

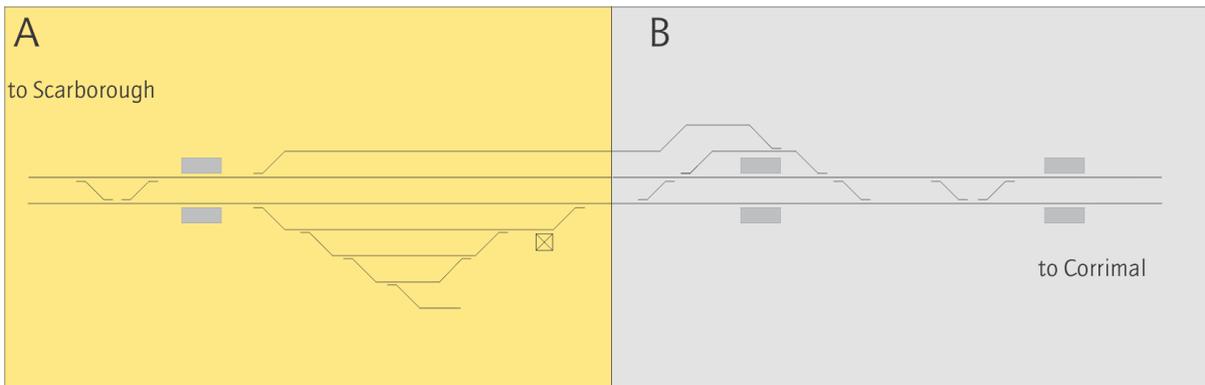
# Thirroul

## Location

This unit includes:

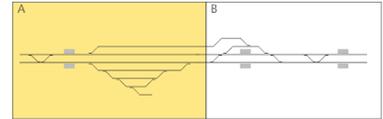
- Austinmer at 68.655km
- Thirroul at 70.145km
- Bulli at 72.073km.

## Diagrams

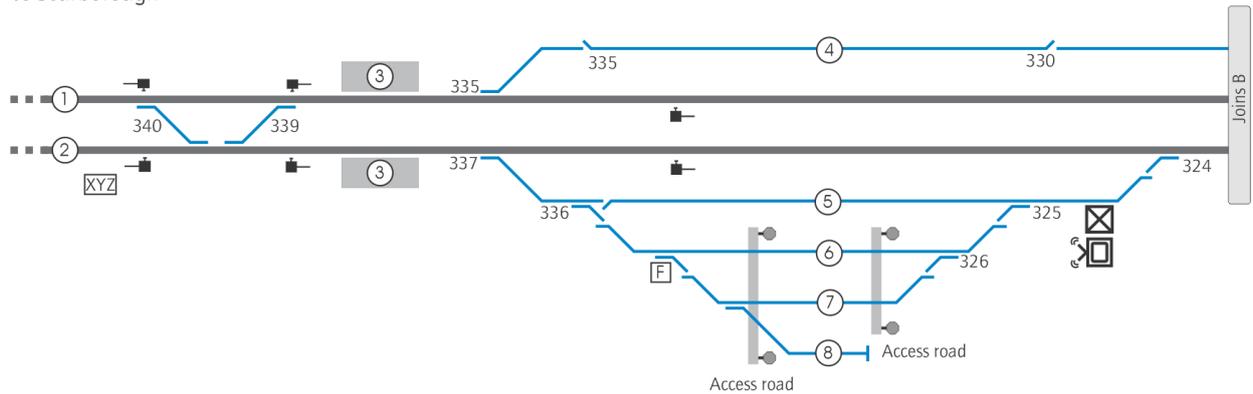


# Thirroul

A



to Scarborough

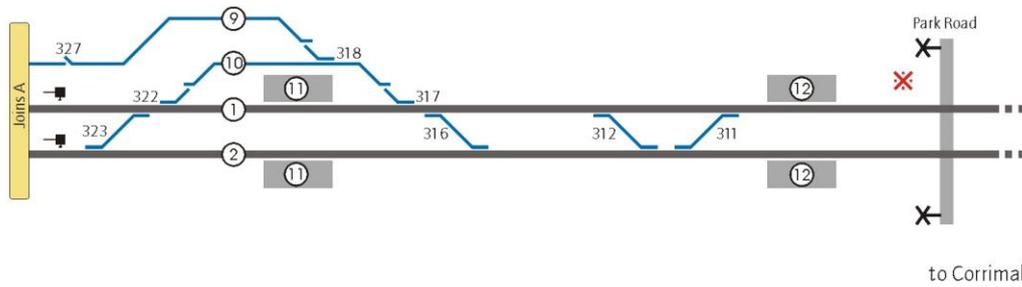
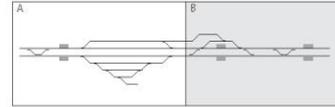


**KEY**

- |                       |                                 |                           |
|-----------------------|---------------------------------|---------------------------|
| 1 Down Illawarra line | 4 Down North Refuge siding 628m | 7 No 1 Perway siding 349m |
| 2 Up Illawarra line   | 5 Up Refuge line 879m           | 8 No 2 Perway siding 281m |
| 3 Austinmer           | 6 Up Goods Loop line 840m       |                           |

# Thirroul

B



## KEY

- |                       |   |                            |
|-----------------------|---|----------------------------|
| 1 Down Illawarra line | 9 Down South Refuge siding<br>610m                                      | 10 Back Platform road 200m |
| 2 Up Illawarra line   | Combined length of Down<br>North and Down South Refuge<br>sidings 1420m | 11 Thirroul                |
|                       |   | 12 Bulli                   |

## Network Control

Signaller at Wollongong

## Yard limits

Down Illawarra line	<table border="0"> <tr> <td><b>YL</b>   <b>EYL</b></td> <td>67.031km Down signal WG603D</td> </tr> <tr> <td><b>EYL</b>   <b>YL</b></td> <td>72.464km Up signal WG540D</td> </tr> </table>	<b>YL</b>   <b>EYL</b>	67.031km Down signal WG603D	<b>EYL</b>   <b>YL</b>	72.464km Up signal WG540D
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Up Illawarra line	<table border="0"> <tr> <td><b>EYL</b>   <b>YL</b></td> <td>67.031km Down signal WG605U</td> </tr> <tr> <td><b>YL</b>   <b>EYL</b></td> <td>73.928km Up signal WG534U</td> </tr> </table>	<b>EYL</b>   <b>YL</b>	67.031km Down signal WG605U	<b>YL</b>   <b>EYL</b>	73.928km Up signal WG534U
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## Thirroul

### Location details



Interlocked points without groundframes are usually operated from Wollongong. Thirroul can be switched in.

- 68.575km X, Y, and Z keys for Scarborough–Thirroul section
- 8 x Driver's time-release buttons for points 340, 339, 337, 335 and 323
- 68.655km Austinmer. Platforms 1, 2
- 69.510km Up Goods siding to Perway sidings: key from releasing switch F, released by release 331
- 69.920km Traffic hut: local control panel
- 69.920km Rainfall monitor. See Special instructions
- 70.145km Thirroul. Platforms 1, 2
- 72.073km Bulli. Platforms 1, 2

### Level crossings

- 69.498km Access road, No. 2 Perway siding to Up Goods Loop line
- 69.744km Access road, No. 1 Perway siding to Up Goods Loop line
- 73.909km Park Road, Woonona: automatic with Manual Operation and Master Emergency switch. Keys at Thirroul
- See Special instructions

### Special instructions

#### Stopping in the Down South Refuge siding between 2200 and 0600 hours

Because of noise restrictions, freight trains may not be stopped in the Down South Refuge siding if an alternative location is available.

If a freight train needs to be stopped, except for brief stops for crossing or passing movements, the locomotives must be:

- shut down, or
- detached and worked to another location.

#### Half pilot staffs

The half pilot staffs for the Scarborough–Thirroul section are inscribed "Austinmer Down main WG598" and "Austinmer Up main WG600".

The half pilot staffs for the Thirroul–Corrimal section are inscribed "Thirroul Down main WG551" and "Thirroul Up main WG553".

## Thirroul

### Rainfall monitoring

A rainfall monitor at the Thirroul relay room warns when rainfall in the area between Coalcliff and Austinmer is excessive.



NOTE: Details for the rainfall monitor at Helensburgh and Coalcliff are provided in NLA 410 Sutherland—Wollongong.

### Protecting signals

Signals WG651D, WG653U and WG631D to WG598D and WG600U protect the monitored area.

### Control panel indications

The Thirroul area rainfall monitor's status is displayed on the Wollongong signal box indicator panel and on the relevant local control panel by WARNING and ALARM lights:

- a yellow WARNING light will be lit if a 15 minute or an 8 hour warning condition (rainfall rate) occurs
- a red ALARM light will be lit if a 15 minute or an 8 hour alarm condition (rainfall rate) occurs.

These lights hold any rainfall monitor warning or alarm condition until the rainfall monitor resets.

### Audible alarm

An audible alarm sounds at Wollongong signal box, or the relevant local control panel, when a rainfall monitor lamp is lit or goes out.

### Responding to a rainfall monitor WARNING indication

When a rainfall monitor yellow WARNING light is displayed, the Signaller at Wollongong signal box, or the relevant local control panel when switched in, must:

- tell the Network Controller 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 in the Coalcliff to Austinmer area that a rainfall WARNING has occurred

The CAN warning must tell Drivers to proceed at a speed of 20kph below advertised speed, paying particular attention to water levels near the line or any adverse effects on the infrastructure, and report their observations to the Signaller.

The Signaller must;

- record details of the warning in the Train Register Book or other recording system provided
- establish which signals protect the Coalcliff to Austinmer area in case the alarm warning is indicated.

## Thirroul

When told of a WARNING indication by the Signaller at Wollongong signal box, or the relevant local control panel if switched in, the Network Controller must tell the Infrastructure Operations Centre about the situation.

When told of a WARNING indication, the Infrastructure Operations Centre representative must arrange for appropriate on-call Civil staff to assess the area concerned.

The on-call Civil staff, following an assessment of the affected areas, must:

- tell the Infrastructure Operations Centre 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.

### Responding to a rainfall monitor ALARM indication

When a red ALARM light is shown, the Signaller at Wollongong signal box, or the relevant local control panel if switched in, must:

- CAN warn trains currently in the affected area/s to proceed at a maximum speed of 20kph until the trains are clear of the affected rainfall monitor (RFM) coverage area/s, paying particular attention to water levels near the line or any adverse effects on the infrastructure, and report their observations to the Signaller
- stop any following trains from entering the affected RFM area/s in ALARM
- place and keep blocking facilities on all applicable signal controls
- tell the Network Controller that an ALARM condition exists and that trains in the affected areas will be CAN warned to proceed at a maximum speed of 20kph, until the trains are clear of the affected RFM coverage area/s
- record the occurrence in the Train Register Book or other recording system provided.

When told of an ALARM indication by the Signaller at Wollongong signal box, or the relevant local control panel if switched in, the Network Controller must tell the Infrastructure Operations Centre and the on-call Incident Rail Commander (IRC) for the area about the situation.

When told of the ALARM indication, the Infrastructure Operations Centre representative must advise the appropriate on-call Civil staff to assess the area concerned.

When told of the ALARM indication, the on-call Civil staff must assess the affected area in accordance with the relevant maintenance operating instructions.

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 ALARM condition exists.

When told by the on-call Civil staff, the Infrastructure Operations Centre officer must tell the Network Controller that the line is safe for trains and any conditions that apply.

When told by the Infrastructure Operations Centre officer, the Network Controller must tell the relevant Signaller that the line is safe for trains and any conditions that apply.

## Thirroul

The Network Controller may then authorise trains to proceed.

The Signaller must CAN warn trains of any conditions that apply, paying particular attention to water levels near the line or any adverse effects on the infrastructure, and report their observations to the Signaller.

Alarm indication remaining after track inspection & certification

Civil staff are to request that the first train to traverse the affected section on each track to be limited to a 40kph speed limit.

A civil representative must accompany the first train in either direction.

If the civil representative does not report any Condition Affecting the Network (CAN), then operations will revert to WARNING state.

Civil Staff are to continue with front of train inspections in case of further rain fall or until both the ALARM and WARNING state have cleared.

If a further rainfall monitor ALARM event occurs after one has just been completed, then "Responding to a rainfall monitor ALARM indication" is to be re-enacted.

A rainfall monitor alarm event is deemed as over when:-

- The lights indicating alarm event on the control panel at the Wollongong Signal Box have been extinguished, and at a minimum one cycle of required inspections has been carried out.
- Otherwise approved by the Structures & Corridor Engineering Manager or Senior Manager Track Engineering.

### Testing and adjusting rainfall monitors

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

The Signaller at Wollongong signal box must be told of all tests, and record these tests in the Train Register Book or other recording system provided.

### Failure of remote control system

If there is a failure of the system controlling a remote location where a rainfall monitor is installed, Signallers at Wollongong signal box must tell the Network Controller and the Infrastructure Operations Centre representative that a failure of the remote control/indication system has occurred.

The Infrastructure Operations Centre representative must tell the Civil Engineering Manager, who must make appropriate alternative arrangements.

### Rainfall monitor failure

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

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 Engineering 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.

## Thirroul

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### Park Road level crossing

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

Operation of the Master Emergency switch will place Down signals WG 541U, WG 535D and Up signals WG 534U, WG 506D to 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.

### Establishing worksites using Wireless Automatic Track Warning System (ATWS) as a safety measure

The following locations may establish a worksite inside yard limits using Lookout Working with wireless ATWS as a safety measure.

Protection Officers must:

- Be inducted into the ATWS area implementation and management plan,
- Establish worksites in accordance with the protection arrangements and details for each location set below.

### Bulli

Routine Network Maintenance Worksite Protection Plan: SC3BWS 10120

Worksite location: Up and Down Illawarra lines between 71.491 KM (WG 553 U / WG 551 D) and 71.851 KM (WG 548 U / WG 546 D)

Sensor 1 location: Up Illawarra Main at 70.855 KM

Sensor 2 location: Down Illawarra Main at 70.855 KM

Sensor 3 location: Up Illawarra Main at 72.415 KM

Sensor 4 location: Down Illawarra Main at 72.415 KM

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## Related documents

*NLA 410 Sutherland–Wollongong*

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## Effective date

4 November 2021