

Hornsby – Gosford

Network Control

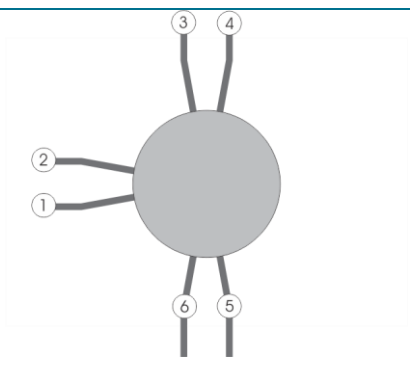
Signallers at Rail Operations Centre (ROC), and Gosford.

Systems of Safeworking

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

| Section | System | Details |
|--------------------------|----------------------------------|---|
| Hornsby–Berowra | RVD double-line | |
| Berowra–Cowan | RVD double-line | |
| Cowan–Boronia | RVD double-line bidirectional | Half-staffs and X, Y and Z keys available |
| Boronia–Hawkesbury River | RVD double-line bidirectional | Half-staffs and X, Y and Z keys available |
| Hawkesbury River–Gosford | RVD double-line | |

Diagram



Location details

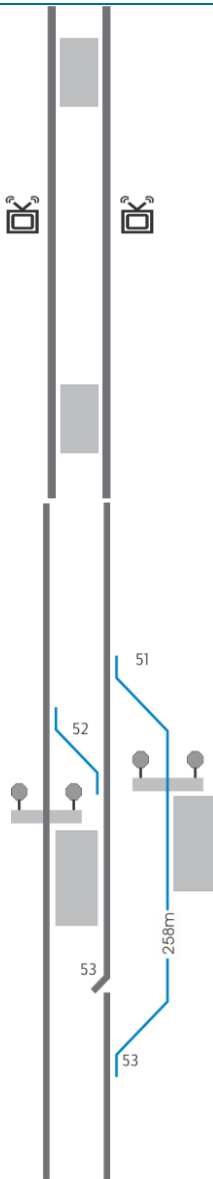
Hornsby 33.704km (NLA 302)



- ① Up Shore line (Central–Hornsby)
- ② Down Shore line (Central–Hornsby)
- ③ Up Main North line (Strathfield–Hornsby)
- ④ Down Main North line (Strathfield–Hornsby)
- ⑤ Down Main North line
- ⑥ Up Main North line

Hornsby-Gosford

Diagram



Location details

- 37.573km Mount Colah. Platform 1 and 2
- 📡 39.658km Bearing and brake temperature system: broadcasts WB radio message and reports to Homebush. Signaller tells Network Controller and warns Train Crew
- 40.601km Mount Kuring-gai. Platform 1 and 2

Berowra 44.503km



- ! Controlled from ROC
- 📡 43.302km Down signal B1
- 📡 43.622km Up signal 27.20
- 51 Down Main North line to Loop line
- 52 Down Main North line to Up Main North line
- 📍 44.485km Network access
- 44.503km Berowra. Platforms 1 and 2, 3
- 📍 44.527km Network access
- 🏠 44.661km Traffic hut: local control panel
- 53 Loop line to Down Main North line
- 📡 45.270km Up signal B12
- 📡 45.955km Down signal 28.5

Hornsby-Gosford

Diagram

Location details



Cowan 48.755km



- WARNING:** This location has narrow track clearances
- Controlled from ROC
- 45.697km END ATP Up Main line
- 45.697km BEGIN ATP Down Main line
- 45.952km Down signal 28.5
- 45.966km Up signal 28.6
- 60 Extended Up Refuge Loop line to Up Main North line
- 63 Down Main North line to Up Main North line
- 48.522km Network access
- 64 Up Main North line to Up Refuge Loop line
- 65 Up Refuge Loop line to No 2 Perway siding
- 66 Down Main North line to Up Main North line
- No 1 Perway siding to No 2 Perway siding: non-interlocked points
- 48.743km Cowan: automatic, with Manual Operation and Master Emergency switch. Keys at Hornsby
- See Special instructions
- 48.755km Cowan. Platforms 1, 2
- 48.796km Cowan: The Great North Walk
- No 2 Perway siding to No 1 Perway siding
- 48.909km X, Y and Z keys for Cowan–Boronia section
- The half pilot staffs for the Cowan–Boronia section are inscribed "Cowan C19DM – Down Main to Boronia" and "Cowan C21UM – Up Main to Boronia"
- 48.960km Down wide electric train STOP sign on Up Main North line
- 48.990km Down wide electric train STOP sign on Down Main North line
- 49.722km EYL/YL: Up signal C22DM
- 49.722km YL/EYL: Up signal C24UM

Hornsby-Gosford

Diagram

Location details



Boronia 51.353km



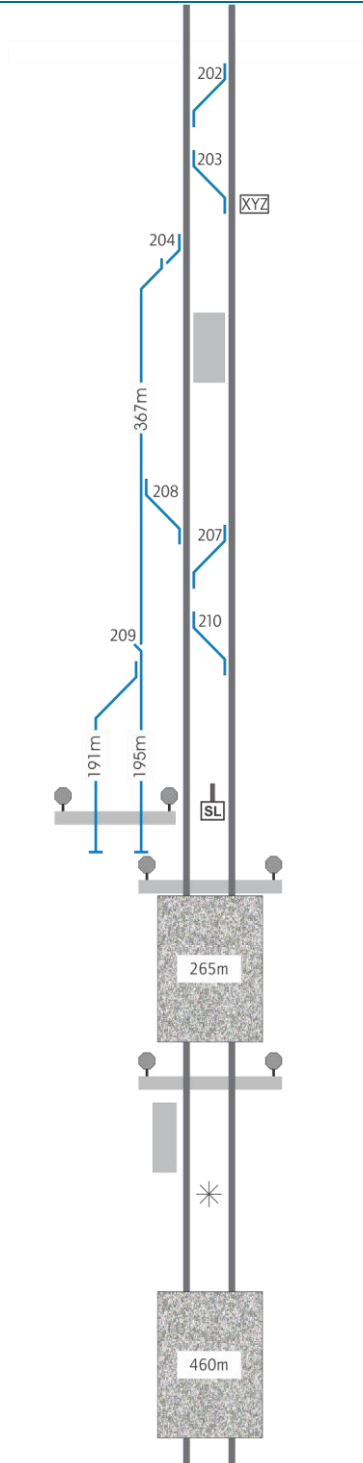
- ! Controlled from ROC
- YL 50.015km YL/EYL: Down signal HR101DM
- EYL 50.015km EYL/YL: Down signal HR103UM
- ||||| 50.750km Boronia No 1
- ! The half pilot staffs for the Boronia–Hawkesbury River section are inscribed “Boronia HR107DM – Down Main to H/River” and “Boronia HR109UM – Up Main to H/River”
- ! The half pilot staffs for the Boronia–Hawkesbury River section are on the signal posts of the Sydney-end home/starting signals
- 200 Down Main North line to Up Main North line
- ☒ 51.353km Traffic hut
- 201 Down Main North line to Up Main North line
- ! The half pilot staffs for the Cowan–Boronia section are inscribed “Boronia HR110DM – Down Main to Cowan” and “Boronia HR112UM – Up Main to Cowan”
- ! The half pilot staffs for the Cowan–Boronia section are on the signal posts of the country-end home/starting signals
- ||||| 51.764km Boronia No 2
- EYL 52.465km EYL/YL: Up signal HR116DM
- YL 52.489km YL/EYL: Up signal HR118UM

- ⚡ 53.805km Boronia Fire Trail: automatic with Manual Operation and Master Emergency switch; manual gates across roadway. Keys at Hornsby
- ! See Special instructions
- ||||| 54.334km Boronia No 3
- ||||| 54.709km Boronia No 4

Hornsby-Gosford

Diagram

Location details



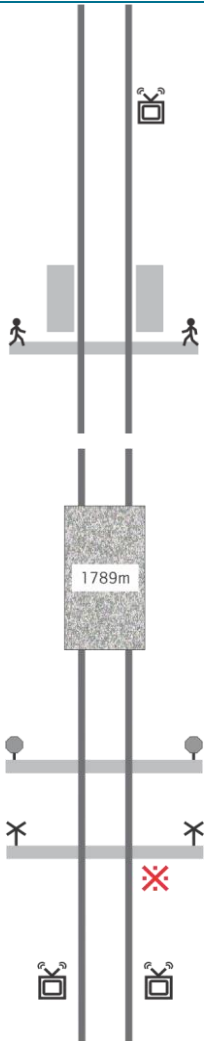
Hawkesbury River 57.303km





- ! Controlled from ROC
- YL 54.994km YL/EYL: Down signal HR127DM
- EYL 54.994km EYL/YL: Down signal HR129UM
- ! The half pilot staffs for the Boronia–Hawkesbury River section are inscribed “H/River HR140DM – Down Main to Boronia” and “H/River HR142UM – Up Main to Boronia”
- 202 Down Main North line to Up Main North line
- 203 Down Main North line to Up Main North line
- XYZ 57.025km X, Y and Z keys for Boronia–Hawkesbury River section
- 204 Refuge siding to Up Main North line
- 57.303km Hawkesbury River. Platform 1 and 2
- 208 Up Main North line to Refuge siding
- 207 Down Main North line to Up Main North line
- 210 Down Main North line to Up Main North line
- 209 Catch points, Refuge siding to Up siding
- / No 2 Up siding to No 1 Up siding
- SL 58.087km Down SHUNT LIMIT sign on Up Main North line
- 58.100km Network access
- 58.132km Network access
- ||||| 58.151km Long Island
- 58.405km Network access
- 58.425km Hawkesbury River Bridge. Platform
- * 58.491km Hawkesbury River Bridge
- EYL 59.306km Down signal 36.9
- ||||| 59.352km Mullet Creek
- YL 60.290km Up signal HR170UM

Hornsby-Gosford



Diagram








Location details

-  61.973km Rainfall monitor: reports to Infrastructure Operations Centre
-  See Special instructions

Wondabyne 65.147km

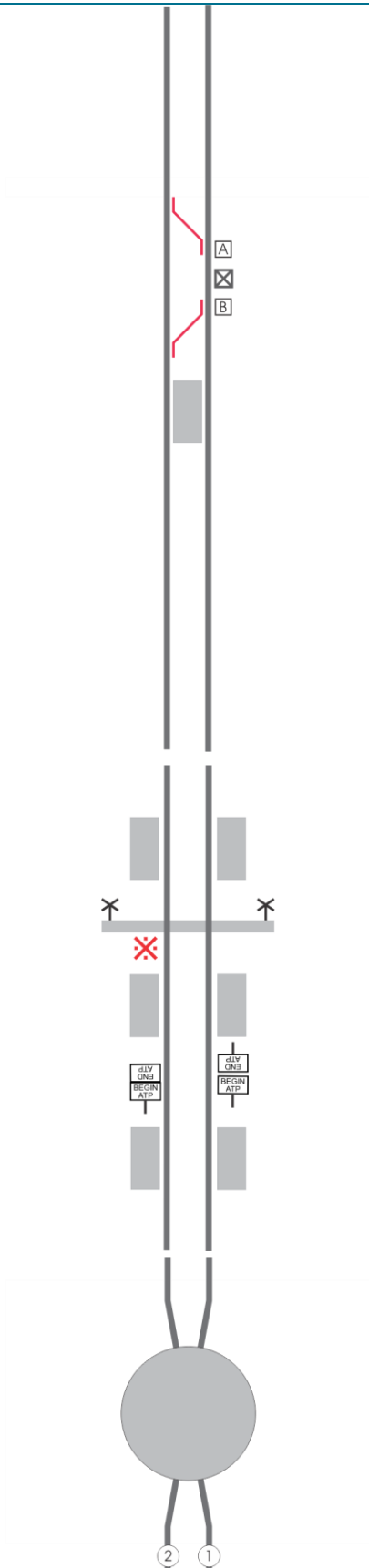
-  65.147km Wondabyne. Platforms 1, 2
-  65.181km Wondabyne: automatic. Keys at Gosford

-  67.064km Woy Woy
-  69.870km Network access
-  71.415km Rawson Road, Woy Woy: automatic, with Manual Operation and Master Emergency switch. Keys at Woy Woy and Gosford
-  See Special instructions
-  71.925km Bearing and brake temperature system: broadcasts WB radio message Up system reports to ROC and Down system reports to Gosford. Signaller tells Network Controller and warns Train Crew

Hornsby-Gosford

Diagram

Location details



Woy Woy 72.475km



- A** 72.262km Down Main North line to Up Main North line: key from Annett lock AB, released from special hasp with XL key
- ! Signals set at STOP by taking the release: Down signals 43.9 and 44.7; Up signal 45.4
- X** 72.285km Traffic hut: Annett lock AB
- B** 72.322km Down Main North line to Up Main North line: key from Annett lock AB, released from special hasp with XL key
- ! Signals set at STOP by taking the release: Down signals 43.9 and 44.7; Up signal 45.4. If lever 2 is in the REVERSE position, or if lever 2 is in the NORMAL position and lever 3 is in the REVERSE position, also Up signal 44.8
- 72.475km Woy Woy. Platform 1 and 2

- 74.771km Koolewong. Platforms 1, 2
- ⌵ 74.880km Koolewong: automatic, with Manual Operation and Master Emergency switch. Keys at Gosford
- ! See Special instructions
- 76.913km Tascott. Platforms 1, 2
- END ATP 77.228km END ATP Down Main line
- ATP 77.234km BEGIN ATP Down Main line
- ATP 77.484km BEGIN ATP Up Main line
- 78.002km Point Clare. Platforms 1, 2

Gosford 80.774km (NLA 312)



- ① Down Main North line (Gosford-Braodmeadow)
- ② Up Main North line (Gosford-Broadmeadow)

Hornsby-Gosford

Special instructions

Signal Key Switches

Signal Key Switches are fitted to the automatic signals listed in the table below.

Signal Key Switch may be used for worksite protection in accordance with the following Network Rule & Procedures:

- NWT 306 Track Work Authority
- NWT 320 Signal Key Switch Blocking
- NPR 702 Using a Track Work Authority
- NPR 753 Using Signal Key Switch Blocking
- NPR 754 Using a Signal Key Switch

| <i>Line</i> | <i>Worksite limit</i> | <i>First affected signal</i> | <i>Protecting signal fitted with a Key Switch</i> |
|-----------------|---------------------------------|------------------------------|--|
| Down Main North | Signal N25.21 to Signal B1 | N23.61 | N25.21 |
| Down Main North | Signal 40.3 to Signal 49.5 | 39.5 | 40.3 |
| Up Main North | Signal 43.4 to Signal HR 170 UM | 44.0 | 43.4 *The handsignaller operating the SKS must enter and leave by train to access the site |

Rainfall monitoring

A Rainfall monitor is located at 61.973km in the Wondabyne area to warn when rainfall in the area from Boronia number 2 tunnel to Hawkesbury River and Hawkesbury River Bridge to Woy Woy tunnel is excessive.

All indications are monitored at the Infrastructure Operations Centre.

Responding to a rainfall monitor WARNING indication

When a rainfall monitor WARNING is displayed on the Cerberus control monitor, the Infrastructure Operations Centre representative must:

- tell the Train Controller that a warning condition exists at the rainfall monitor site
- arrange for appropriate on-call Civil Engineering staff to assess the area concerned.

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When advised that a rainfall monitor WARNING is displayed on the Cerberus control monitor, the Train Controller must:

- tell the Signallers at Homebush and Gosford that a warning condition exists at the rainfall monitor site
- treat the warning as a Condition Affecting the Network (CAN) in accordance with the Network Rules and Network Procedures
- warn rail traffic that will travel in either direction between 52.000km and 57.000km, and in either direction between 60.000km and 67.000km to travel at 40km/h

The CAN warning must tell Drivers to proceed, paying particular attention to water levels near the line or any adverse effects on the infrastructure, and report their observations to the Network Control Officer.

When told of the WARNING by the Infrastructure Operations Centre representative, the on-call Civil staff must assess the area concerned.

Following an assessment of the affected area, the on-call Civil staff must:

- tell the Infrastructure Operations Centre representative whether or not the line is safe for trains and any conditions that must be observed
- remain on duty while the rainfall WARNING condition exists or as otherwise advised by the Civil team Manager or Civil Maintenance Manager.

When advised by the on-call Civil staff, the Infrastructure Operations Centre representative must advise the Train Controller that the line is safe for trains and any conditions that apply.

When advised by the Infrastructure Operations Centre representative, the Train Controller must advise the relevant Signaller that the line is safe for trains and any conditions that apply.

Testing and adjusting rainfall monitors

Rainfall monitors must be tested monthly, or as otherwise specified by the Civil and Signals Engineering Managers.

Failure of remote control system

If there is a failure of the system controlling a remote location where a rainfall monitor is installed, the Infrastructure Operations Centre representative must tell the Civil Engineering Maintenance Manager, who must make appropriate alternative arrangements.

Rainfall monitor failure

If a rainfall monitor or the associated equipment is defective, the Civil and Signal representatives must book the rainfall monitor out of use on an Infrastructure Booking Authority.

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If the rainfall monitor is to be booked out of use for an extended period, the matter must be reported to the Civil and Signal Maintenance Managers.

The Civil Engineering Manager must establish an appropriate manual inspection or monitoring program until the rainfall monitor or associated equipment has been brought back into use.

Cowan pedestrian crossing

Cowan pedestrian crossing is fitted with a single Master Emergency switch.

Operation of the Master Emergency switch will place Down signals C13, C15, C17 and Up signals C14, C18 at STOP. They will remain at STOP until the Manual Operation switch is operated and the level crossing equipment has operated and the booms are lowered or the Master Emergency switch is restored.

Boronia Fire Trail level crossing

Emergency services road vehicles must not use the level crossing unless a qualified emergency services officer is present to:

- get permission from the Signaller at Homebush to use the crossing, and
- get and give relevant assurances about rail and road traffic, and
- unlock and re-lock the gates, and
- supervise use of the level crossing by road vehicles.

Before giving permission to use the level crossing, the Signaller must set protecting signals at STOP with blocking facilities applied, and inform the emergency services officer that they must report within an agreed time whether the level crossing is clear.

If the Signaller has not received clearance from the emergency services officer within

10 minutes of the agreed time, the Signaller must treat the event as a Condition Affecting the Network (CAN).

Boronia Fire Trail level crossing is fitted with a single Master Emergency switch.

Operation of the Master Emergency switch will place Down signals HR 121 DM and

HR 123 UM and Up signals HR 126 UM and HR 124 DM at STOP. They will remain at STOP until the Manual Operation switch is operated and the level crossing equipment has operated and the booms are lowered or the Master Emergency switch is restored.

Hawkesbury River Bridge

In exception to NWT 308 Absolute Signal Blocking, to allow inspection and maintenance activities, ASB may be authorised for a worksite identified by the Protection Officer as being located on the UP Main line between 59.788KM (Mullet Creek tunnel country end portal) and HR168UM protected by using only HR170UM kept at STOP with blocking facilities applied.

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In exception to NPR 711 it is permissible to use a Lookout and warning lights as an additional safety measure.

All other requirements of NWT 308 and NPR 703 Using Absolute Signal Blocking must be followed.



Note

Worksites must not be established between HR170UM and 59.788km (Mullet Creek tunnel country end portal), using this protection.

Rawson Road level crossing

Rawson Road level crossing is fitted with a single Master Emergency switch.

Operation of the Master Emergency switch will place Down signal 43.9 and Up signal 44.8 at STOP. They will remain at STOP until the Manual Operation switch is operated and the level crossing equipment has operated and the booms are lowered or the Master Emergency switch is restored.

Koolewong level crossing

Koolewong level crossing is fitted with a single Master Emergency switch.

Operation of the Master Emergency switch will place Down signal 46.1 and Up signal 47.2 at STOP. They will remain at STOP until the Manual Operation switch is operated and the level crossing equipment has operated and the booms are lowered or the Master Emergency switch is restored.

Related documents

| | |
|---------|---------------------|
| NLA 300 | Strathfield–Hornsby |
| NLA 302 | Hornsby |
| NLA 304 | Central–Hornsby |
| NLA 312 | Gosford |
| NLA 314 | Gosford–Broadmeadow |

Effective date

1 April 2020