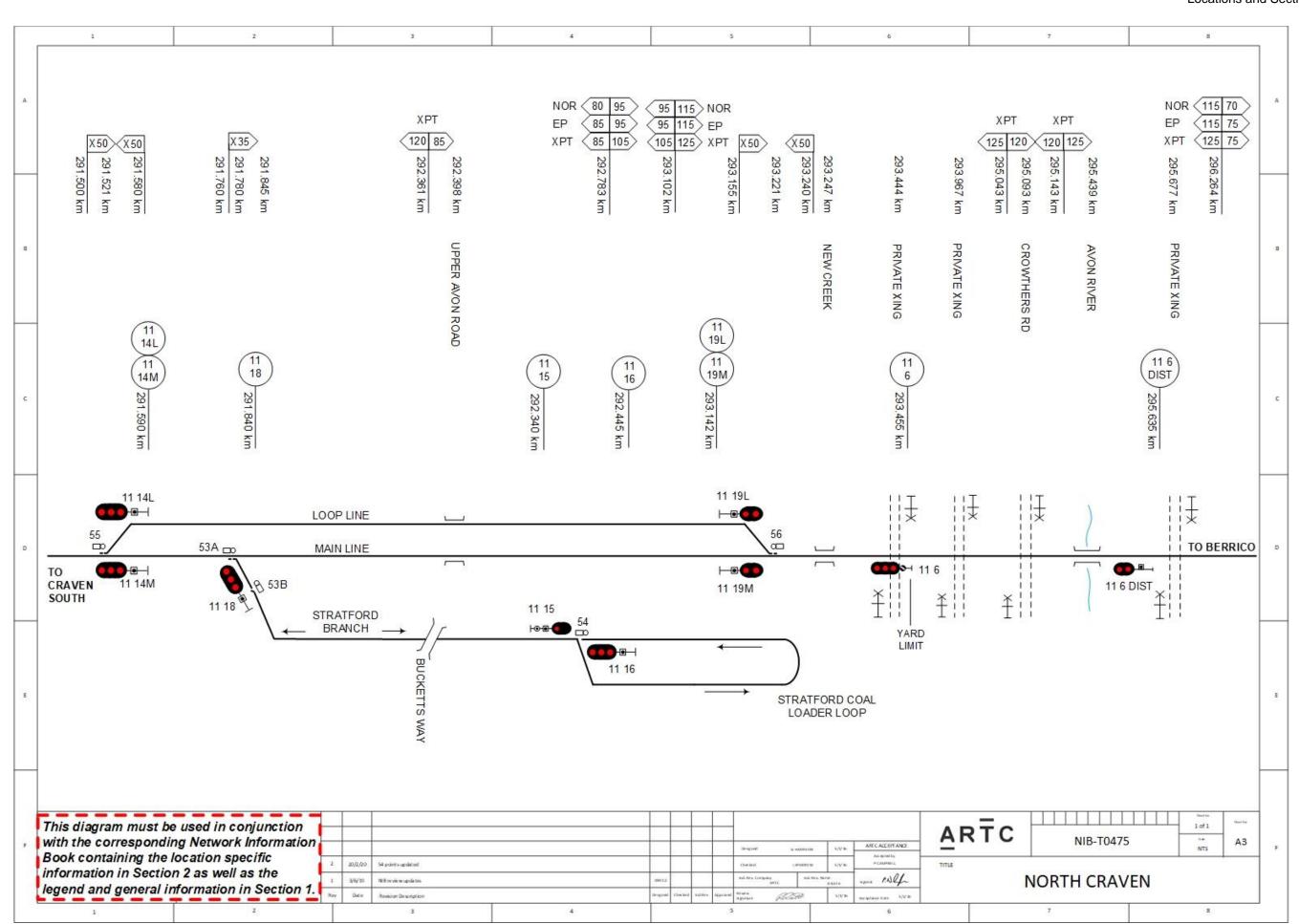
NOTE: There are no half pilot staffs for the Stroud Road – Craven – Berrico sections.

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# ARTO



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# 2.11 Berrico (BCO)

# **General Arrangements**

Berrico is a signalled location with no facilities available for crossing trains.

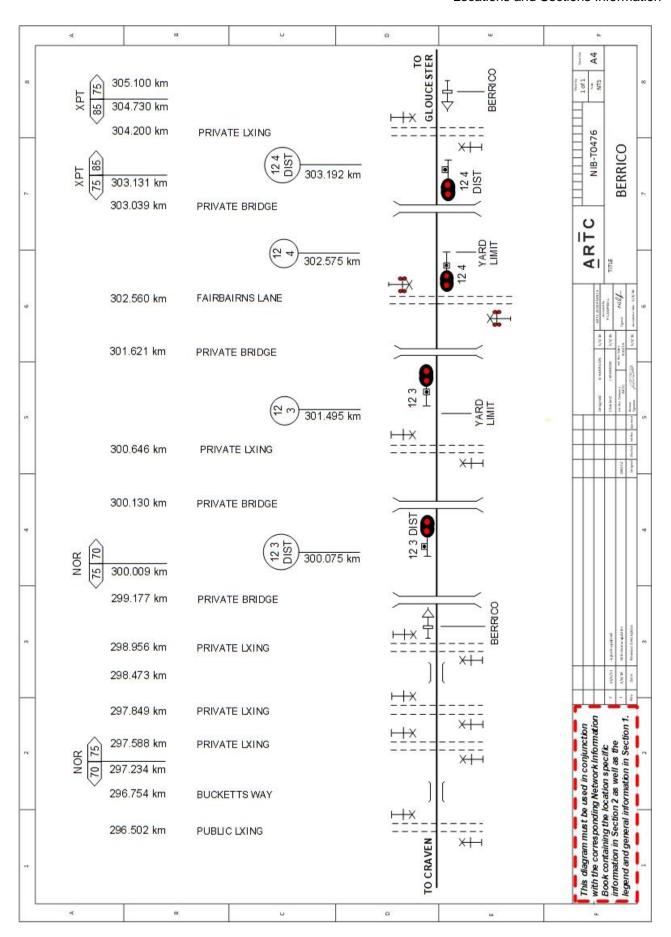
# **Fairbairns Lane Level Crossing**

Type F flashing lights and bells are provided at Fairbairns Lane level crossing 302.560km. The level crossing is activated by conventional track circuits for Down and Up trains. The strike points are located at 302.043km in the Down direction and 303.098km in the Up direction and are indicated with trackside level crossing approach warning signs.

## **Half Pilot Staffs**

There are no half pilot staffs at Berrico.







# 2.12 Gloucester (GCR)

# **General Arrangements**

Loop length 595m

Siding length 299m

55km/hr advisory speed sign at 307.055km for Down direction freight trains exceeding 1150m.

## **Emergency Operation of Points**

EOLs for 51 and 52 Points are located in the Traffic Huts at the Sydney and Country ends of the Loop Line.

## **Ground Frame**

Frame E is located on the Down side of the Loop line and provides access to the Goods siding.

Frame E is unlocked by a key from releasing switch E, which is electrically released by No. 82 release at NCCS.

Emergency release for releasing switch E is located in the Traffic Hut.

## **Jacks Road Level Crossing**

Type F flashing lights, audible warning devices and half booms are provided at Jacks Road level crossing at 305.405km. The level crossing is controlled by Grade Crossing Predictor (GCP) and is designed for a set warning period. Train Operators must not accelerate the rail traffic speed from the trackside sign indicating predictor circuitry on approach to the level crossing.

The level crossing trackside approach warning signs are located at 304.641km in the Down direction and 306.351km in the Up direction. These signs are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## **Philips Street Level Crossing**

Type F flashing lights, bells and boom gates are provided at Philips Street level crossing 308.198km. The level crossing is activated by conventional track circuits for Down directional rail traffic and subject to the clearance of signals for the Up direction. The strike points are located at 307.055km in the Down direction and 308.932km in the Up direction and are indicated with crossing approach warning boards.

If rail traffic approaches the Up Starting signal 13-14 at stop, the level crossing warning equipment will not operate until the signal is cleared.

If rail traffic approaches the Down Home signal 13-1 at stop, the level crossing will continue to operate with the approach of the rail traffic.

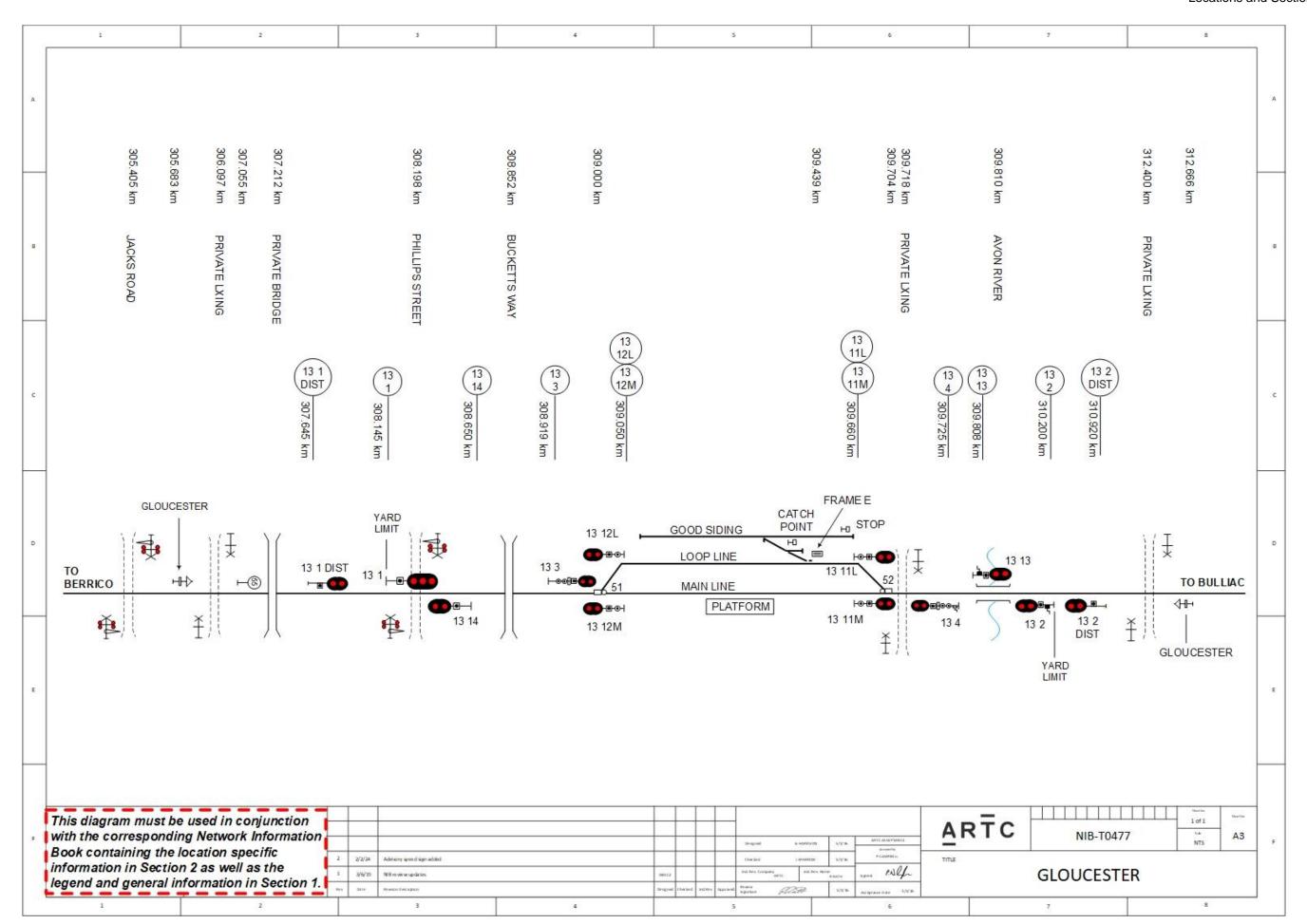
## **Half Pilot Staffs**

A half pilot staff is provided in the pilot staff lock inside a locked box in the traffic hut at the Northern end of the loop for the Gloucester – Bulliac section.

The half pilot staff for the section Gloucester – Bulliac is inscribed "Gloucester 13-13".

NOTE: There is no half pilot staff for Berrico – Gloucester section following the removal of Berrico as a location.

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# 2.13 Bulliac (BLC)

# **General Arrangements**

Loop length 1635m

Siding length 265m

# **Emergency Operation of Points**

The ESML is located in the Traffic Hut on the Sydney end of the Loop for 51 points.

The EOL is located in the Traffic Hut on the Country end of the Loop for 52 points

#### **Ground Frame**

Frame C is located on the Down side of the Loop line adjacent to the crossovers and provides access to the Goods siding.

Frame C is unlocked by a key from releasing switch C, which is electrically released by No. 82 release at NCCS.

Emergency release for releasing switch C is located in the Traffic Hut.

## **Bundook Road Level Crossing**

Type F flashing lights and bells are provided at Bundook Road level crossing 321.220km. The level crossing is activated by conventional track circuits. The strike points are located at 320.569km in the Down direction and 321.870km in the Up direction and are indicated with crossing approach warning boards.

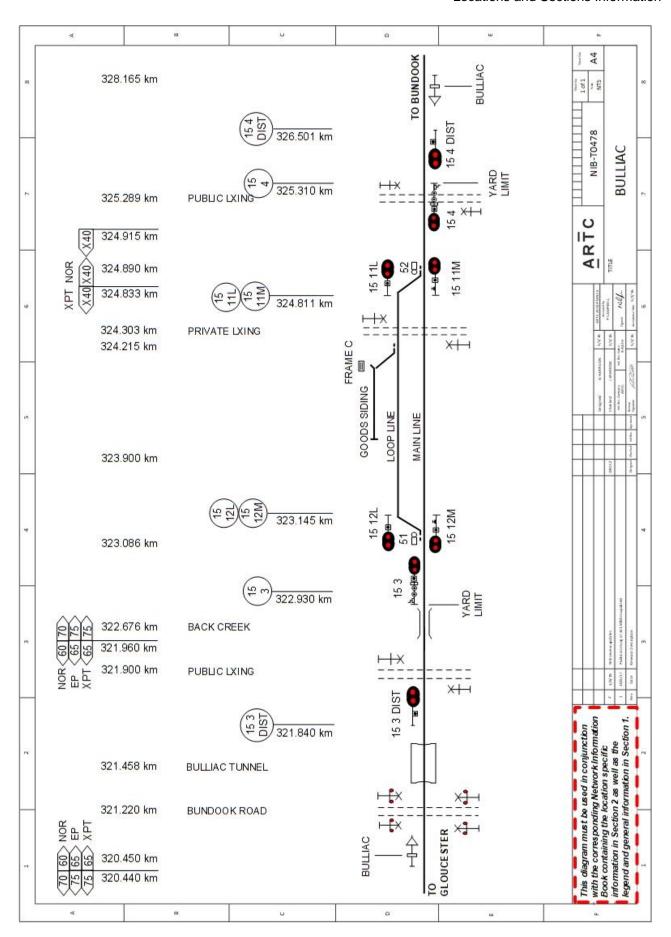
## **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Gloucester – Bulliac and Bulliac – Bundook sections.

The half pilot staff for the section Gloucester - Bulliac is inscribed "Bulliac 15-12M".

The half pilot staff for the section Bulliac – Bundook is inscribed "Bulliac 15-11M".







# 2.14 Bundook (BDK)

## **General Arrangements**

Loop length 426m

# **Emergency Operation of Points**

ESMLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

The catchpoints for 52 points need to be operated in conjunction with the Main line points.

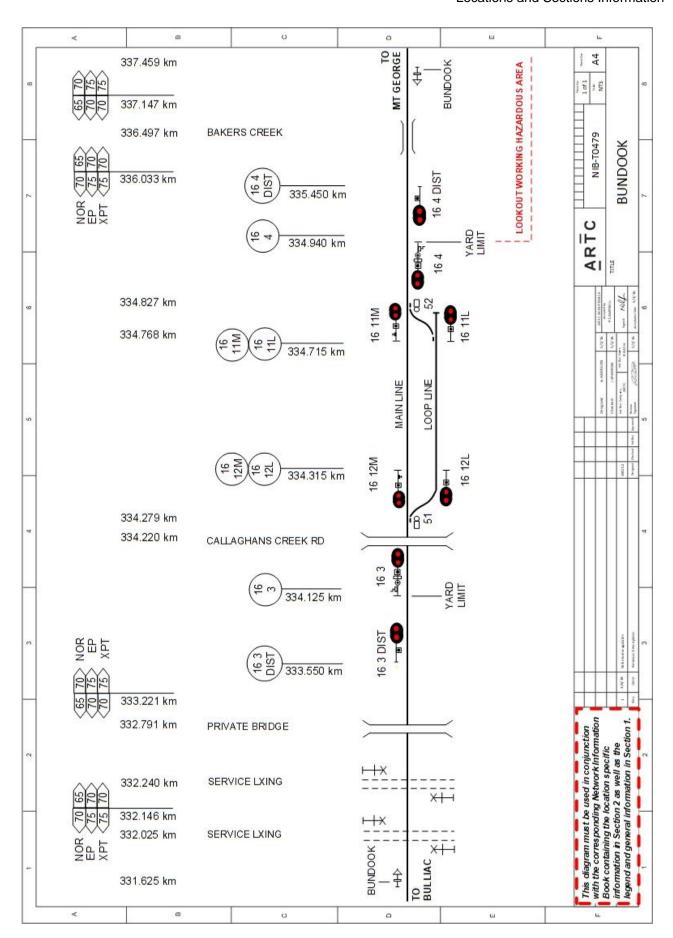
## **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Bulliac – Bundook and Bundook – Mt George sections.

The half pilot staff for the section Bulliac – Bundook is inscribed "Bundook 16-12M".

The half pilot staff for the section Bundook – Mt George is inscribed "Bundook 16-11M".







# 2.15 Mount George (MGG)

## **General Arrangements**

Loop length 804m

Goods siding 274m

# **Emergency Operation of Points**

The ESML is located in the Traffic Hut on the Sydney end of the loop for 51 points.

The EOL is located in the Traffic Hut on the Country end of the loop for 52 points.

## **Ground Frame**

Frame C is located on the Down side of the loop line adjacent to the crossovers and provides access to the Goods siding.

Frame C is unlocked by a key from releasing switch C, which is electrically released by No. 82 release at NCCS.

Emergency release for releasing switch C is located in the Traffic Hut.

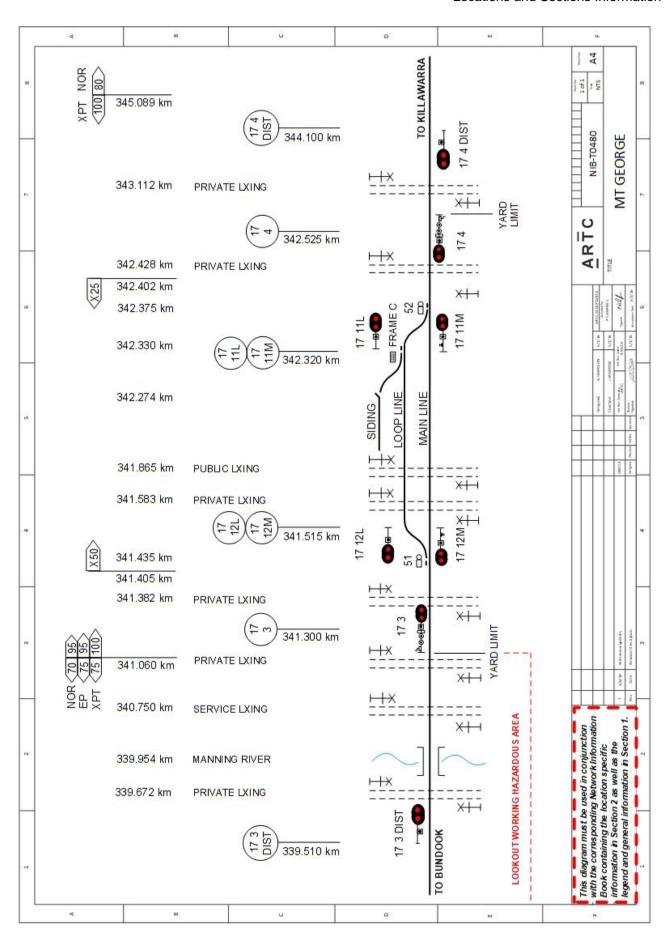
## **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Bundook – Mount George and Mount George – Killawarra sections.

The half pilot staff for the section Bundook – Mount George is inscribed "Mount George 17-12M".

The half pilot staff for the section Mount George – Killawarra is inscribed "Mount George 17-11M".







# 2.16 Killawarra (KLW)

# **General Arrangements**

Loop length 1549m

## **Emergency Operation of Points**

The ESML is located in the Traffic Hut adjacent to 52 points.

The EOL is located in the KA5 cupboard adjacent to 51 points.

# **Dolly's Flat Level Crossing**

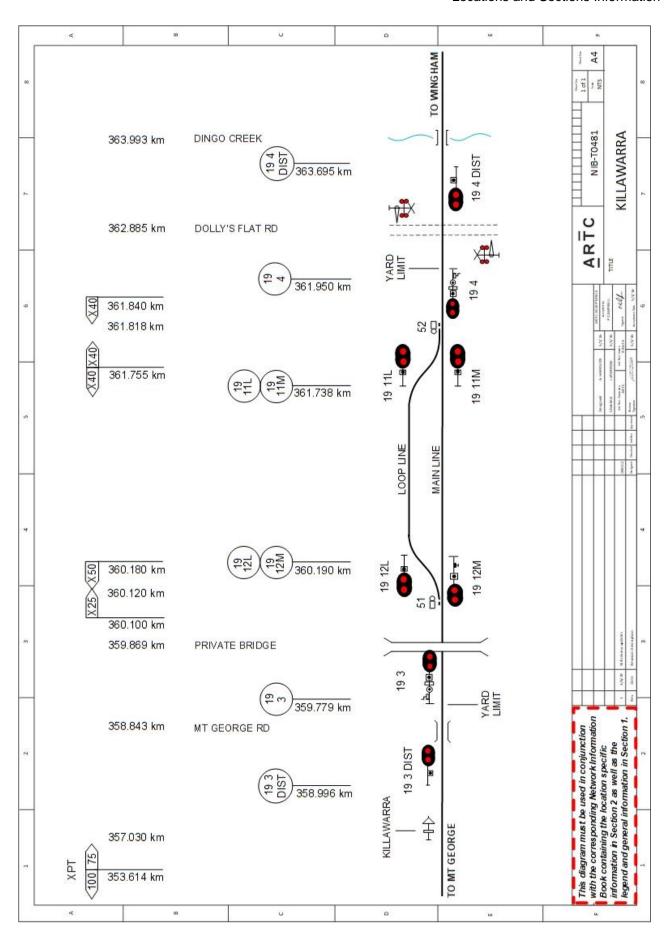
Type F flashing lights, bells and boom gates are provided at Dolly's Flat level crossing 362.885km. The level crossing is controlled by Grade Crossing Predictor (GCP) and is designed for a set warning period. Train operators must not accelerate train speed from the trackside sign indicating predictor circuitry on approach to the crossing. The crossing approach warning boards are located at 362.080km in the Down direction and 363.690km in the Up direction. These boards are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## **Half Pilot Staffs**

The half pilot staff for the section Killawarra – Mt George is inscribed "Killawarra – 19-12M" and is located on signal 19-12M.

NOTE: There is no half pilot staff for Killawarra – Wingham due to the removal of Wingham as a location.







# 2.17 Wingham (WGM)

Wingham is an auto signalled location with no facilities available for crossing trains.

## **Intermediate Signal Operation**

The aspect controls for the automatic signal will depend on which direction the Killawarra – Taree block controls are set.

Block Direction	Intermediate Signal Aspect
Down Direction from Killawarra Set	369 Distant aspect - Green
	369 Auto Signal aspect - Green *
	370 Distant aspect - Yellow
	370 Auto Signal aspect - Red
Up Direction from Taree Set	370 Distant aspect - Green
	370 Auto Signal aspect - Green**
	369 Distant aspect - Yellow
	369 Auto Signal aspect - Red

<sup>\*</sup> Will be Red if track section between 369 and Taree is occupied by rail traffic travelling in the Down direction in which case 369 Distant will display yellow aspect.

# **Primrose Street Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Primrose Street level crossing at 367.691km. Primrose Street level crossing also has pedestrian warning lights and audible devices. The level crossing is controlled by Grade Crossing Predictor (GCP) and is designed for a set warning period. Train operators must not accelerate train speed from the trackside sign indicating predictor circuitry on approach to the crossing.

The crossing approach warning boards are located at 366.837km in the Down direction and 368.545km in the Up direction. These boards are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## Wingham Road Level Crossing

Type F flashing lights, bells and half boom gates are provided at Wingham Road level crossing at 368.048km. The level crossing is activated by conventional track circuits. The strike points are located at 367.396km in the Down direction and 369.700km in the Up direction and are indicated with crossing approach warning boards.

## **Kolodong Road Level Crossing**

Type F flashing lights and bells are provided at Kolodong level crossing at 374.480km. The level crossing is controlled by Grade Crossing Predictor (GCP) and is designed for a set warning period. Train operators must not accelerate train speed from the trackside sign indicating predictor circuitry on approach to the crossing.

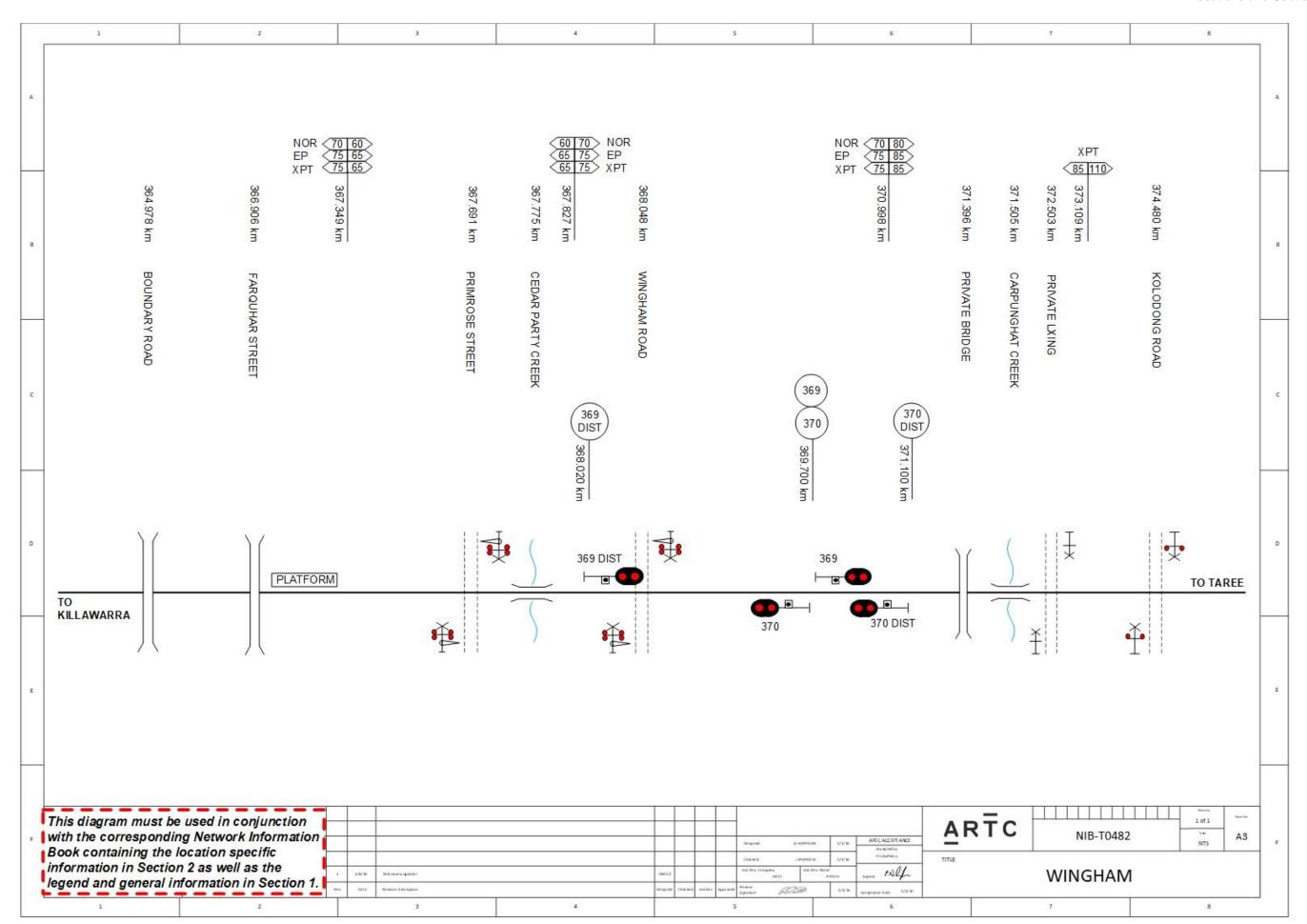
The crossing approach warning boards are located at 373.175km in the Down direction and 375.745km in the Up direction. These boards are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## **Half Pilot Staffs**

There are no half pilot staffs at Wingham.

<sup>\*\*</sup> Will be Red if track section between 370 and Killawarra is occupied by rail traffic travelling in the Up direction in which case 370 Distant will display yellow aspect.

# ARTC





# 2.18 Taree (TRE)

# **General Arrangements**

Loop length 1500m

Siding No 4 - 394m (can hold 435m however Siding No 5 will be blocked)

Siding No 5 - 235m

Shunt Neck 210m

## **Emergency Operation of Points**

The ESML for 51 points is located in the Traffic Hut on the Sydney end of the loop, adjacent to Muldoon Street level crossing.

The ESML for 52 points is located in the Traffic Hut adjacent to 54 points.

The ESML for 54 points is located in the Traffic Hut adjacent to No. 52 points.

## **Ground Frame**

Frame E is located on the Down side of the shunting neck adjacent to the crossovers and provides access to the Up sidings.

Nos. 1 and 4 levers in frame E are unlocked by keys from releasing switch E, which is electrically released by Nos. 80 and 81 releases at NCCS.

The emergency release for releasing switch E is located adjacent to the frame.

#### **Muldoon Street Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Muldoon Street level crossing at 377.378km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 376.631km in the Down direction and 378.210km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Down home signal No. 21/3 or Up 2nd home/starting signal No. 21/12 at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal No. 21/3 or No. 21/12 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

## **Macquarie Street Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Macquarie Street level crossing at 378.923km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 378.210km in the Down direction and 379.510km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Down 2nd home signal No. 21/11 or Up home signal No. 21/4 at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.



If it becomes necessary to hold a train at signal No. 21/11 or No. 21/4 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

## **Bushland Drive Level Crossing**

Type F flashing lights and bells are provided at Bushland Drive level crossing at 380.791km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 380.192km in the Down direction and 381.510km in the Up direction and are indicated with crossing approach warning boards.

If a train closely approaches Down starting signal No. 21/13 or Up outer home signal No. 21/2 at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal No. 21/13 or No. 21/2 after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

Special arrangements if there is a failure of the signals protecting Muldoon Street, Macquarie Street & Bushland Drive level crossings

If either Down home signals No. 21/3 21/11, Down starting signal No. 21/13, Up 2nd home/starting signal No. 21/12, Up home signal No. 21/4 or Up outer home signal No. 21/2. fails, the Network Controller must not authorise a train to pass these signals at stop until:

- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

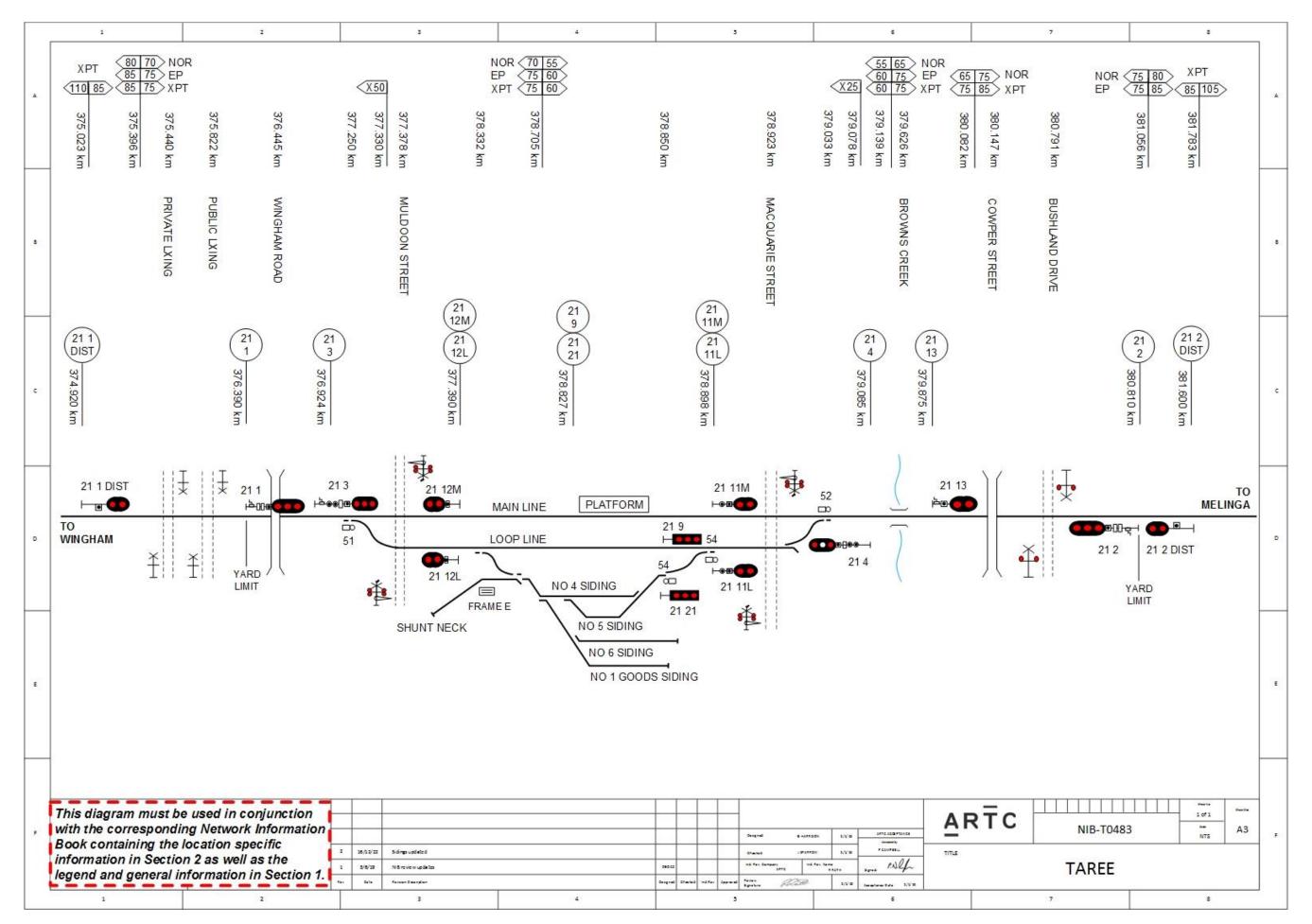
If either Down starting signal No. 21/13 or Up 2nd home/starting signal No. 21/12 fails, the Network Rules and Procedures for Special Working must be carried out.

#### **Half Pilot Staffs**

The half pilot staff for the section Taree – Melinga is inscribed "Taree 21-13" and is located inside a locked box in the traffic hut near signal 21-11M.

NOTE: There is no half pilot staff for Taree – Wingham due to the removal of Wingham as a location.







# 2.19 Kundle Kundle (TLR)

## **General Arrangements**

The Kundle Kundle siding is a privately operated siding which is currently booked out of use.

#### **Ground Frame**

Frame B is located on the Down side of the main line adjacent to the crossover and provides access to the privately operated siding.

Frame B is unlocked by a key from releasing switch B, which is electrically released by No. 81 release at NCCS.

# Method of working

Portion of train left on main line

When a portion of the train is left on the main line, the releasing switch must be kept in the reverse position during the whole of the time shunting is in progress.

NOTE: The releasing switch must not be restored to the normal position. If it is, the release will become electrically locked thus preventing any further shunting movements. When the shunting portion of the divided train is leaving the siding for re-attachment to the portion of the train on the main line, it will not be possible for the siding starting signal No. 22B to be cleared for the movement.

The signal must be passed at stop in accordance with the Network Rules and Procedures for Special Working.

Complete train placed in siding

When the complete train has been placed into the siding, the points, together with releasing switch B, must be restored to the normal position for the main line running.

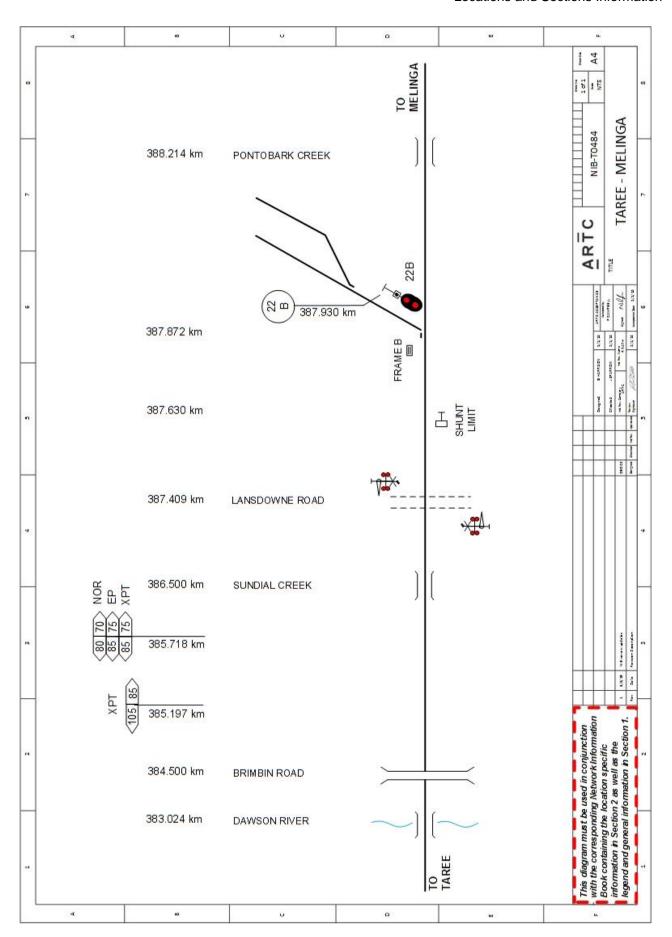
After all shunting in the siding has been completed and the train is ready to depart, a request must be made for the release from the Network Controller at the NCCS, who must ensure that the Taree – Melinga section is clear before giving the release for the train to depart the siding.

After taking the release and setting the siding points, the Competent Worker must proceed to the box located at releasing switch B and depress the button. This will cause No. 22B signal to show a proceed indication. When the shunt is clear of the points, all levers in frame B together with releasing switch B, must be restored to the normal position.

## Lansdowne Road Level Crossing

Type F flashing lights, bells and half boom gates are provided at Lansdowne Road level crossing 387.410km. The level crossing is activated by conventional track circuits. The strike points are located at 386.918km in the Down direction and 387.859km in the Up direction and are indicated with crossing approach warning boards.







# 2.20 Melinga (MLG)

# **General Arrangements**

Loop length 1410m.

## **Emergency Operation of Points**

ESMLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

## Lansdowne Road (Melinga) Level Crossing

Type F flashing light highway signals and a warning bell are in use at Lansdowne Road (Melinga) level crossing 393.585km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 392.647km in the Down direction and 394.288km in the Up direction and are indicated with crossing approach warning boards.

If a train is closely approaching the protecting signals at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at the protecting signal after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

Special arrangements if there is a failure of the signals protecting Landsowne Road (Melinga) level crossing

If either Up home signal No. 22-4 or Down home/starting signal No. 22-11L or No. 22-11M fails, the Network Controller at NCCS must not authorise a train to pass these signals at stop until:

- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

If either Down starting signal No. 22-11L or No. 22-11M fails, the Network Rules and Procedures for Special Working must be carried out.

# **Lansdowne Road Level Crossing**

Type F flashing lights and bells are provided at Lansdowne Road level crossing 394 .973km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the signals on either side of the crossing. The strike points are located at 394.288km in the Down direction and 395.647km in the Up direction and are indicated with crossing approach warning boards.

If a train is closely approaching the protecting signals at stop, the setting of the applicable signal route will cause the level crossing warning equipment to operate but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at the protecting signal after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.



## **Half Pilot Staffs**

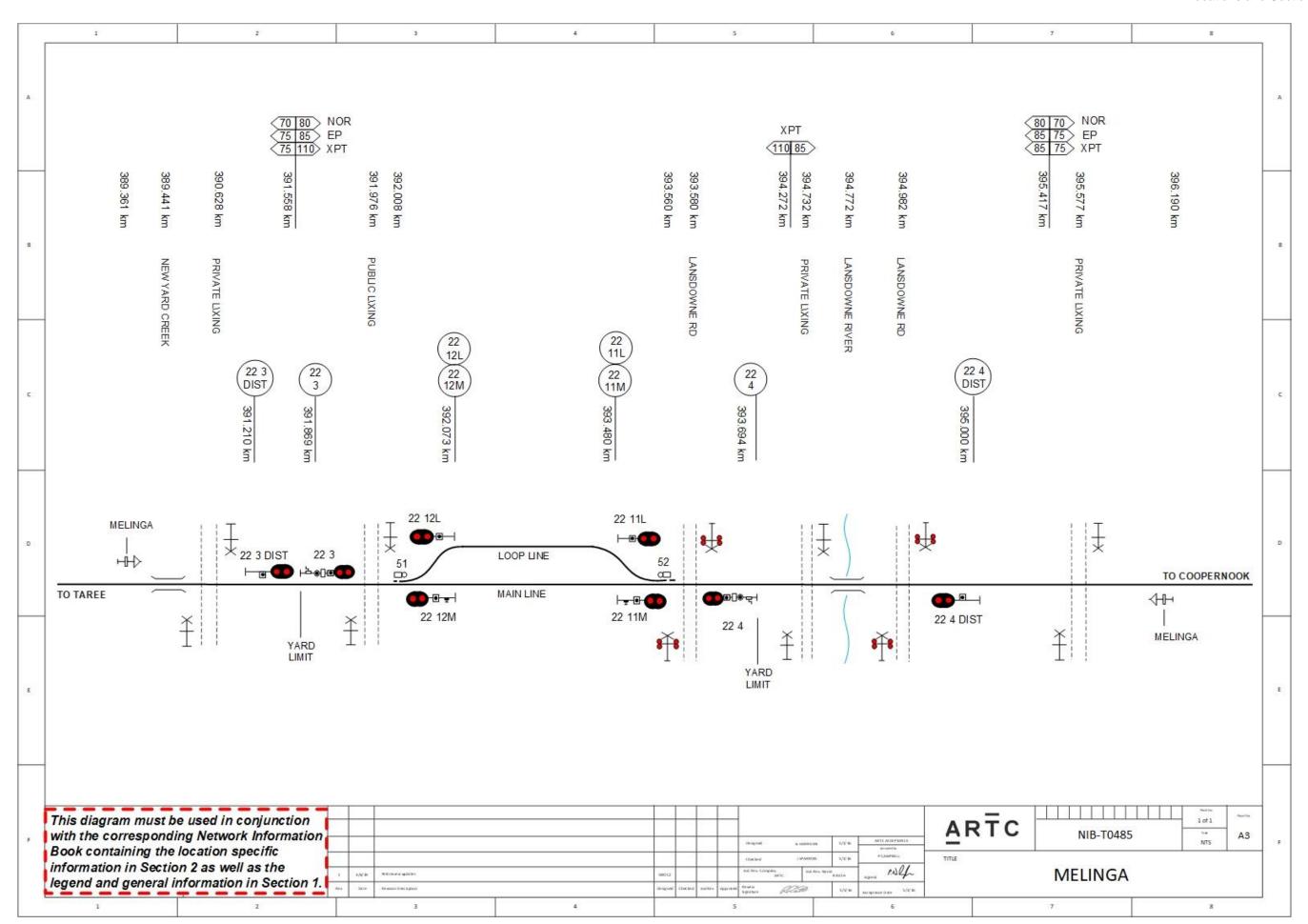
Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Taree – Melinga and Melinga – Coopernook sections.

The half pilot staff for the section Taree - Melinga is inscribed "Melinga 22-12M".

The half pilot staff for the section Melinga – Coopernook is inscribed "Melinga 22-11M"

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# ARTO





# 2.21 Coopernook (CPM)

## **General Arrangements**

Coopernook is a signalled location with no facilities available for crossing trains.

## Lansdowne Road (Coopernook) Level Crossing

Type F flashing lights and bells are provided at Lansdowne Road (Coopernook) level crossing 402.919km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the protecting signal. The strike points are located at 402.247km in the Down direction and 403.405km in the Up direction and are indicated with crossing approach warning boards.

If a train is closely approaching the Down home signal at stop, the setting of the signal route by the Signaller will cause the level crossing warning equipment to operate, but clearing of the signal will be delayed for 15 seconds.

If it is necessary to hold a train at either the Up starting signal or the Down home signal after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of two minutes after the signal is returned to stop, and will then cancel automatically.

Special arrangements if there is a failure of the signals protecting Lansdowne Road (Coopernook) level crossing

If either Down home signal No. 23-3 or Up starting signal No. 23-12 fails, the Network Controller at NCCS must not authorise a train to pass these signals at stop until:

- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

If Up starting signal No. 23-12 fails, the Network Rules and Procedures for Special Working must be carried out.

## **Coralville Road Level Crossing**

Type F flashing lights and audible warning devices are provided at Coralville Road level crossing located at 410.121km. The level crossing is controlled by a Grade Crossing Predictor (GCP) and is designed for a set warning period. Rail Traffic Crews must not accelerate the rail traffic speed from the trackside sign indicating the predictor circuitry on approach to the level crossing. The level crossing approach warning signs are located at 411.253km in the Up direction and 408.989km in the Down direction. These signs are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

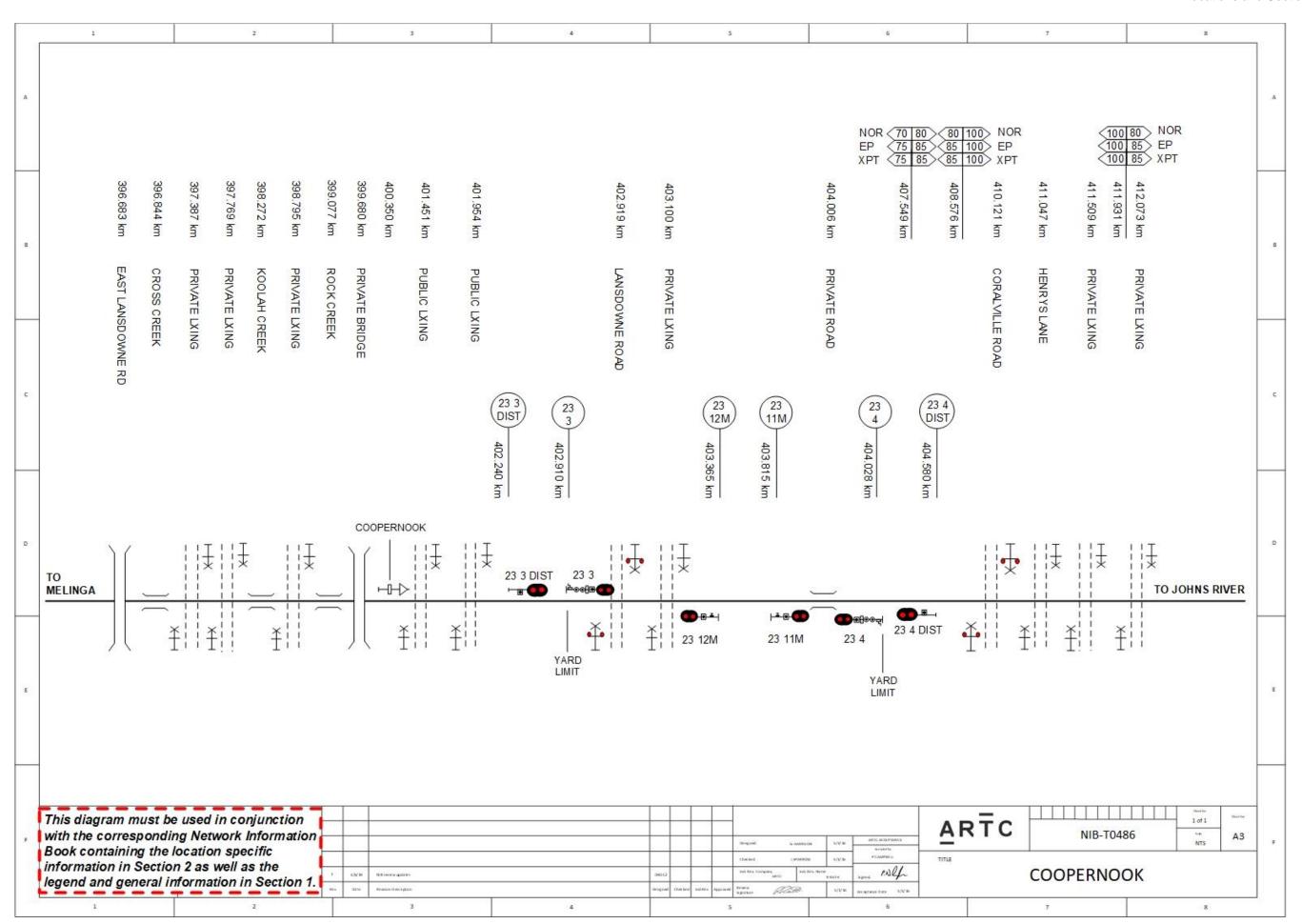
#### **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box near the starting or home/starting signals for the Melinga – Coopernook and Coopernook – Johns River sections.

The half pilot staff for the section the Melinga – Coopernook is inscribed "Coopernook 23-12M".

The half pilot staff for the section Coopernook – Johns River is inscribed "Coopernook 23-11M".







# 2.22 Johns River (JRR)

# **General Arrangements**

Loop length 1765m

NOTE: The loop line deviates away from the main line at Johns River

## **Emergency Operation of Points**

The ESML for 51 points is located in the Traffic Hut at the Sydney end of the Loop.

The EOL for 52 points is located on the side of JR7 location cupboard at the Country end of the Loop.

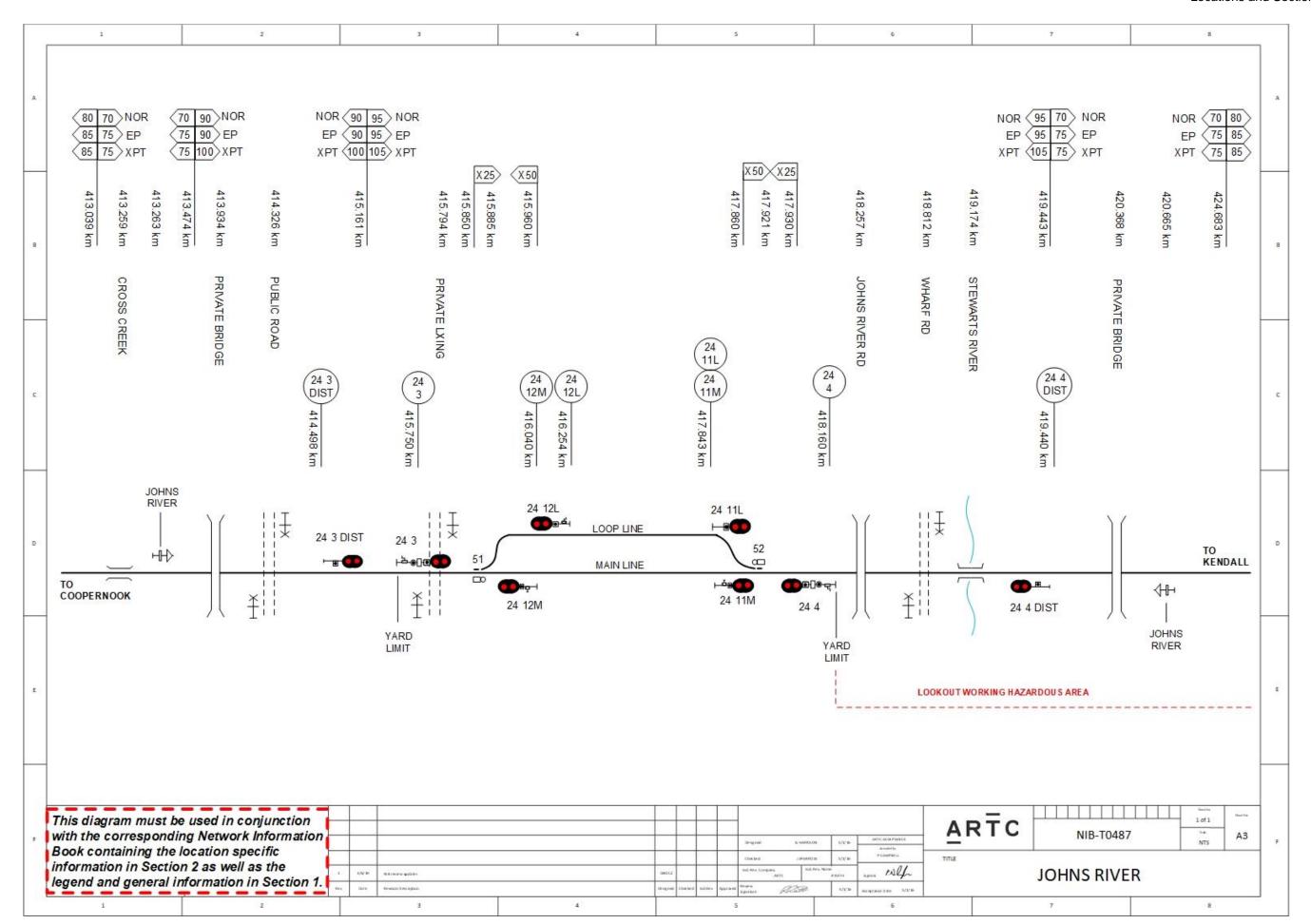
## **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Coopernook – Johns River and Johns River – Kendall sections.

The half pilot staff for the section the Coopernook – Johns River is inscribed "Johns River 24-12M".

The half pilot staff for the section Johns River - Kendall is inscribed "Johns River 24-11M".

# ARTC





# 2.23 Kendall (KDL)

# **General Arrangements**

Loop length 389m

Goods Siding 215m

Signallers must ensure that signal No. 25-11M is not cleared until passenger trains are ready to depart the platform.

## **Emergency Operation of Points**

ESMLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

## **Ground Frame**

Frame B located on the Down side of the Loop line adjacent to the crossovers and provides access to the Goods sidings.

Frame B is unlocked by a key from releasing switch B, which is electrically released by No. 81 lever at NCCS.

# **Ross Glen Road Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Ross Glen level crossing at 428.407km. The level crossing is controlled by a Grade Crossing Predictor (GCP) and is designed for a set warning period. Train operators must not accelerate train speed from the trackside sign indicating predictor circuitry on approach to the crossing. The crossing approach warning boards are located at 427.567km in the Down direction and 429.247km in the Up direction. These boards are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## **Graham Street Level Crossing**

Type F flashing lights and bells are provided at Graham Street level crossing 433.290km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the protecting signal. The strike points are located at 432.670km in the Down direction and 434.296km in the Up direction and are indicated with crossing approach warning boards.

Working of Down passenger trains

Signallers must ensure that signal No. 25-11M is not cleared until passenger trains are ready to depart the platform.

If a train is closely approaching the Down starting signals or the Up home signal at stop, the setting of the signal route by the Signaller will cause the level crossing warning equipment to operate, but clearing of the signal will be delayed for 15 seconds.

If it is necessary to hold a train at either the Down starting signal or the Up home signal after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.



Special arrangements if there is a failure of the signals protecting Graham Street level crossing If either Up home signal No. 25-4 or Down home/starting signals No. 25-11M or No. 25-11L fails, the Network Controller at NCCS must not authorise a train to pass these signals at stop until:

- either the Network Rules and Procedures for warning trains have been carried out
- or an assurance has been obtained from the Handsignaller(s) at the level crossing that the road traffic is clear of the crossing.

If either Down starting signal No. 25-11M or No. 25-11L fails, the Network Rules and Procedures for Special Working must be carried out.

# Paul Adams Road Level Crossing (Herons Creek Mill)

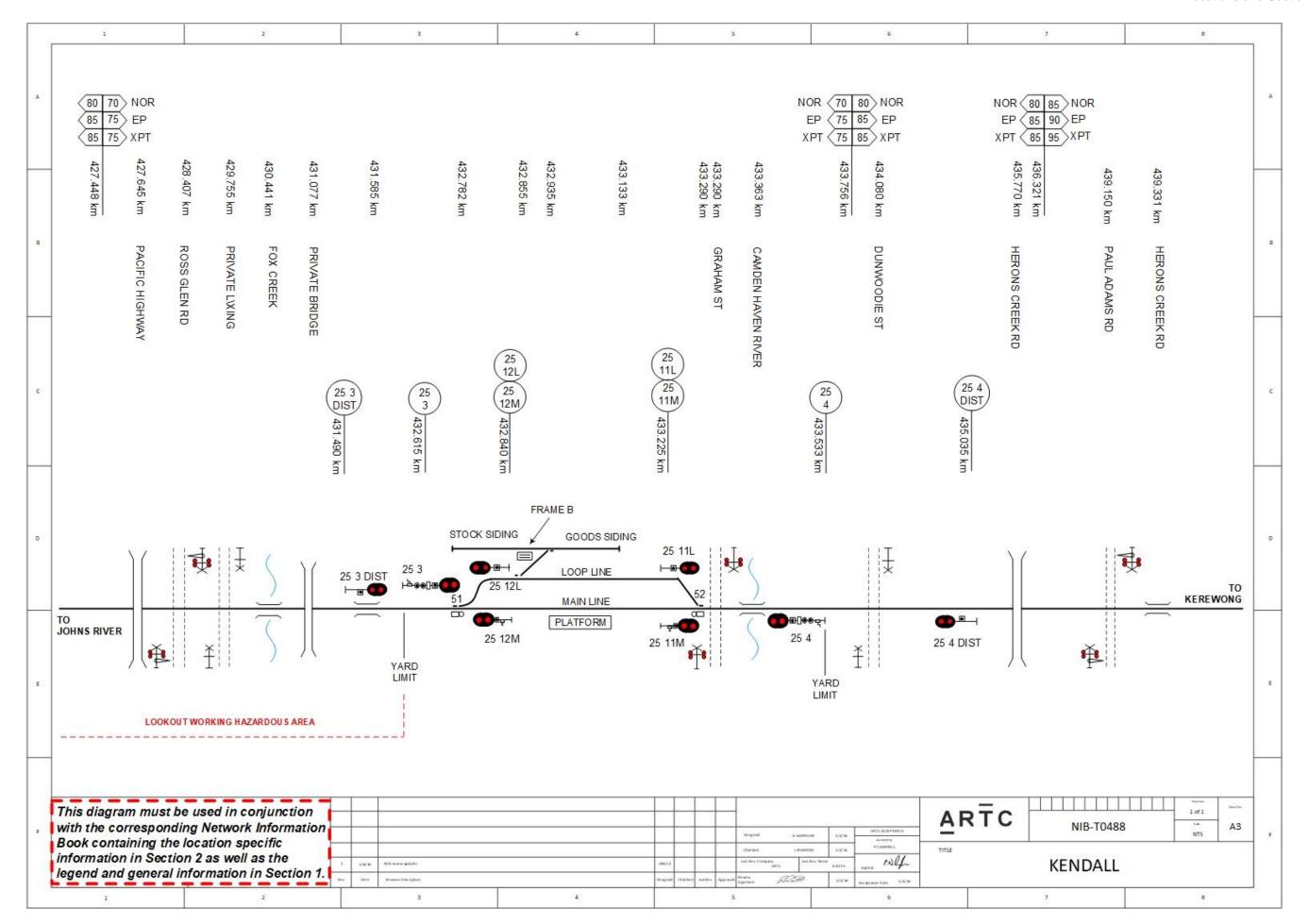
Type F flashing lights, bells and boom gates are provided at Paul Adams Road level crossing 439.150km. The level crossing is activated by conventional track circuits. The strike points are located at 438.315km in the Down direction and 440.484km in the Up direction and are indicated with crossing approach warning boards.

#### **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the starting or home/starting signals for the Johns River – Kendall and Kendall – Kerewong sections.

The half pilot staff for the section the Johns River - Kendall is inscribed "Kendall 25-12M".

The half pilot staff for the section Kendall – Kerewong is inscribed "Kendall 25-11M".







# 2.24 Kerewong (KRI)

# **General Arrangements**

Loop length 1598m

# **Emergency Operation of Points**

The ESML for 51 points is located in the Traffic Hut at the Sydney end of the Loop.

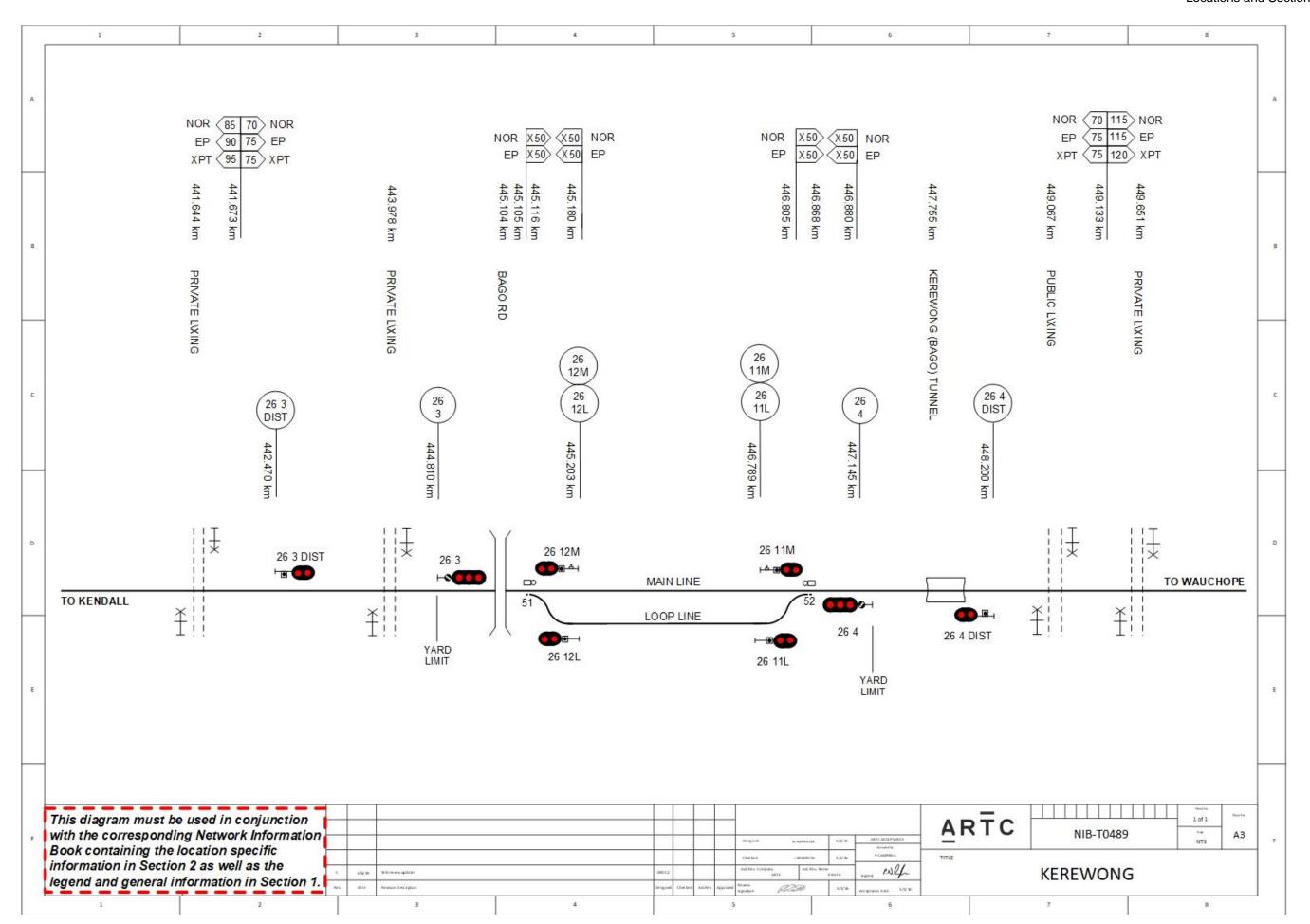
The EOL for 52 points is located in the KG9 cabinet at the Country end of the Loop.

# **Half Pilot Staffs**

The half pilot staff for the Kerewong to Wauchope section is located on signal 26-11M.

The half pilot staff for the Kerewong to Kendall section is located on signal 26-12M.

# ARTC





# 2.25 Wauchope (WUC)

## **General Arrangements**

Loop length 479m

Sidings are leased to a private operator. Refer safety interface agreement IA1819 for further details.

Signallers must ensure that signal No. 27-12M is not cleared until passenger trains are ready to depart the platform.

NOTE: An Intermediate Section exists between Wauchope and Telegraph Point

## **Emergency Operation of Points**

ESMLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

#### **Ground Frames**

Frames E and H are located on the Down side of the Loop line adjacent to the crossovers and provide access to the Transit siding.

Frame E is unlocked by a key from releasing switch E, which is electrically released by No. 81 release at NCCS.

Frame H is unlocked by a key from releasing switch H. which is electrically released by No. 82 release at NCCS.

# Kings Creek Road Level Crossing

Type F flashing lights, bells and half boom gates are provided at Kings Creek Road level crossing 451.370km. The level crossing is controlled by a Grade Crossing Predictor (GCP) and is designed for a set warning period. Train operators must not accelerate train speed from the trackside sign indicating predictor circuitry on approach to the crossing. The crossing approach warning boards are located at 449.970km in the Down direction and 452.770km in the Up direction. These boards are blue edged to indicate an approach to an electronically controlled (predictor) level crossing.

## **Oxley Highway Level Crossing**

Type F flashing lights, bells and half boom gates are provided at Oxley Highway level crossing 454.740km. The level crossing is activated by conventional track circuits for Down and Up trains, subject to the clearance of the protecting signal. The strike points are located at 453.308km in the Down direction and 455.776km in the Up direction and are indicated with crossing approach warning boards.

If a train is closely approaching the Up or the Down home signal at stop, the setting of the signal route by the Signaller will cause the level crossing warning equipment to operate, but clearing of the signal will be delayed for 15 seconds.

If it is necessary to hold a train at either the Up or the Down home signal after the signal has been cleared, the level crossing warning equipment will continue to operate for a period of 120 seconds after the signal is returned to stop, and will then be cancelled automatically.

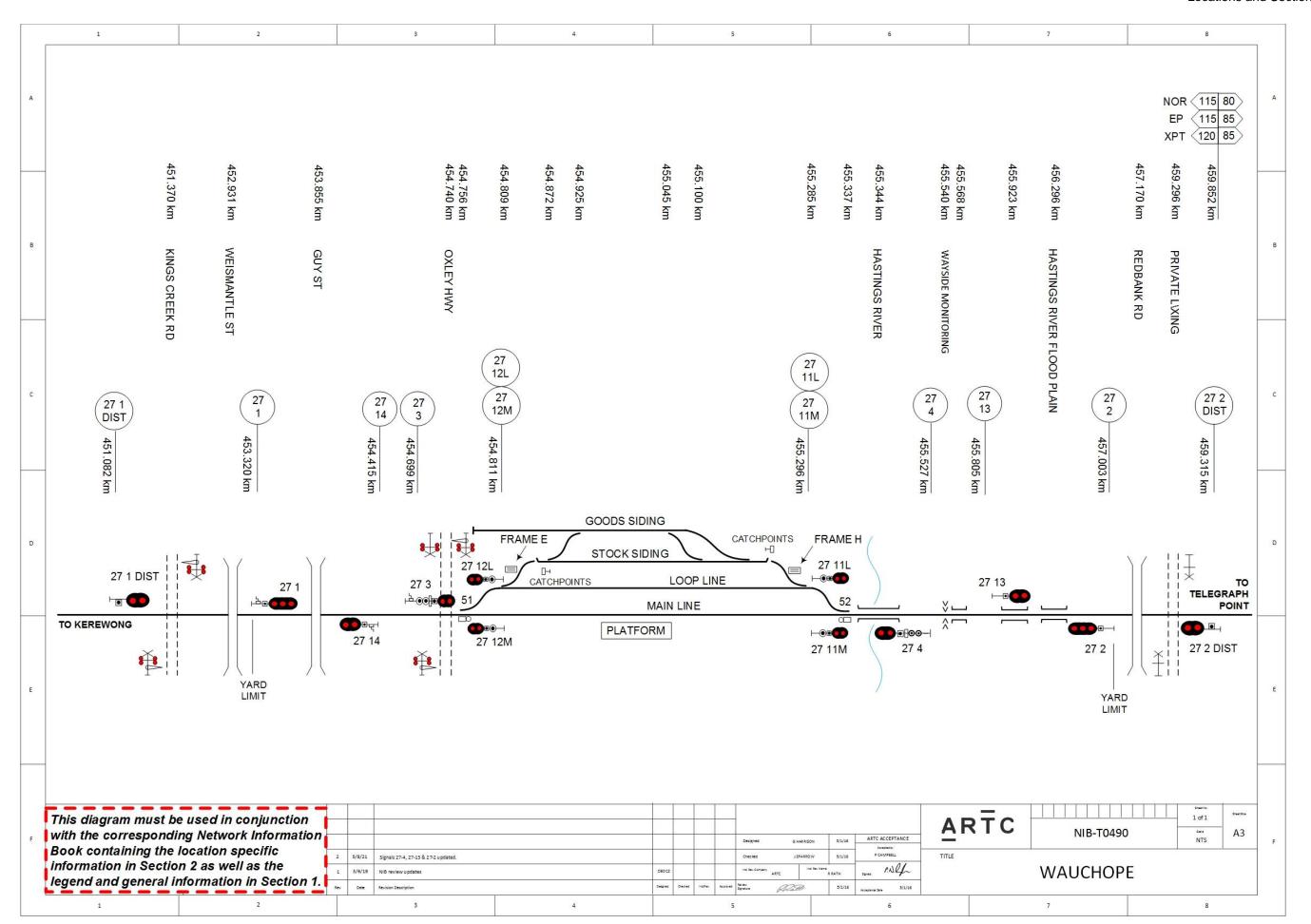


# **Half Pilot Staff**

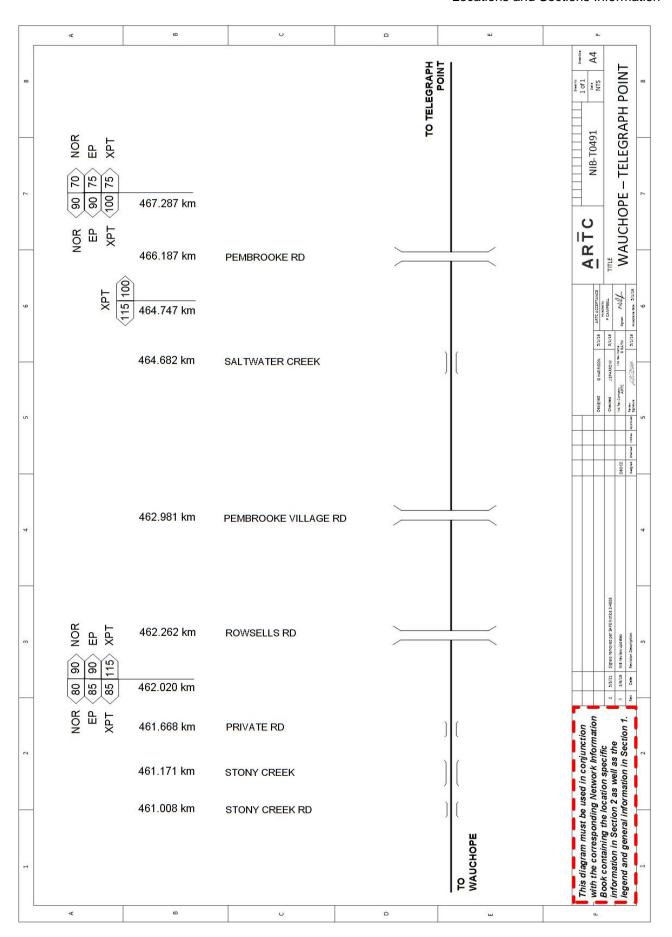
A half pilot staff is provided in the pilot staff lock inside a locked box on the Home/Starting signal 27-11M for the Wauchope – Kerewong section.

The half pilot staff for the section Wauchope - Kerewong is inscribed "Wauchope 27-14".

# ARTC









# 2.26 Telegraph Point (TLP)

## **General Arrangements**

Loop length 1607m

Siding 221m

# **Emergency Operation of Points**

The ESML for 51 points is located in the Traffic Hut at the Sydney end of the Loop.

The EOL for 52 points is located in the Traffic Hut at the Country end of the Loop.

## **Ground Frame**

Frame C is located on the Up side of the main line adjacent to the crossovers and provides access to the Goods siding.

Frame C is unlocked by a key from releasing switch C, which is electrically released by No. 82 release at NCCS.

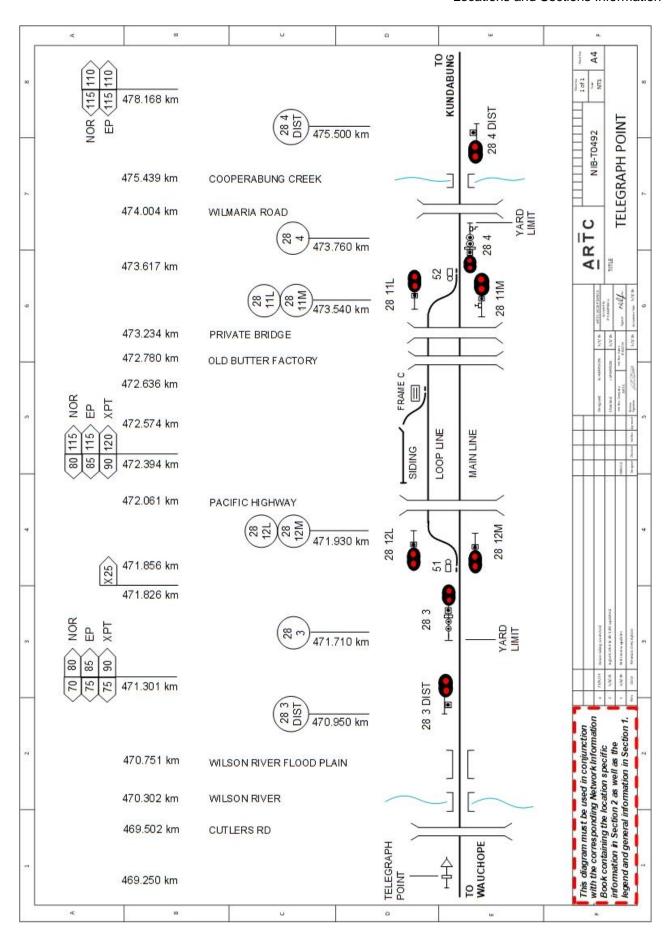
Emergency release for releasing switch C is located adjacent to the points.

## **Half Pilot Staff**

A Half pilot staff is provided in the pilot staff lock inside a locked box on the Home/Starting signal 28 – 11M for the Telegraph Point – Kundabung section.

The half pilot staff for the section Telegraph Point – Kundabung is inscribed "Telegraph Point 28 - 11M".







# 2.27 Kundabung (KUN)

# **General Arrangements**

Loop length 420m

Siding 230m - Currently booked out of use

# **Emergency Operation of Points**

ESMLs for 51 and 52 points are located in the Traffic Huts at the Sydney and Country ends of the Loop line.

## **Goods Siding**

The goods siding is located on the Down side of the loop line and is connected to the loop line at each end. The points are operated from ground frames B and C.

Emergency release keys are provided to release frames B and C in the event of a failure of releasing switch B or C. The keys are located in release locks in the Traffic Hut.

When either of the keys is taken from its release lock, it will place or maintain all signals at Kundabung at stop.

## **Half Pilot Staffs**

Half pilot staffs are provided in the pilot staff locks inside a locked box on the home/starting signals for the Telegraph Point – Kundabung and Kundabung – Kempsey sections.

The half pilot staff for the section Telegraph Point - Kundabung is inscribed Kundabung 29-12M.

The half pilot staff for the section Kundabung - Kempsey is inscribed Kundabung 29-11M.



