

# Broadmeadow – Newcastle Interchange

## Network Control

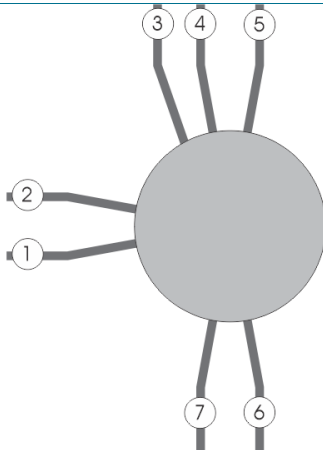
Signallers at Broadmeadow (Newcastle panel)

## Systems of Safeworking

The Main North line between Broadmeadow and Newcastle Interchange is Rail Vehicle Detection (RVD) territory. It includes the sections:

- Woodville Junction – Hamilton Junction.

### Diagram



### Location details

#### Broadmeadow and Woodville Junction

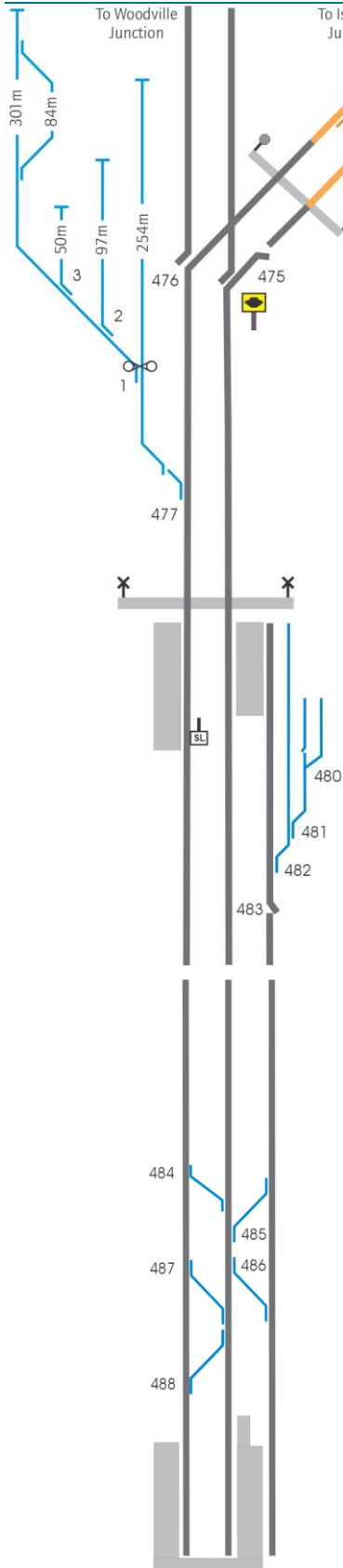
162.842km (NLA 318)



- ① Up Main North line (Gosford-Broadmeadow)
- ② Down Main North line (Gosford-Broadmeadow)
- ③ Down Relief line (to Islington Junction)
- ④ Down Islington Loop line (to Maitland)
- ⑤ Up Islington Loop line (to Maitland)
- ⑥ Down Hamilton Loop line
- ⑦ Up Hamilton Loop line

# Broadmeadow-Newcastle Interchange

**Diagram**



**Location details**

**Newcastle Interchange 165.474km**

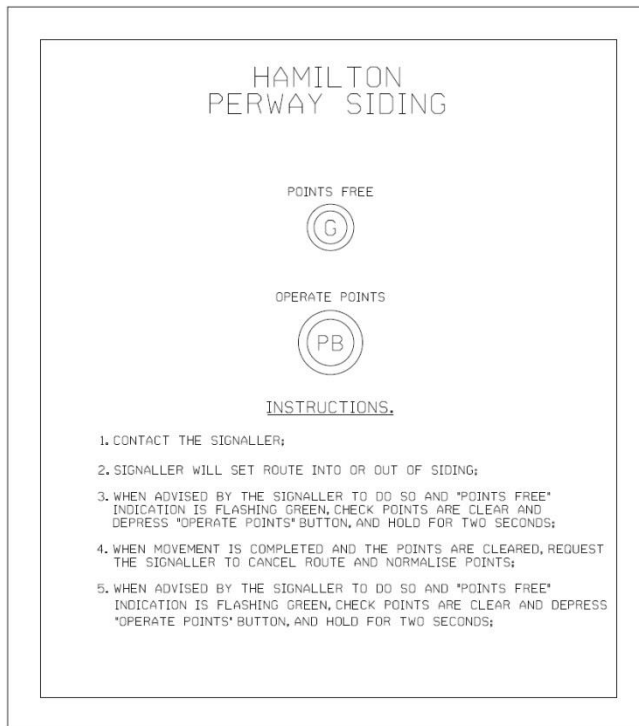


- ! Controlled from Broadmeadow (Newcastle panel)
- 📍 163.957km Network Access
- EYL 164.045km Down Main North line: Down signal IJ21
- YL 164.210km Up Main North line: Up signal HN12
- ! See Special instructions
- 476 Up Branch line to Down Main line
- 475 Down Branch line to Up Main line (Catchpoint in the Normal (Closed) position)
- 477 Down Newcastle line to Goods siding
- ↘ No 1 siding
- ↘ No 2 siding
- ↘ No 3 siding
- ↘ Loop
- ↘ No 4 siding
- ⚡ 164.529km Beaumont Street: manual from Broadmeadow signal box. Keys at Broadmeadow
- ▬ 164.549km Hamilton. Platforms 1, 2
- SL 164.740km Up SHUNT LIMIT sign
- 480 Number 4 Down siding to Number 3 Down siding
- 481 Number 3 Down siding to Number 2 Down siding
- 482 Number 2 Down siding to Number 1 Down siding
- 483 Catchpoints Transit Road
- ↘ Down siding 4 217mts
- ↘ Down siding 3 217mts
- ↘ Down siding 2 371mts
- ↘ Down siding 1 371mts
- 484 Down Branch road to Up Branch road
- 485 Transit Road to Down Branch
- 486 Up Branch road to Transit Road
- 487 Down Branch road to Up Branch road
- 488 Up Branch road to Down Branch road
- ▬ 165.474km Newcastle Interchange. Platforms 1, 2 & 3

## Special instructions

### Operation of 477 Points

477 Points are set by the signaller but operated locally by a Qualified Worker using 477 points pushbutton unit. The pushbutton unit consists of an SL locked box that contains an 'Operate Points' pushbutton and a 'Points Free' indicator (flashing green). Instructions for working trains into or out of the Perway Sidings are inscribed inside the pushbutton unit locked box. A telephone is also provided. See pushbutton layout below.



### Operation of 477 points by setting signal routes

- The Qualified Worker will contact the signaller to discuss the train movement.
- The signaller will set either 17(S) or 20(S)A route.
- The signal route on the new panel in Broadmeadow Signalling Complex will set but the signal will remain at stop (i.e. 477 points have not operated) and the 'Points Free' indication on 477 points pushbutton unit will flash green.
- When advised by the signaller, the Qualified Worker will visually ensure the track over the points is clear and any approaching track vehicles are stationary. Observe the 'Points Free' indicator is flashing green.
- Depress and hold the pushbutton for 2 seconds to operate the points.
- The signal will clear for the selected route once the points are in the correct position.

## Broadmeadow-Newcastle Interchange

### Operation of 477 points by calling the points

- The Qualified Worker will contact the signaller to discuss the train movement.
- The signaller will call 477 points either 'normal' or 'reverse' as required.
- The points indications on the new panel in Broadmeadow Signalling Complex will be unchanged (i.e. 477 points have not operated) and the 'Points Free' indication on 477 points pushbutton unit will flash green.
- When advised by the signaller, the Qualified Worker will visually ensure the track over the points is clear and any approaching track vehicles are stationary. Observe the 'Points Free' indicator is flashing green.
- Depress and hold the pushbutton for 2 seconds to operate the points.
- On the new Panel in Broadmeadow Signalling Complex 477 points will indicate either 'normal' or 'reverse', once the points are in the new position.



#### Note

477 points must be restored to the normal position on completion of the train movements

### Beaumont Street level crossing

Before operating the level crossing warning equipment and clearing the protecting signals, the Signaller must ensure that the level crossing is clear of road and pedestrian traffic by either observing the CCTV or by confirmation from the Qualified Worker when in place.

If the AUTO RAISE function is in use, the Signaller must reset signal route buttons for each movement.



#### Warning

The AUTO RAISE function must not be used during transit of the level crossing by rail vehicles that do not reliably operate track-circuits.

Unless at least one CCTV monitor gives a clear view of the level crossing, the Signaller must arrange for a Qualified Worker to be placed at the level crossing to confirm that the warning equipment has operated correctly and the level crossing is clear of road and pedestrian traffic.

The Signaller must provide a written Condition Affecting the Network (CAN) warning about the CCTV failure to Drivers and track vehicle operators, until the Qualified Worker is in place at the crossing.

## Broadmeadow-Newcastle Interchange

### Network Access Crossing 163.957km

The Signaller Broadmeadow (Newcastle panel) is responsible for protecting the Network access level crossing at 163.957km on the Up and Down Main lines.

The following instructions must be followed to allow road vehicle crossing at the Network access level crossing.

#### Qualified Worker:

1. Obtain permission from the Signaller Broadmeadow (Newcastle panel) to use crossing.
2. Unlock and remove the chains on both sides of crossing
3. When crossing has been made, make sure that the chains on both sides of crossing have been replaced and are locked.
4. Tell the Signaller when the crossing is clear.

#### Signaller

Prior to giving permission for a vehicle to use the Network access level crossing:

1. Place at STOP and apply blocking facilities to:
  - HN 16 signal for the Down Main route, and
  - HN 12 signal.
2. Ensure there no is approaching rail traffic between:
  - HN 16 signal and the crossing on the Down Main line, and
  - HN 12 signal and the crossing on the Up Main line.
- 3 Tell the Qualified Worker that they may use the Network access level crossing

### Sydney Trains- ARTC interface boundaries

<i>Line</i>	<i>Limits</i>	<i>Authorising NCO</i>	<i>Network Rules</i>
Down Main	Islington Junction side of IJ 21 signal	ARTC Broadmeadow	ARTC
Up Main	Sydney side of HN 12 signal	Broadmeadow (Newcastle panel)	Sydney Trains

In applying the Network Rules and Network Procedures, the Signaller Broadmeadow (Newcastle panel) must treat the ARTC Network Controller as an affected Network Control Officer.

The following instructions will apply if work on track will be conducted which:

- extends into an ARTC controlled area, or
- requires protection to be provided by the ARTC Network Controller:

## Broadmeadow-Newcastle Interchange

### Lookout Working

Where Lookout Working is implemented on the Up Main line between IJ 24 signal and HN 12 signal and on the Down Main line on the Islington Junction side of IJ 21 signal the following conditions apply.

Lookout working must not be implemented:

- during darkness, or
- if visibility does not allow clear sighting of rail traffic (terrain, fog, heavy rain or dust may restrict visibility), and
- for a period longer than 2 hours (if access is required for longer than 2 hours, a new request must be made),
- If the work involves more than eight workers, including lookouts.

### Absolute Signal Blocking

#### Down Main line

The ARTC Network Controller Broadmeadow is responsible for implementing Absolute Signal Blocking (ASB) in accordance with the ARTC Network Rules for a worksite on the Down Main line on the Islington Junction side of IJ 21 signal.

#### Up Main line

The ARTC Network Controller at Broadmeadow is responsible for implementing ASB for the Up Main line on the Islington Junction side of HN 12 signal in accordance with the ARTC Network Rules.

The Signaller Broadmeadow (Newcastle panel) is responsible for implementing ASB in accordance with the Sydney Trains Network Rules if the worksite is located on the Hamilton Junction side of HN 12 signal.

If it is necessary for additional protection to be provided for an ASB protected by HN 12 signal, the Signaller Broadmeadow (Newcastle panel) must apply blocking facilities to the accept control (HN1) and advise the ARTC Network Controller Broadmeadow.

### Additional Requirements for ASB

When ASB is issued on the Down Main between IJ 21 signal and IJ 23 signal, or the Up Mainline between IJ 24 signal and HN12 signal the following conditions apply:

- Two consecutive controlled signals can be set at STOP with blocking facilities applied, or
- One controlled signal can be set at STOP with blocking facilities applied, and
  - A set of points can be secured to prevent access, or
  - An easily-reached safe place is available and a Lookout provided.

Where additional protection is required by another Signaller/Network Controller, Signallers/Network Controllers must confer and obtain an assurance that blocking facilities have been applied to applicable signals prior to granting the ASB.

## Broadmeadow-Newcastle Interchange

### Track Occupancy Authority (TOA)

#### Down Main Line

The ARTC Network Controller Broadmeadow is responsible for implementing the TOA on the Down Main line on the Islington Junction side of IJ 21 signal in accordance with the ARTC Network Rules

#### Up Main Line

The ARTC Network Controller at Broadmeadow is responsible for implementing a TOA for the Up Main line on the Islington Junction side of HN12 signal in accordance with the ARTC Network Rules.

### Track Work Authorities (TWA)

#### Down Main line

The ARTC Network Controller at Broadmeadow is responsible for implementing a TWA on the Down Main line using signal IJ 21.

#### Up Main line

The ARTC Network Controller at Broadmeadow is responsible for implementing a TWA on the Up Main line using IJ 24 signal, the TWA worksite must not extend beyond HN12.

### Local Possession Authorities (LPA)

#### ARTC only LPA

<i>Line</i>	<i>Limits</i>
Down Main	Islington Junction side of IJ 21signal
Up Main	Islington Junction side of HN 12 signal



#### Note

If points need to be secured the ARTC Network controller must request the Signaller Broadmeadow ( Newcastle panel) to protect the possession limit by placing blocking facilities 476 points

#### Sydney Trains only LPA

<i>Line</i>	<i>Limits</i>
Down Main	Hamilton Junction side of IJ 21signal
Up Main	Hamilton Junction side of 107 points (Islington Junction)

## Broadmeadow-Newcastle Interchange

### Sydney Trains-ARTC back to back possessions

<i>Line</i>	<i>Limits</i>
Down Main	Islington Junction side of IJ 21signal
Up Main	Islington Junction side of HN 12 signal

Where a back to back Possession is implemented, the following instructions will apply:

- Worksites and rail vehicles that need to move from Sydney Trains territory to ARTC territory are authorised and supervised by the ARTC Possession Protection Officer.
- Worksites and rail vehicles that need to move from ARTC territory to Sydney Trains territory are authorised and supervised by the Sydney Trains Possession Protection Officer.

### Use of Forms

Where it is necessary to compile Safeworking forms associated with Work on Track, Train operations or maintenance of Infrastructure, the following instructions will apply:

<i>Activity</i>	<i>Form</i>
Worksite Protection or Proceed Authority issued by Network Controller Broadmeadow	ARTC form
Worksite Protection or Proceed Authority issued by Signaller Broadmeadow (Newcastle panel)	Sydney Trains form
Infrastructure maintained by ARTC	ARTC form
Infrastructure maintained by Sydney Trains	Sydney Trains form



#### Note

Where it is necessary to compile an Infrastructure Booking Authority for signalling infrastructure that is dual controlled, the Maintenance representative must issue a form to both Network Controller Broadmeadow and Signaller Broadmeadow (Newcastle panel)



#### Note

ARTC will;

- advertise Local Possession Authority (LPA) in a Train Alteration Advice (TAA)
- record Network Incident Notices (NIN) on a Train Control Report (TCR)



## Broadmeadow-Newcastle Interchange

### Train Whistle - Hamilton Sidings or Yard - Newcastle Interchange

Whilst conducting train preparation in Hamilton Sidings or Yard, town train whistles are only to be tested in the rear cab (Hamilton end) and the 4th and 5th cars (if an 8 car train). The lead car (Newcastle end) is to be tested only on departure from Hamilton Sidings or Yard.

When departing Newcastle Interchange, the country train whistle is to be tested between Selma and Dibbs Streets, on the approach to Maitland Road Bridge.

The rear car (Newcastle interchange end) country train whistle is to be tested on departure from the next change end location, e.g. Sydney Terminal.

Country train whistles for the 4th and 5th cars (if an 8 car train) are to be tested when the set next divides, e.g. Sydney Terminal.

In exception to train prep procedures for V-sets and Oscar trains, the town and country train whistles must **NOT** be sounded during train preparation within Hamilton Sidings or

Yard.



#### Note

This does not prevent the sounding of train whistles at any time, if required to warn people on or near the track or in an emergency situation.

### Dual Control Signal

IJ 24 signal is dual control from Broadmeadow:

IJ 24 will only clear for a route on the Up Islington loop or Up Main when accepted by the Signaller Broadmeadow (Newcastle panel).

### Newcastle Interchange

#### Amalgamating & Dividing on Platforms

When a train is required to amalgamate or divide on the platform at Newcastle interchange. Prior to commencing the movement, the Qualified Worker directing the movement must contact the Area Controller Broadmeadow, Newcastle panel, and request that the signals giving entry to, and departure from the platform, be placed at STOP with Blocking facilities applied.

The Area Controller must confirm with the Qualified Worker that Blocking facilities have been applied.

Once the movement is complete the Qualified Worker must tell the Area Controller that the movement is complete and blocking facilities are no longer required.

## Broadmeadow-Newcastle Interchange

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### Related documents

NLA 314 *Gosford-Broadmeadow*

NLA 318 *Broadmeadow and Woodville Junction*

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### Effective date

27 April 2023