

ATWS Worksite Protection for Lithgow condition and monitoring equipment maintenance

DOCUMENT NO.	D2022/10995
WORK DESCRIPTION	Condition monitoring equipment maintenance
WPP Number	CMO11BWS 10178
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 but not limited to:</p> <ul style="list-style-type: none"> • Condition monitoring equipment corrective maintenance • Condition monitoring equipment routine maintenance • Maintenance activities in line with NWT310 Lookout Working
AUTHORISATIONS:	<p>Protection Officer/Operator:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Wireless Automatic Track Warning System <p>Installer:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Wireless Automatic Track Warning System
SAFETY CONTROLS – Lookout Working (ATWS) arrangements:	<p>The work is performed at a defined worksite outside 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 Up approach on the on Up Main West line at 156.954 KM
PRESTART REQUIREMENTS:	<p>Protection Officer/Operator assessment checklist 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) • Digital radios
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>Lookout Working Prohibited Locations Register</i></p>

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Protection Officer/Operator assessment checklist

Protection Officer/Operator's name:		Yes (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"> 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 have been inducted into the requirements of the ATWS protection method for the location.		
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	2
Assembly Kit	Orange Bag with Tools	1
Battery ZA24-2.9	Small battery for Junction Box & Transmitter	2
Device Frame	Protective Frame	1
F500-AB Junction Box	Receiver Device	1
F500-SEN Train Sensor	Sensor	1
Housing for Aerial	Housing for Telescopic Aerial	2
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	1
Tripod	Tripod for Device	2
ZFS Radio Transmitter	Radio Transmitter Device	1
ZPW Warning Unit	Control & Warning Device	1

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Worksite Protection Pre-work Briefing

Briefing date:

Protection Officer details

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
Approaching rail traffic	Lookout Working using ATWS Workers to remain within worksite limits. Workers to be within 50m of a warning device	Protection Officer/Operator
Unidirectional running	ATWS sensors placed for all entry points into the worksite	Protection Officer/Operator
Unsignalled rail traffic movements	Dedicated Lookouts placed watching for unsignalled movements in both directions	Lookout
Miscount of multiple train warnings	Protection Officer/Operator must call out to workers the: <ul style="list-style-type: none"> • number of train warnings, and • clearing of each train warning. 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.	Protection Officer/Operator & Workplace Supervisor
Electric shock	Operators must make sure ATWS antennae length does not breach Safe Approach Distance (SAD) to overhead wiring.	All
Mobile phone	Mobile phone usage is not allowed in the Danger Zone. Mobile phones may be used only in a safe place after informing the Protection Officer.	All
Digital radios	Digital radios only to be used in a safe place. GRN radios must not be used.	All
Obstructions or uneven surfaces in the exit path to a safe place	Before commencing work, a route to the safe place is to be agreed upon taking obstructions and uneven surfaces into consideration.	Workplace Supervisor
Exposure to excessive noise	Workers must not stand directly in front of audible warning devices.	All
Slips, trips, falls and hazards carrying ATWS equipment	Areas of concern are marked and/or identified to all workers. Designated work areas to be established and kept free of hazards. Established walk areas to be utilised where established.	All

Safe Work Instruction

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Workplace Supervisor details

name contact No.
 Emergency assembly point: SWMS/SWI Ref #:
 First aid kit location: Sydney Trains work vehicle 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:

1. have been inducted to the site	6. have been briefed on the contents of the Worksite Protection Plan
2. are free from alcohol and drugs	7. have been shown the Worksite Protection Plan diagram
3. are free from the effects of fatigue	8. understand the kinds and limits of worksite protection in place
4. hold the applicable and current Rail Safety Worker Authorisation, trade licence and/or induction record e.g. Construction Industry Induction	9. 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>)
5. must wear the appropriate Personal Protective Equipment (PPE)	

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

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

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Worksite Protection Plan – Lookout Working

Signaller details

Protection Officer details

Planned duration

Workplace Supervisor details:

Type of work:

Worksite location

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 used Position of Lookouts To

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

<input type="text" value="7 sec"/>	+	<input type="text" value="3 sec"/>	+	<input type="text" value="10 sec"/>	=	Minimum Warning Time (MWT)	<input type="text" value="20 sec"/>	<input type="text" value="85 km/h"/>	<input type="text" value="475 metres"/>
<small>See Time (S)</small>		<small>Move Time (M)</small>		<small>Safe Time</small>		<small>(S+M+10 sec = MWT)</small>		<small>Track speed</small>	<small>Minimum Sighting Distance as calculated</small>

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

Diagrams, notes and detailed instructions of worksite protection arrangements are over the next pages. These are to be read and followed as part of this worksite protection plan for Lookout Working with ATWS.

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INSTRUCTIONS:	<ol style="list-style-type: none"> 1. Workers enter the rail corridor via access gate W00 156.534 U. 2. Protection Officer conducts the pre-work briefing. 3. Protection Officer contacts Lithgow Yard to tell the Signaller about the use of ATWS. 4. Setup ATWS Worksite Warning System as per installation instructions 5. Install /calibrate/verify Up ATWS sensor at 156.954 KM on the Up Main West line. 6. Test ATWS equipment. 7. Perform first rail traffic movement activation test with each ATWS sensor. 8. Workers start work. 9. Once work is completed, workers move into a safe place. 10. Turn off ATWS Warning unit. 11. Turn off and remove all ATWS transmitter units. 12. All workers egress the rail corridor via access gate W00 156.534 U. 13. Protection Officer contacts the Signaller at Lithgow Yard to end ATWS.
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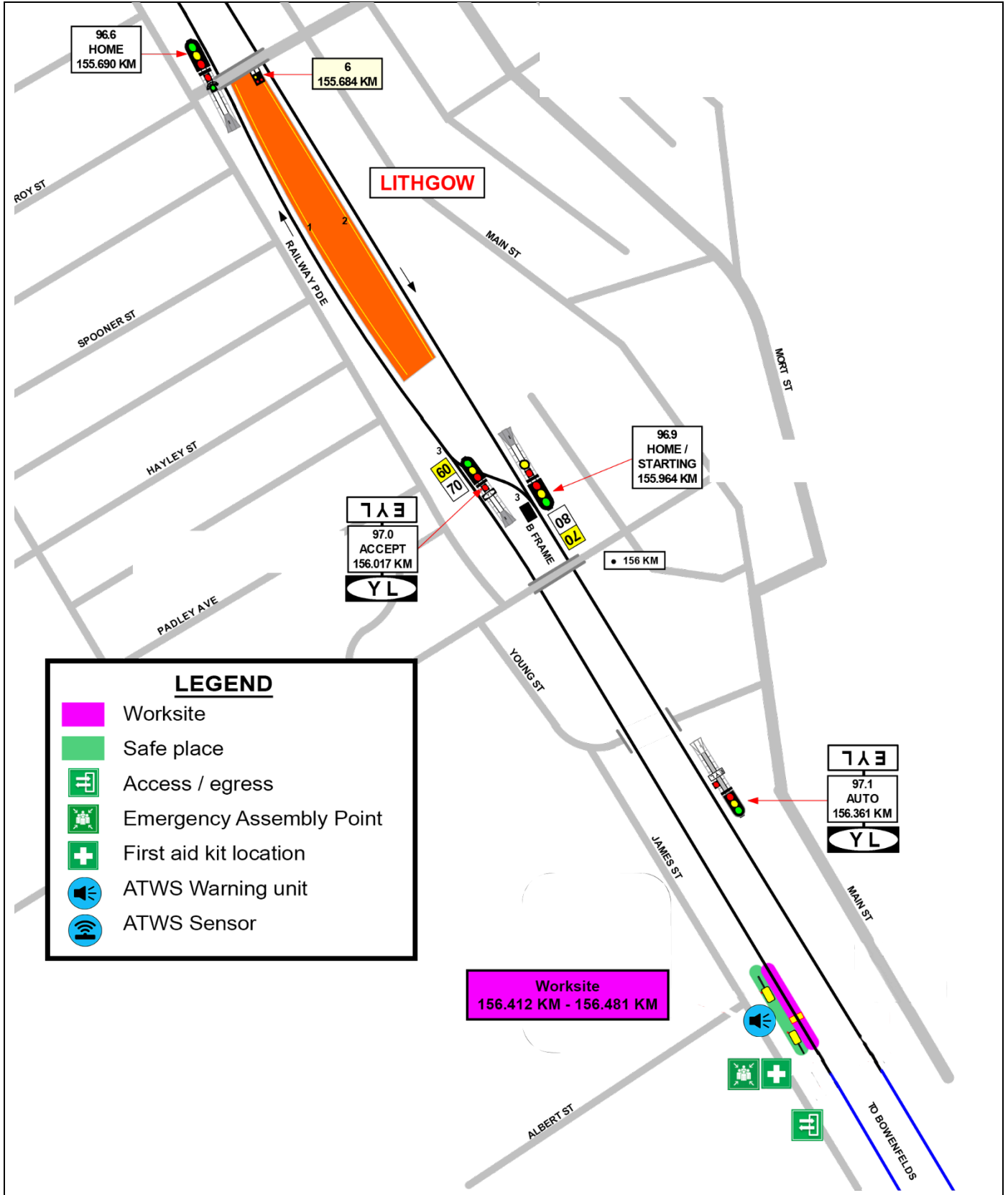
ADDITIONAL DETAILS	<p><u>ATWS Sensor plate test calibration</u></p> <p>Whilst performing the plate test calibration, make sure to look for rail traffic approach.</p>
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Setup checklist for ATWS worksite warning unit on the Up Main West line at 156.450 KM

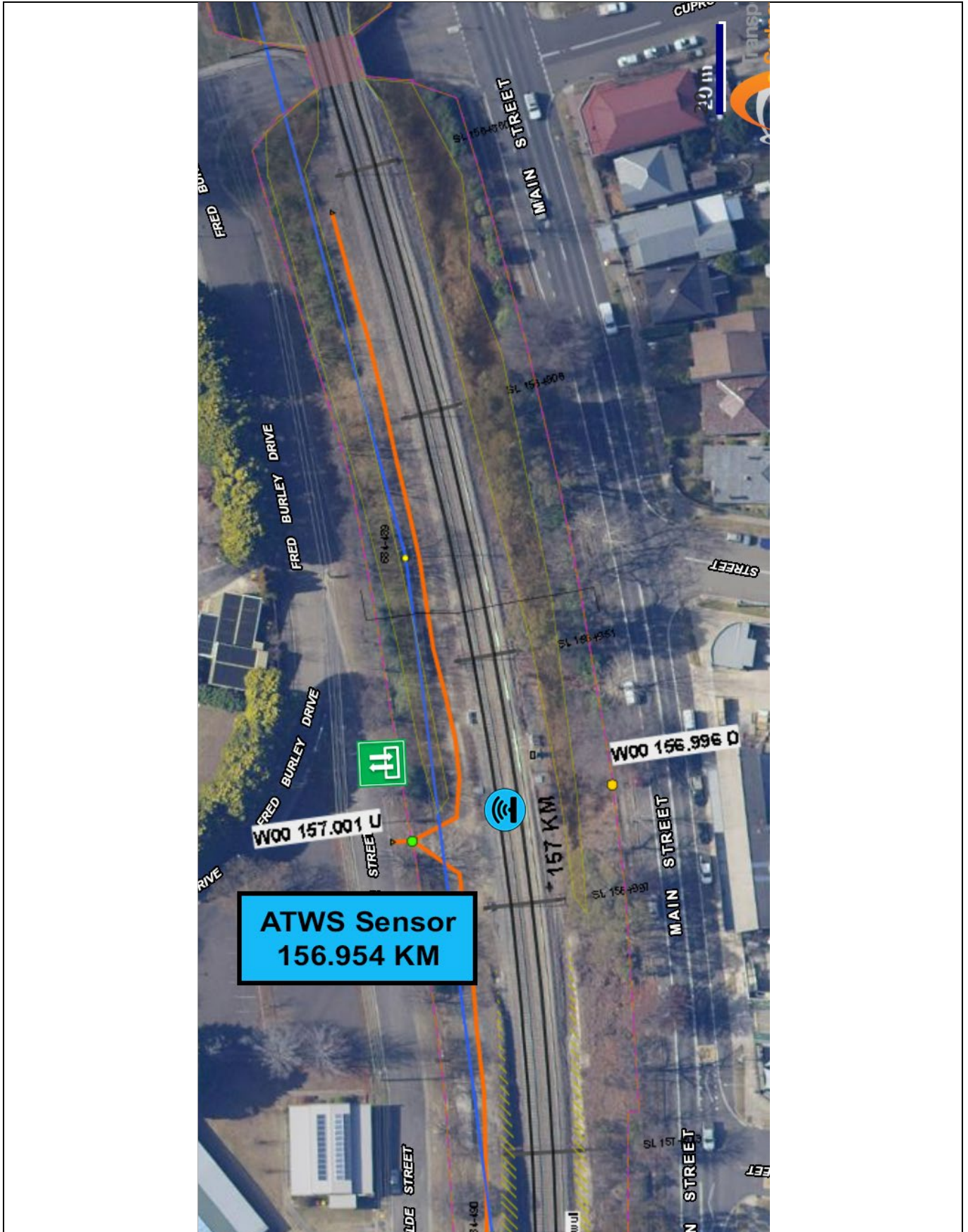
Installer name		
Step	Task Description	Installer Initials
1	Verify Worksite Start Location with Kilometres	
2	Confirm Audible Level	
3	Confirm & Set Radio Channel for Warning Unit	
4	Book in ATWS sensor 1	
5	Perform Worksite Warning Test with all ATWS sensors	
6	Ensure the workers have seen the visual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

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Diagram



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(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 Main line at 156.954 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: Transmitter and sensor installation location



Image 2: Sensor access gate W00 157.001 U