

# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities

<b>DOCUMENT NO.</b>	D2024/12136
<b>WORK DESCRIPTION</b>	Routine Maintenance activities
<b>WPP Number</b>	WT13BWS 11420
<b>SCOPE:</b>	<p>Routine maintenance activities performed by Western Territory team.</p> <ul style="list-style-type: none"> <li>on the Richmond Main and Clarendon Loop lines between 56.865 km to 57.573 km</li> <li>that does not involve the use of tools or equipment, or</li> <li>using tools which can be easily and immediately removed from the track by one person and are light, non-powered hand tools, or light battery powered tools or devices.</li> </ul>
<b>AUTHORISATIONS:</b>	<p><b>Protection Officer, ATWS Operator (Operator) &amp; ATWS Installer (Installer):</b></p> <ul style="list-style-type: none"> <li>Protection Officer (PO) Level 1 – 4, and</li> <li>WATWS – Wireless Automatic Track Warning System</li> </ul> <p><b>Dedicated Lookout:</b> (PO) Level 1 - 4, or Handsignaller 1 - 2</p>
<b>PERSONAL PROTECTIVE EQUIPMENT</b>	<ul style="list-style-type: none"> <li>High visibility vest, boots, high visibility lookout sleeve</li> </ul>
<b>SAFETY CONTROLS – Lookout Working (ATWS) arrangements:</b>	<ul style="list-style-type: none"> <li>Automatic Track Warning System (ATWS) - provides visual and audible warning for workers</li> <li>ATWS sensor for Down direction running on the line at <b>Richmond Main Line</b> at <b>56.189 km</b></li> <li>ATWS sensor for Up direction running on the ... line at <b>Richmond Main Line</b> at <b>58.331 km</b></li> <li>Dedicated lookout(s) at the worksite for unsignalled movements.</li> <li><b>IMPORTANT!</b></li> <li>This document must not be used to install or adjust the ATWS sensors</li> <li>All sensors in the plan and shown on the diagram must be connected to transmit a warning</li> </ul>
<b>PRESTART REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>Refer to D2015-45354 Wireless ATWS (Automatic Track Warning System) to install or remove sensors</li> </ul>
<b>FURTHER INFORMATION:</b>	<p>Refer to “D2015-45354 Wireless ATWS (Automatic Track Warning System)” for detailed instructions to set-up, connect, test and operate the ATWS system with pre-installed ATWS sensors</p> <ul style="list-style-type: none"> <li>NLA 222 Blacktown- Richmond</li> </ul>

Required ATWS Equipment		
Item	Description	Quantity
Aerial	Telescopic Aerial	3
Assembly Kit	Orange Bag with Tools	2
Battery ZA24-2.9	Small battery for Junction Box & Transmitter	6
Device Frame	Protective Frame	3
F500-AB Junction Box	Receiver Device	2
F500-SEN Train Sensor	Sensor	2
Housing for Aerial	Housing for Telescopic Aerial	3
KF5-5 Extension Cable	Extension Cable (5m) for F500-SEN to F500-AB	0
Mobile Backpack	Harness for Device	0
Pouch	Pouch for small battery	4
Tripod	Tripod for Device	3
ZFS Radio Transmitter	Radio Transmitter Device	2
ZPW Warning Unit	Control & Warning Device	1

**Protection Officer/Operator assessment checklist**

<b>Protection Officer's name:</b>		<b>Yes</b> (Tick if Yes)
This document has not expired 12 months beyond the issue date.		
SWI details and protection arrangements have been reviewed and validated for the assessed worksite location, including: <ul style="list-style-type: none"> <li>• On-site safety assessment has been completed for relevancy of works being undertaken</li> <li>• The required protection details, environment and tasks are unchanged from the details of this SWI</li> <li>• All boxes have been ticked if applicable and crossed if not applicable</li> <li>• All fields have been completed</li> </ul>		
<b>Corridor Safety Number</b>	<b>Protection Officer Signature</b>	<b>Date</b>

**Warning**



*If an above item does not apply, the Protection Officer must not use this Safe Work Instruction. A new worksite protection plan must be completed in accordance with NRF 014 Worksite Protection Pre-work briefing and NRF 015 Worksite Protection Plan.*

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## Worksite Protection Pre-work Briefing

Briefing date:

### Protection Officer details

name       signature       contact No.

Work location:

Scope of work:

Worksite protection:  Refer to Worksite Protection Plan for details

Hazards (e.g. Site specific hazards identified, including physical environment, human errors, plant and equipment)	Controls (to be implemented to eliminate or reduce the risk to the lowest practicable level)	Person responsible for Control
<b>Crossing live lines</b>	A qualified Protection Officer (PO) or Access Corridor Safety (ACS) must make a safety assessment to cross live lines in accordance with NGE200 and supervise workers who do not hold the PO or ACS qualification.	Qualified PO/ACS
<b>Accessing Danger Zone to conduct plate test</b>	Use appropriate safety measures as validated by a PO. Refer to diagram for minimum safety assessment.	Qualified PO
<b>Electricity</b>	ATWS antennae not to encroach safe approach distance to overhead wiring	Operator
<b>Slips, trips, falls carrying ATWS equipment</b>	Use correct manual handling techniques, secure safety boots, clear obstacles for work area and agree a safe path.	All
<b>Approaching rail traffic</b>	Lookout Working using approved ATWS as assessed in the plan & diagram. All points of entry have been validated and ATWS safety measures (sensors) have been installed. Confirm with the Operator that the ATWS has been tested and is operational. Workers immediately move to the designated safe place when warned. Provide ALL CLEAR handsignal after workers and equipment are in a safe place. After the warning has been cancelled, confirm there is no approaching rail traffic between the sensors and the worksite before allowing work to resume.	PO
<b>Ineffective ATWS warnings / Adjoning / surrounding worksites</b>	Test and confirm workers can see and hear the warning in the noisiest environment. Explain the emergency warnings. Workers to be within 50m of warning device. Workers to remain within sight and hearing of warning unit at all times. Radios not to be used near ATWS.	PO
<b>Train warning time longer than expected (stopping points or ATWS equipment fault)</b>	Workers to remain in a safe place until confirmed the ATWS is working correctly. Contact the Signaller or visually confirm the line is clear between the sensors and the worksite. Potential stopping points: CN3, CN 7, CN9, CN10, CN6, CN4, Platforms 1 and 2 Clarendon Station.	PO
<b>Unsignalled movements in Yard limits</b>	Position lookout(s) in safe place. Confirm minimum sighting distance can be achieved. Test effective communication and be within sight and hearing of the workers.	PO / lookouts
<b>Second train warning cancelled in error</b>	Nominate a team member to confirm with the Operator when each rail traffic has completely passed the worksite. Tell the PO and workers about the second train warning. Cancel each warning after each train has completely passed the worksite.	Operator / nominated team member
<b>Distraction</b>	Obtain permission from PO to use electronic devices in the Danger Zone.	All
<b>Obstructions to safe place</b>	Agree on paths to reach designated safe places from the worksite.	PO
<b>Electrical storms</b>	Stop work immediately	All

**ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities**



Hazards (e.g. Site specific hazards identified, including physical environment, human errors, plant and equipment)	Controls (to be implemented to eliminate or reduce the risk to the lowest practicable level)	Person responsible for Control
Exposure to excessive noise from ATWS	Workers must not stand directly in front of audible warning devices.	All
No Safe Place within Clarendon Railway Station Platforms	Workers must not use ATWS protection for working within the platforms	All



# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities



## Worksite Protection Plan – Lookout Working

### Signaller details

	<b>Blacktown Panel</b>	<b>02 9851 7207</b>
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### Protection Officer details

name	signature	contact No.
RSW or RIW No.	designation	Planned duration

Workplace Supervisor details:

Type of work: **Routine Maintenance Activities**

<b>Worksite location</b>		
On the	<b>Richmond Main Line &amp; Clarendon Loop Line</b>	
between	<b>CN3 Dist Signal</b>	and <b>CN10 Dist Signal</b>

### Worksite Assessment

Has the Lookout Working Prohibited Locations Register been consulted? Yes

### Warning method

ATWS	Voice/Whistle
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### Minimum Warning Time Calculations

Maximum track speed

Number of ATWS Sensors used  Position of ATWS Sensors  and

Number of dedicated Lookouts used  Position of Lookouts  To

**Note** - Lookouts are relocated to positions within these KMs as workers move along the worksite.

<input style="width: 50px;" type="text" value="7 sec"/>	+	<input style="width: 50px;" type="text" value="3 sec"/>	+	<input style="width: 50px;" type="text" value="10 sec"/>	=	<b>Minimum Warning Time (MWT)</b>	<input style="width: 50px;" type="text" value="20 sec"/>	<input style="width: 50px;" type="text" value="115 km/h"/>	<input style="width: 50px;" type="text" value="639 metres"/>	Richmond Main line
<input style="width: 50px;" type="text" value="7 sec"/>	+	<input style="width: 50px;" type="text" value="3 sec"/>	+	<input style="width: 50px;" type="text" value="10 sec"/>		<b>(S+M+10 sec = MWT)</b>	<input style="width: 50px;" type="text" value="20 sec"/>	<input style="width: 50px;" type="text" value="115 km/h"/>	<input style="width: 50px;" type="text" value="639 metres"/>	Richmond Main line
<small>See Time (S)</small>		<small>Move Time (M)</small>		<small>Safe Time</small>				<small>Track speed</small>	<small>Minimum Sighting Distance as calculated</small>	

### Dedicated Lookout

<input style="width: 50px;" type="text" value="2 sec"/>	+	<input style="width: 50px;" type="text" value="3 sec"/>	+	<input style="width: 50px;" type="text" value="10 sec"/>	=	<b>Minimum Warning Time (MWT)</b>	<input style="width: 50px;" type="text" value="15 sec"/>	<input style="width: 50px;" type="text" value="25 km/h"/>	<input style="width: 50px;" type="text" value="105 metres"/>
<small>See Time (S)</small>		<small>Move Time (M)</small>		<small>Safe Time</small>		<b>(S+M+10 sec = MWT)</b>		<small>Track speed</small>	<small>Minimum Sighting Distance as calculated</small>

### Where are the safe places identified for the ATWS Operator, Lookouts and workers?

Lookouts:

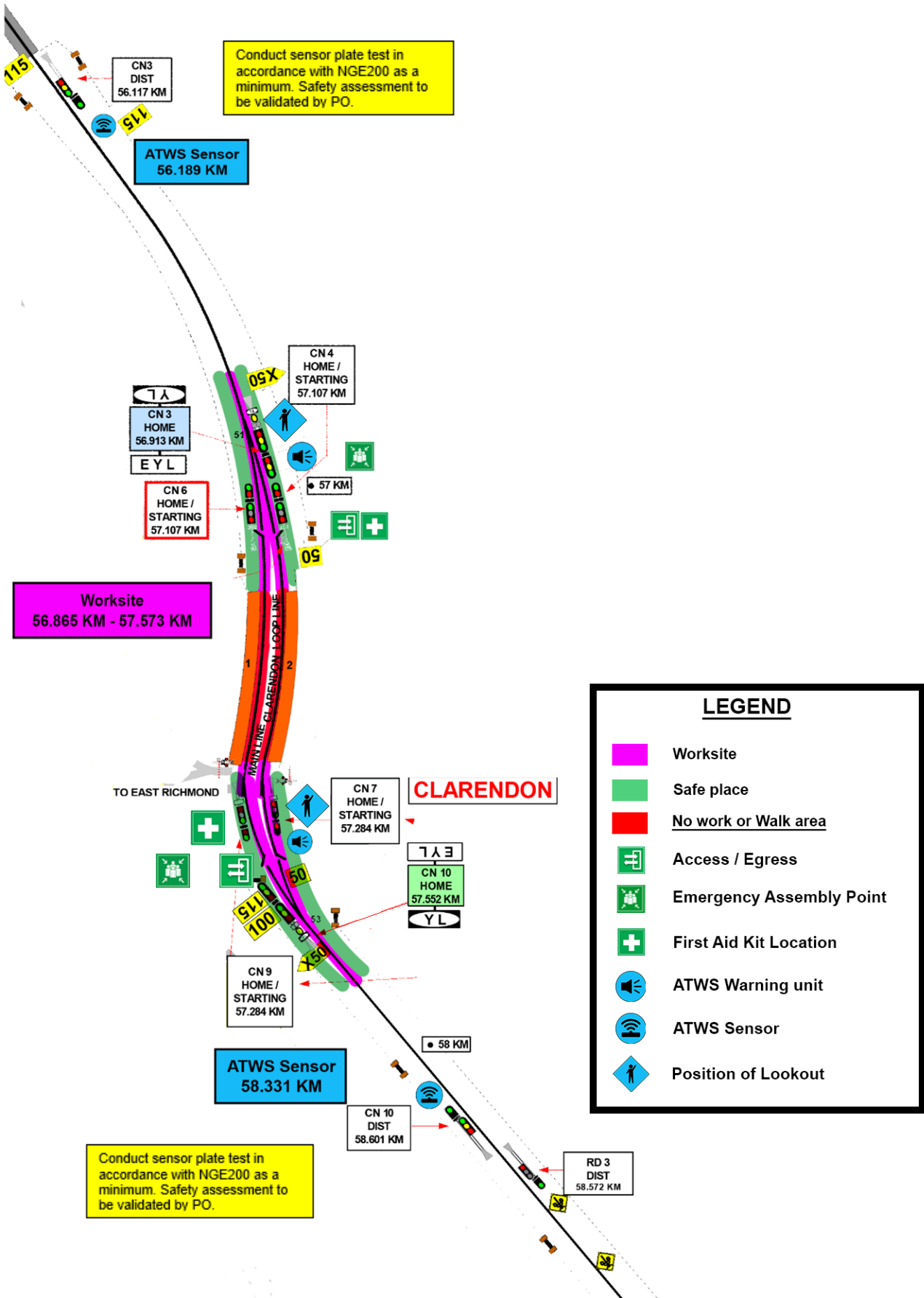
Workers:

Confirm mandatory first train tests were completed for all sensors Yes

Ensure the workers have been briefed about these work details Yes

NOTE: Diagrams and instructions that follow form part of this worksite protection plan.

# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities



**LEGEND**

- Worksite
- Safe place
- No work or Walk area
- Access / Egress
- Emergency Assembly Point
- First Aid Kit Location
- ATWS Warning unit
- ATWS Sensor
- Position of Lookout

# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities

**INSTRUCTIONS:**

1. Workers enter the rail corridor via access gate at Clarendon Station M17 56.910 D
2. Use assets to validate worksite location on Richmond Main and Clarendon Loop lines between 56.865 km to 57.573 km
3. Conduct WP Pre-work briefing to set-up ATWS.
4. Tell Signaller at Blacktown Panel about the use of lookout working with ATWS.
5. Access Dn Cess 56.189 km Richmond Main Line, verify sensor label & connect to sensor cable, calibrate with test plate, connect and turn on the transmitter.
6. Access Up Cess 58.331 km Richmond Main Line, verify sensor label, connect to sensor cable, calibrate with test plate, connect & turn on transmitter.
7. Place warning system on same side of tracks if working on one track only within sight & hearing of workers, conduct siren & light self test, & connect to transmitter(s).
8. Record first rail traffic movement test for each sensor on ATWS Check-sheet.
9. Conduct WP Pre-work briefing for lookout working with ATWS and confirm workers have seen and heard the warning.
10. Start work when advised by the PO, and move to the designated safe place when warned.
11. When work is complete, and workers and equipment are in a safe place, turn off and pack up warning unit
12. Access Dn Cess to turn off and pack up transmitter unit(s).
13. Access Up Cess to turn off and pack up transmitter unit(s).
14. Access Up Cess for all workers to leave the rail corridor via access gate at Clarendon Station M17 57.302 U
15. Tell Signaller at Blacktown Panel when work is completed and the workers and their equipment are clear of the Danger Zone.

**Setup Stage 2: checklist for ATWS worksite warning unit**

Installer name		
Step	Task Description	Operator Check
1	Confirm equipment is within inspection date	
2	Confirm Audible Level	
3	Confirm & Set Radio Channel for Warning Unit	
4	Book in ATWS sensor 1	
5	Book in ATWS sensor 2	
6	Perform Worksite Warning Test with all ATWS sensors	
7	Ensure the workers have seen the visual warning and heard the audible warning	
8	Select & Confirm Channel for the Radio Transmitter	
9	Confirm worksite warning unit is operational with Installers and advise them to lock devices & remove key	
10	Lock device & remove key	

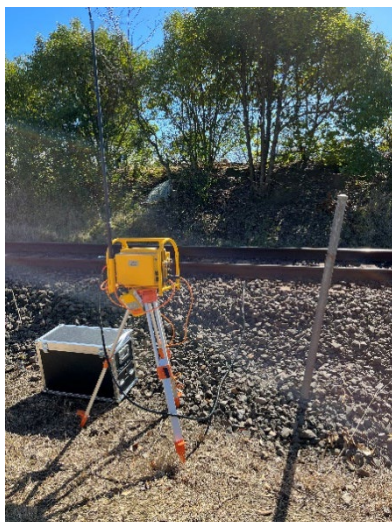


# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities

*(This page is optional and may be separated and given to the assigned operator to assist set-up of ATWS equipment. Refer also to Refer to "D2015-45354 Wireless ATWS (Automatic Trak Warning System)" for detailed instructions.)*

## Setup Stage 1: Checklist for ATWS transmitter and sensor on Dn Richmond line at 56.189KM

Installer name		
Step	Task Description	Installer Check
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Confirm equipment is within inspection date	
3	Sensor Direction is Installed as per Worksite Protection Diagram and Photos in this document	
4	Connect Sensor Cable to Junction Box	
5	Confirm all batteries are fully charged	
6	Connect Junction Box to ZFS using Channel T1 –T4	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In)	
9	Confirm Transmitter booked in to correct T-channel (T1-T4)	
10	Select & Confirm Channel for the Radio Transmitter (AU3 OR AU4)	
11	Perform Worksite Warning Test using Test Plate	
12	Lock Device & Remove Key	



**Image 1:** View of Sensor at 56.180 Richmond Main line



**Image 2:** Sensor access using access gate M17 56.910 D

# ATWS Worksite Protection for Clarendon Routine Network Maintenance Activities

*(This page is optional and may be separated and given to the assigned operator to assist set-up of ATWS equipment. Refer also to Refer to "D2015-45354 Wireless ATWS (Automatic Trak Warning System)" for detailed instructions.)*

## Setup Stage 1: Checklist for ATWS transmitter and sensor on Up Richmond line at 58.331 KM

Installer name		
Step	Task Description	Installer Check
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Confirm equipment is within inspection date	
3	Sensor Direction is Installed as per Worksite Protection Diagram and Photos in this document	
4	Connect Sensor Cable to Junction Box	
5	Confirm all batteries are fully charged	
6	Connect Junction Box to ZFS using Channel T1-T4	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In)	
9	Confirm Transmitter booked in to correct T-channel (T1-T4)	
10	Select & Confirm Channel for the Radio Transmitter (AU3 OR AU4)	
11	Perform Worksite Warning Test using Test Plate	
12	Lock Device & Remove Key	



**Image 1:** View of Sensor 58.331 Richmond Main line



**Image 2:** Sensor access using access gate M17 57.302 U

