

DOCUMENT NO.	D2021/29418
WORK DESCRIPTION	Routine network maintenance activities – Kingswood
WPP Number	CMO1BWS 10001
SCOPE:	<p>This SWI is applicable for the worksite protection arrangements using ATWS for routine condition monitoring equipment maintenance activities performed by the Condition Monitoring Operations section.</p> <p>Work activities include:</p> <ul style="list-style-type: none"> • Condition monitoring equipment corrective maintenance • Condition monitoring equipment routine maintenance
AUTHORISATIONS:	<p>Protection Officer/Operator:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Automatic Track Warning System <p>Installer:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Automatic Track Warning System
SAFETY CONTROLS – Lookout Working (ATWS) arrangements:	<p>The work is performed at a defined worksite in yard limits, protected using Lookout Working arrangements with Automatic Track Warning System (ATWS) equipment:</p> <ul style="list-style-type: none"> • Installed ATWS sensors for Down approach on the Down Main West line at 51.125 km • Installed ATWS sensors for Up approach on the on Up Main West line at 52.945 km
PRESTART REQUIREMENTS:	<p>Protection Officer/Operator assessment checklist (following page of this SWI) must be completed before instructions in this SWI are followed.</p> <p>Tools and equipment required:</p> <ul style="list-style-type: none"> • Protection Officer/Operator requires a phone to contact the Signaller. • ATWS equipment (see Required ATWS equipment checklist) <p>Designate, record and instruct which safe places the workers are to use as the work is completed along the work route within the worksite limits.</p>
FURTHER INFORMATION:	<p><i>NWT 300 Planning work in the Rail Corridor</i></p> <p><i>NWT 310 Lookout Working</i></p> <p><i>NGE 200 Walking in the Danger Zone</i></p> <p><i>NPR 711 Using Lookouts</i></p> <p><i>NPR 751 Calculating Minimum Warning Time</i></p> <p><i>NPR 712 Protecting work from rail traffic on adjacent lines</i></p> <p><i>NPR 752 Using Wireless Automatic Warning Systems</i></p> <p><i>NLA 200 Lidcombe - Penrith</i></p> <p><i>Lookout Working Prohibited Locations Register</i></p>

Protection Officer/Operator assessment checklist

Protection Officer/Operator's name:		Yes (Tick if Yes)
This document is still current at the time of its application? (up to 12 months from the document issue date)		
SWI details and protection arrangements have been reviewed and validated for the assessed worksite location, including: <ul style="list-style-type: none"> On-site safety assessment has been completed for relevancy of works being undertaken The required protection details, environment and tasks are unchanged from the details of this SWI 		
The Protection Officer and Qualified Workers deploying the ATWS equipment and protecting the worksite hold WATWS accreditation.		
Corridor Safety Number	Protection Officer Signature	Date

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.

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	8
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

Safe Work Instruction

ATWS Worksite Protection for Kingswood Condition Monitoring equipment maintenance



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
<ul style="list-style-type: none"> Struck by rail traffic 	<p>Lookouts must be trained and competent to perform lookout duties.</p> <p>Lookouts must be rotated if performing lookout for extended periods of time.</p> <p>Workers to remain within worksite limits as set out in this procedure</p> <p>Lookouts must be placed as per the protection plan attached to this document.</p> <p>Workers are to stop work and move to a safe place immediately on being warned by the lookouts</p> <p><i>Specific ATWS:</i></p> <p>Lookout Working using ATWS procedures, NPR752</p> <p>For ATWS Workers to be within 50m of a warning device at all times.</p> <p>ATWS sensors are verified and placed for all entry points into the worksite by accredited ATWS operator.</p>	<p>Protection Officer/Operator & Lookout</p>
<ul style="list-style-type: none"> Live adjacent lines 	<p>Lookouts must provide warning to workers when rail traffic is approaching from the adjacent line in either direction.</p>	<p>Protection Officer & Lookout</p>
<ul style="list-style-type: none"> Two - way running / multiple entry points into worksite 	<p>One Lookout placed watching each direction before work starts. Lookouts are to warn workers of approaching rail traffic, including rail traffic entering or travelling within the worksite. Workers are to stop work and move to a safe place.</p>	<p>Protection Officer & Lookout</p>
<ul style="list-style-type: none"> Unsignalled rail traffic movements can occur within Yard Limits 	<p>ATWS dedicated Lookouts must be placed to watch for unsignalled movements in any direction</p>	<p>Protection Officer & Lookout</p>
<p>Failure of operator to count trains in and out correctly</p>	<p>Protection Officer/Operator must call out to workers the:</p> <ul style="list-style-type: none"> number of train warnings, and clearing of each train warning 	<p>Protection Officer/Operator & Workplace Supervisor</p>

Safe Work Instruction

ATWS Worksite Protection for Kingswood Condition Monitoring equipment maintenance



	Dedicated Lookouts must confirm with the Protection Officer/Operator when rail traffic has cleared the worksite and which train warning that rail traffic belonged to.	
Mobile phone	Mobile phones use is not permitted in the danger zone unless being used by maintenance staff for critical maintenance communications or recording of defects.	All
Access to / Egress from worksite Slips, trips, falls and hazards carrying equipment	Access and egress points must be agreed prior to entering the danger zone, consideration should be given to ease of access and safest possible entry and exit points. Protection Officer will assess and instruct when it is safe for workers to use <i>NGE 200 Walking in the Danger Zone</i> to move to the worksite or safe place.	All
Exposure to excessive noise from ATWS	Workers must not stand directly in front of audible warning devices.	All

Workplace Supervisor Details

name		contact No.	
Emergency assembly point:		SWMS/SWI Ref #:	
First Aid kit location:		First Aider:	

Workplace Supervisor Acknowledgement

The Workplace Supervisor acknowledges that all identified WHS and rail safety hazards have the appropriate controls in place to manage and/or eliminate the hazards. Yes signature

Participant Acknowledgement

NOTE: Recipients of the briefing are to question the Briefer if they don't understand any part of this briefing.

All workers listed below acknowledge that they:

<ol style="list-style-type: none"> 1. have been inducted to the site 2. are free from the effects of alcohol/drugs/fatigue 3. hold the applicable and current Rail Safety Worker Authorisation, trade licence and/or induction record e.g. Construction Industry Induction 4. wear the appropriate Personal Protective Equipment (PPE) 	<ol style="list-style-type: none"> 5. have been briefed on the contents of the Worksite Protection Plan 6. have been shown the Worksite Protection Plan diagram 7. understand the kinds and limits of worksite protection in place 8. have been briefed about any new hazards and controls identified during the final site inspection (<i>final site inspection must be conducted immediately before commencing work</i>)
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Mark each check box below with a tick if the item applies or a cross if the item does not apply.

<input type="checkbox"/> have been informed of the requirements of the electrical permit (if required) <input type="checkbox"/> have been briefed on the SWMS/SWIs/documented safe work practice for the job <input type="checkbox"/> have been instructed in the controls recorded in this document and SWMS/SWIs	<input type="checkbox"/> have been made aware of any hazardous materials/substances on site <input type="checkbox"/> have been briefed on Safety Data Sheets (SDS) <input type="checkbox"/> have been briefed on the WHS Management plan <input type="checkbox"/> have been briefed on the hazards of adjoining worksites/processes.
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Safe Work Instruction

ATWS Worksite Protection for Kingswood Condition Monitoring equipment maintenance



Name	Signature	Time of briefing: hh:mm	Amendment briefing: hh:mm and initial

Worksite Protection Plan – Lookout Working

Signaller Details

	Penrith Panel	4780 3824
	St Mary’s Panel	9851 7209

Protection Officer Details

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

Workplace Supervisor details:

Type of work: **Routine/corrective Condition Monitoring maintenance**

Worksite Location (tick the tracks that apply)

On the

between and

On the

between and

Worksite Assessment

Has the Lookout Working Prohibited Locations Register been consulted? Yes

Warning method

Minimum Warning Time Calculations

Maximum track speed

Number of ATWS Sensors used Position of ATWS Sensors and

Number of dedicated Lookouts Position of Lookouts to

7 sec	+	3 sec	+	10 sec	= Minimum Warning Time (MWT)	20 sec	115 km/h	639 metres
7 sec	+	3 sec	+	10 sec		(S+M+10 sec = MWT)	20 sec	115 km/h
See Time (S)		Move Time (M)		Safe Time		Track speed		Minimum Sighting Distance as calculated

* Add an additional 5 seconds of See Time has been applied when using ATWS sensors

Note – Additional MWT calculations can be recorded in the Protection Officer's Diary.

Dedicated Lookout

sec	+	sec	+	sec	= Minimum Warning Time (MWT)	sec	km/h	metres
See Time (S)		Move Time (M)		Safe Time		(S+M+10 sec = MWT)	Track speed	

Where are the safe places identified for the Lookouts and the workers?

Lookouts:

Workers:

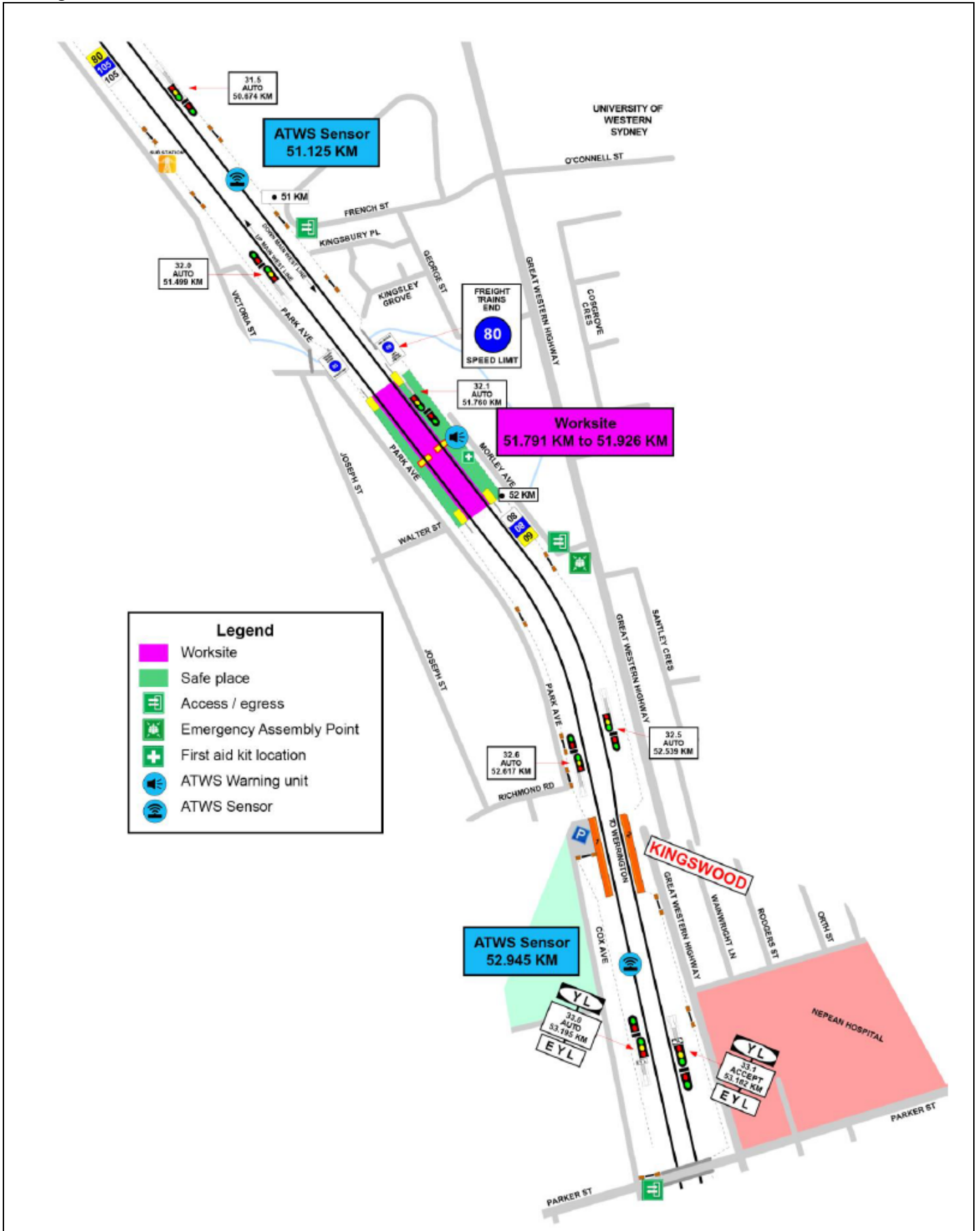
Ensure the workers have been briefed about these work details Yes

INSTRUCTIONS:	<ol style="list-style-type: none"> 1. Workers enter the rail corridor at access gate W00 52.283 U. 2. Protection Officer conducts the worksite protection pre-work briefing. 3. Protection Officer contacts Penrith Panel and/or St Mary's Panel as required to tell the Signaller(s) about the use of ATWS. 4. Setup ATWS Worksite Warning System as per installation instructions 5. Install/calibrate/verify Down ATWS sensor at 51.125 KM on the Down Main West line. 6. Install /calibrate/verify Down ATWS sensor at 52.945 KM on the Up Main West line. 7. Test ATWS equipment. 8. Perform first rail traffic movement activation test with each ATWS sensor. 9. Place dedicated Lookout. 10. Workers start work. 11. Once work is completed, workers move into a safe place. 12. Turn off ATWS Warning unit. 13. Turn off and remove all ATWS transmitter units. 14. All workers egress the rail corridor at W00 52.283 U. 15. Protection Officer contacts the Signaller at Penrith Panel and/or St Mary's Panel as required to end ATWS.
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Setup checklist for ATWS worksite warning units

Installer name		
Step	Task Description	Installer Initials
1	Verify Worksite Start Location with Kilometres	
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	Perform first rail traffic activation test with all ATWS sensors	
8	Ensure the workers have seen the visual warning and heard the audible warning	
9	Select & Confirm Channel for the Radio Transmitter	
10	Confirm worksite warning unit is operational with Installers and advise them to lock devices & remove key	
11	Lock device & remove key	

Diagram



(This page can be separated from the worksite protection plan to be given to the assigned installer)

Installation checklist for ATWS transmitter and sensor on Up and Down Main West line at 52.945 KM		
Installer name		
Step	Task Description	Installer Initials
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Sensor clamp (SK150) pre-adjusted according to the rail profile as per the Worksite Protection Diagram	
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	Perform first rail traffic activation test	
10	Confirm Transmitter booked in to correct T-channel (T1-T4)	
11	Select & Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device & Remove Key	



Image 1: Access gate

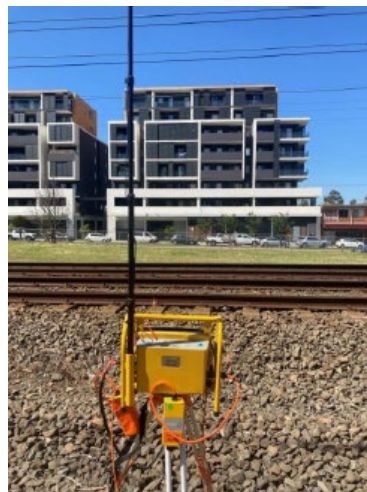


Image 2: Sensor installation location



Image 3: Transmitter location

Safe Work Instruction

ATWS Worksite Protection for Kingswood Condition Monitoring equipment maintenance



(This page can be separated from the worksite protection plan to be given to the assigned installer)

Installation checklist for ATWS transmitter and sensor on Up and Down Main West line at 51.125 KM

Installer name		
Step	Task Description	Installer Initials
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Sensor clamp (SK150) pre-adjusted according to the rail profile as per the Worksite Protection Diagram	
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	Perform first rail traffic activation test	
10	Confirm Transmitter booked in to correct T-channel (T1-T4)	
11	Select & Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device & Remove Key	



Image 1: Access Gate W00 51.306 U



Image 2: Transmitter and sensor installation location