Train Track Safety Awareness (TTSA)

Participant Workbook

TLIF0020 Safely access the rail corridor

Version 17.2

Contents

Using This Workbook

Graphic Cues

The graphic cues pictured below have been used throughout this workbook.

	Indicates that you are required to complete a written activity.	
	Indicates an important piece of information.	
	Indicates that you are required to complete a practical activity.	

Section 1 – Course Information

1.1 Units of Competency

This course and the assessment of the course meet the requirements of the following nationally accredited unit of competency:

- TLIF0020 Safely access the rail corridor

On successful completion of this course, including the associated course practical and theory assessments, you will be awarded a statement of attainment for the unit listed above.

1.2 Course Objectives

- To provide the skills and knowledge required to perform work safely in or near the Rail Corridor and Danger Zone
- Ability to identify Hazards, Risks and Controls in relation to working in the Rail Corridor and Danger Zone
- Understand Safety Critical Communication when working in and around the rail environment
- Understand terminology used in the rail environment
- Follow and understand Policies and Procedures in relation to working in the MTM network

1.3 Learning Outcomes

At the completion of this course participants will be able to:

- State the legislation applicable to working in the Rail Corridor
- Identify Rules and Regulations in relation to Drugs and Alcohol and Fitness for Work
- Identify the Rail Corridor
- Identify Position of Safety
- Identify Train running directions
- Identify Basic train speeds
- Identify the Danger Zone
- Identify when you can access the Rail Corridor and Danger Zone safely
- Identify a range of terminology associated with the rail industry
- Identify information delivered in the Work Group Supervisor Pre-Work Briefing
- Identify basic types of protection arrangements for working in or around the Danger Zone
- Identify Electrical Infrastructure
- Identify considerations and distances for working safely near Electrical Infrastructure
- Identify considerations for working in and around Environmentally Sensitive and Heritage areas in the MTM network
- Identify appropriate coloured clothing and Personal Protective Equipment that must be worn
- Describe the conditions required to enter and work in the Rail Corridor
- Describe the conditions required to enter and work in the Danger Zone
- Explain the requirements for reporting unsafe or dangerous situations
- Explain the basic emergency procedures and process for dealing with emergency procedures
- Understand the importance of Safety Critical Communication
- Demonstrate the basic hand signals used in the rail industry
- Conduct a basic risk analysis that identifies a number of hazards and risk.

1.4 Assessment

1.4.1 Part 1- Written Assessment

This assessment is completed in the classroom consisting of multiple choice and short answer written response questions.

The theory assessment consists of short answer and multiple-choice questions. The timeframe to complete this assessment is 60 Minutes.

If you are experiencing any difficulty with this assessment, or if you have questions about the assessment, please raise your concerns and question with your facilitator.

The assessment is an individual **closed book**, test of your knowledge. Please ensure your details have been completed correctly and that you have signed the "Participant Declaration" section.

When you have completed the assessment make sure you check through your answers to ensure all questions have been completed.

On completion of the assessment process, including assessment outcome and feedback, ensure you sign the "Participant Acceptance of Assessment Decision" section.

You are required to achieve a mark of 100% correct to be deemed competent (More assessment information is contained in your individual assessment record).

1.4.2 Part 2 - Practical Assessment

Where you will be asked to perform tasks directed by your assessor against an observation checklist.

The practical assessment will take place in the simulated track environment at South Kensington.

You will be placed into a small group and given a scenario relating to working in the Rail environment.

You will be required to answer a series of questions and follow instructions given by your trainer. You will be required to provide answers practically, written and verbally to demonstrate your understanding.

Each student will be required to hand in their practical assessment sheet to the assessor.

The outcome of the practical assessment is to ensure that you understand the safety protocols (including safe distances) when working on or near the Rail Corridor. The time frame allocated to the practical assessment is 5 minutes.

Please refer to the handout supplied by your trainer for specific instructions relating to this activity.

You are required to achieve a mark of 100% correct to be deemed competent (More assessment information is contained in your individual assessment record).

Section 2 – Safety Laws, Acts and Regulations

2.1 Legislation

The legislation, which applies to rail work, is:

- Occupational Health & Safety (OHS) Act 2004,
- Occupational Health & Safety (OHS) Regulations 2017,
- Rail Safety National Law 2012
- Rail Safety National Law National Regulations 2012
- Victorian Traction Industry Electrical Safety Rules 2014 (The Orange Book Nov 2017)

2.2 Metro Trains Melbourne (MTM) Policies and Procedures

- 1994 Book of Rules and Operating Procedures
- A2033 Planning Worksite Protection in the Rail Corridor
- A5008 Safe Work Method Statement SWMS
- A2021 Management of Persona Protective Equipment Procedure
- A1009 Safety Critical Communication SOP
- A1029 Drug and Alcohol Testing Procedure
- A7557 Counselling and Disciplinary Procedure
- A2020 Safety and Environmental Requirements for Contractors and Third Parties

2.3 Metro Trains Melbourne (MTM) Policies and Procedures for Third Parties and Contractors

These must be strictly observed at all times, to access the most up-to-date Metro Trains Melbourne Policies and Procedures Third Parties and Contractors need to access the following link:

https://documentportal.metrotrains.com.au/safetydocs/Pages/default.aspx

Once you have navigated to this page select the Metro Controlled Documents Tab then select the Metro Controlled Document External Portal, this will that you to the Metro Controlled Document Internal Portal and you can access all of the relevant policies and procedures for Metro Trains Melbourne.

2.4 To Be Strictly Observed:

Policy and Procedures are in place to protect you and your colleagues. These must be strictly observed at all times.

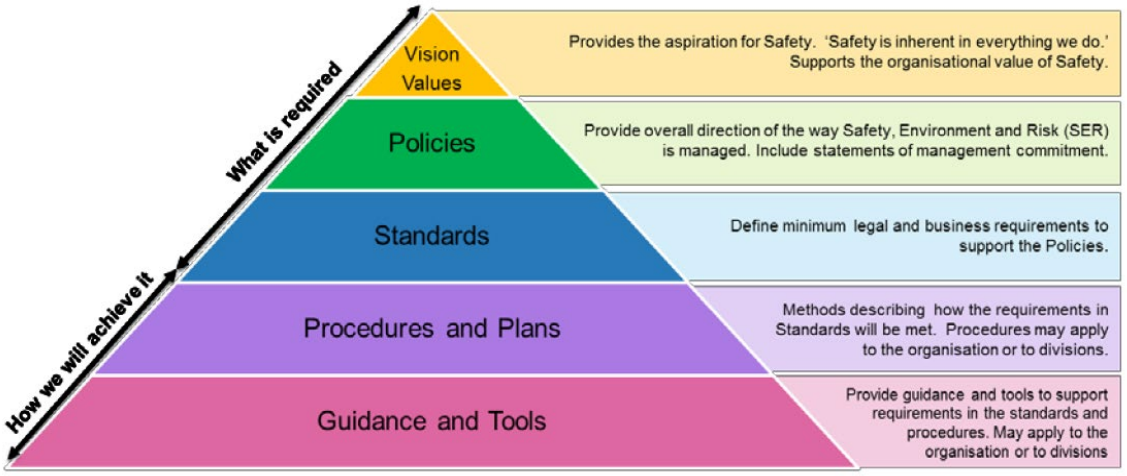
Every rule or instruction is based upon an established principle of Safeworking designed to reduce risk. They are also designed to avoid a repetition of some known accident, and if an employee wilfully ignores any policy, procedure, or permits, they risk a recurrence of the conditions that the instructions are designed to prevent.

As a result, every MTM employee and third party is personally answerable for his or her own conduct and must follow the relevant rules, policies and procedures.

Failure to do so may result in disciplinary action up to and including dismissal.

2.5 Integrated Safety Management System

MTM is continuously improving its integrated safety management system (See below figure) and respective implementation based on, but not limited to, on-going reviews of MTM performance against objectives, policies, risks, and controls, including taking in consideration outcomes of internal and external audits, occurrences, KPIs, internal and external investigations, as well as benchmarking against national and international best practice.



2.6 MetroSafe

MetroSafe is MTM's Safety Management System, developed to enable us to deliver on our safety goals implemented through the Corporate Safety Plan and specific Divisional Safety Plans.

There are eight safety strategies, which provide the framework for managing safety on Melbourne's railway, these are:

- Establishing and implementing a proactive risk management system
- Striving for best practice by ensuring continuous improvement
- Embedding the safety frameworks by driving safety ownership
- Recognising valuable assets by further establishing safety knowledge management
- Identifying and capturing safety skills and competencies within the business
- Integrating human factor initiatives, principles, and knowledge into all aspects of the operational and business systems
- Enhancing our resilience framework and capability
- Monitoring safety performance.

A solid framework is crucial as it provides our business managers and railway supervisors with certainty and consistency when identifying and addressing matters of safety. Responsibility for the safe running of Melbourne's railway clearly rests with MTM.

It is a responsibility taken very seriously and accepted readily. MTM have adopted a no-compromise approach to safety and continuously strive to strengthen our safety management processes through good management, solid and sound policies and procedures, continuous improvement and onsite training and development.

2.7 Competence Management & Identification Requirements

Competence Management is one of the MetroSafe pillars that provides the link between the requirements of the Rail Safety National Law and Regulations.

As a Rail Safety Worker, you:

- **Must** hold the appropriate certificate of competency for the task to be undertaken,
- **Must** carry at all times either Rail Industry Worker (RIW) or MTM Track Protection Card that identifies you as being competent in the type of rail safety work you are doing, and
- **Must** have passed your Rail Safety Worker medical to the required level of the task to be performed.

Section 117 of the Rail Safety National Law states a rail operator must ensure that a person does not carry out rail safety work unless that person is competent to do so.

Therefore, on completion of this course:

- You will be issued with a competency to the equivalent of TLIF0020 Safely access the Rail Corridor [a track protection card (MTM Employees only)] that will be valid for two years from the date of issue or your medical expiry date, whichever is the lesser,
  You will be issued a statement of attainment to demonstrate your satisfactory completion of the TLIF0020 Safely access the rail corridor.
- You will be required to undertake a recertification course before the anniversary date. Failure to do so will result in your competency expiring.

	MTM employees will be issued with an MTM track card. Third parties will need to apply for a Rail Industry Worker (RIW) card.	

	To demonstrate competency these cards must be carried on the person at all times and presented for checking prior to entry and at any stage when working on the Rail corridor.	

2.8 What is a Safe System of Work?

This is a process that is put in place to reduce the risk of injury to you and others and avoid damage to assets, equipment, or the environment. The responsibility within MTM falls under the Director Safety Engineering, Environment & Risk (SER).

Elements of safe systems of work include:

- Rail Safety Worksite Hazard Assessment (RSWHA);
- Safe Work Method Statements (SWMS);
- Job Safety Environmental Analysis (JSEA);
- Competent people; and
- Safeworking.

Working in a safe manner is important for several reasons, including:

- Reducing the risk of injury to yourself and others;
- Reducing the risk of damage to assets, equipment, or the environment; and
- It is a requirement of the Occupational Health and Safety Act 2017.

2.9 What is Safeworking?

This is the controlled movement of rail traffic to protect workers, infrastructure, and other rail traffic.

Worksite Protection is a Safeworking system used to determine what protection is required to keep you safe; it must be in place prior to you starting work in the Danger Zone.

2.10 Safe Work Method Statements / Job Safety Environmental Analysis

SWMS and/or JSEA will be developed using the following steps:

1. Identify the job;
2. List all of the tasks carried out in performing that job;
3. Identify and list all safety hazards and environmental impacts. Determine what could happen and what could go wrong;
4. Assess the level of risk (likelihood and consequence) of injury, illness, service disruption or environmental impact;
5. Determine the controls necessary to eliminate or minimise the level of risk;
6. Determine the residual risk. In analysing the residual risk assess the effectiveness of the control;
7. Allocate responsibility for arranging and implementing each control; and
8. Monitor and review the task on a regular basis to ensure the SWMS/JSEA is being followed, the controls are effective, and no new hazards or impacts are identified.

2.11 Rail Safety National Law

The Rail Safety National Law (2012) sets out the legislative requirements for any persons operating in the network. According to the Act, all workers involved in any Rail Safety Work must hold the appropriate certificate of competency for the task undertaken.

Section 117 of the Rail Safety National Regulations, states (in part), that a Rail Transport Operator must ensure that a person does not carry out rail safety work unless that person is competent to do so.

2.12 Rail Safety Work

Rail Safety Work means:

- Designing, constructing, certifying, maintaining, repairing, monitoring rolling stock and rail infrastructure, including signalling, and signalling operations.
- Driving and shunting; through to
- The development and management of Safe Working systems.

Therefore, someone conducting rail safety work is a Rail Safety Worker, no matter whether they are employees, contractors, or subcontractors.

All workers in the rail environment are reminded to always speak up for safety. Raise issues with your Work Group Supervisor, Track Force Protection Co-ordinator or other workers to ensure the safety of you and your colleagues is managed appropriately.

Section 3 – Fitness for Rail Safety Work (Fit for Work)

The Rail Safety National Law and the 1994 Book of Rules and Operating Procedures state that you **MUST** be fit to work in the Rail Corridor / Danger Zone. It is essential for your wellbeing and for the people that will be working with you in the Rail Corridor that:

1. RIW / Metro Track Protection Card
2. Current Medical
3. Free From Fatigue
4. Free From Drugs and Alcohol
5. Mandatory PPE (6 Items)
6. Attend and Sign Pre-work Brief (RSWHA)

	If you are not **fit for work** before commencing work in the Rail Corridor, you have a legal responsibility to report this to your supervisor so you can be stood down or assigned other work outside of the Rail Corridor.	

3.1 RIW (Rail Industry Worker Card) – MTM Track Protection Card

Rail Safety National Law requires you to have your RIW on you at all times, or if applicable, MTM Track Card while working in the Rail Corridor.

www.riw.net.au

Contractors only

Metro employees only

Post course pre-requisites:

- Required competencies must be uploaded to MTM / RIW cards prior to work commencing.

3.2 Medical Fitness

Prior to working in the rail industry, you must have undertaken and passed the appropriate medical examination, including a vision and hearing test. Depending on the level of safety critical work being performed, the medical examination requirements differ.

All employees working on the networks must be medically fit and conform to the National Standard for Health Assessment of Rail Safety Workers 2017.

It is the employee's personal responsibility to advise their employer/s of any temporary or ongoing health condition or change in their health status that may affect their ability to perform their work safely.

3.3 Fatigue

Fatigue is a state of impairment…

- Reduced alertness and mental performance
- Reduced physical performance
- Reduced ability to carry out tasks safely and effectively

3.3.1 Causes of Fatigue

- Acute fatigue can be experienced after just one poor sleep
- Chronic fatigue builds up over time when people regularly do not get enough good quality sleep
- Fatigue is not a sign of weakness, but a natural and predictable response to inadequate sleep or a challenging workload

Other Work Factors	Personal Factors
• **Night Shift** • **Early morning shifts** • **Harsh environmental factors (e.g. cold, heat, noise, vibration)** • **Inadequate rest breaks during a shift** • **Unpredictable roster patterns** • 'On-call' work	• Other commitments (e.g. family responsibilities, second jobs) • Poor physical or mental health • Using alcohol or other drugs, including some prescription medications • Poor diet, being dehydrated and not being physically fit • Undiagnosed or untreated sleep disorders

3.3.2 Common Signs of Fatigue

It is critical to identify your personal early warning signs of fatigue so you can implement appropriate control measure and avoid more dangerous levels of fatigue.

Mental/Behaviour Signs	Physical Signs	Driving Performance
• Irritability, impatience, over-reacting or under-reacting • Lacking motivation • Easily distracted • Increased risk-taking • Poor concentration • Difficulty making decisions • Lapses in attention • Start 'seeing things' • Waves of sleepiness	• Minor aches and pains • Light headache • Hungry or thirsty • Sweaty hands • Feeling stiff or cramped • Lack of energy, lethargy • Fidgeting • Poor hand-eye coordination • Slowed reactions • Yawning • Tired, sore or heavy eyes • Blurry vision • Slurred speech • Micro sleeps	• Not noticing a vehicle until it suddenly over takes you • Making fewer and/or larger steering corrections • Not remembering the last few km's. • Not turning off the high beams • Missing road signs • 'Zoning out'

3.3.3 Roles and Responsibilities

Fatigue is a workplace hazard and managing fatigue is a collective responsibility.

3.3.4 Employer Responsibilities

Your employer has a primary duty of care to provide and maintain a safe working environment, including:

- Provide and maintain a safe working environment, including safe systems of work
- Identify and manage fatigue-related risks
- Take reasonable steps to ensure adequate resources to minimise fatigue risks
- Develop rosters that provide safe hours of work and adequate rest opportunities
- Monitor actual hours of work
- Providing clear guidelines, education, and training on how to identify and manage risks associated with fatigue

3.3.5 Employee Responsibilities

- You must take reasonable care for your own health and safety
- You have an OHS responsibility to understand fatigue and how to manage it
- You have a responsibility to turn up for work fit for duty (which includes not impaired by fatigue, alcohol, or other drugs)
- You are responsible for using the available time between shifts to get enough good sleep
- You should avoid behavioural practices that may cause fatigue-related risks in the workplace
- You must inform your Supervisor if you think you may be impaired by fatigue
- You should not work additional hours or undertake safety critical tasks when you think you are likely to be fatigued
- You should report all incidents that may involve fatigue (including near misses)

Fatigue cannot be eliminated, but it can be minimised and managed.

3.3.6 Fatigue Control Measures

- Ensure you follow your local Fatigue Risk Management Plan and associated processes
- Let your colleagues and Supervisor know if you might be impaired by fatigue
- Increase interaction with your colleagues, check in with each other, ‘buddy up’
- If necessary, and where possible, take longer and /or more frequent breaks
- Task rotation
- Identify your own warning signs
- Ensure you stay hydrated
- ‘Alerting foods’ – High protein /Low fat
- Beware of medications
- Physical activity
- Smart napping

Preventative naps are taken before work shifts to ‘bank sleep’

Powernaps can be taken when feeling fatigued (e.g. before driving home)

Beware of ‘**sleep inertia’** – a period of grogginess upon waking, during which your performance is impaired

3.3.7 Tips for Improving Your Sleep

- Make sleep a priority
- Keep fit and healthy
- Sleep as late as possible on the day of your first night shift
- 'Top up' your sleep with afternoon naps when working nights
- Keep your bedroom quiet, dark and at a comfortable temperature
- Limit caffeine
- Limit alcohol
- Have a relaxing routine before bed
- If you believe you are suffering from a sleep disorder, see your GP

3.4 Metro's Alcohol and Drug Policy

MTM complies with the Rail Safety National Law National Regulations Part 6 in implementing a Drug and Alcohol management program to ensure a safe and healthy workplace for all our employees.

MTM is dedicated to providing a safe and healthy rail network and has committed to a Drug and Alcohol-free workplace, with the principle of **zero tolerance**.

MTM is committed to:

- Ensuring that all MTM workplaces are Drug and Alcohol free
- Ensuring that any MTM employee or Third Party (Attending work at **any MTM workplace**) under the affects or influence of Drugs or Alcohol will not be permitted to commence or continue work. A breach of this policy shall lead to disciplinary action, which may include dismissal.

It is the **responsibility of all MTM employees and Third Parties** to ensure that they comply with the zero tolerance requirements at all times when attending a MTM workplace and/or MTM's Rail Corridor, yards, or sidings.

MTM's Drug and Alcohol Testing Procedure is applicable to all Rail Safety and Non-Rail Safety Workers entering and/or working on MTM premises, including MTM employees and all Third Parties. All persons entering MTM premises (includes Rail Safety Workers and Third Parties) can be tested for

Alcohol and Drugs under the following circumstances:

Infield Drug and Alcohol Tests:

- **Randomly** for any persons employed or conducting works on any MTM workplace or MTM site.
- When MTM has "**Show Cause**" (having reasonable suspicion) drawn from specific observations including but not limited to appearance, behaviour, cognitive ability and speech or body odours of the individual.
- Following an **accident or incident** (within 3 hours), any individual involved in a railway accident or incident including breach in the operating rules or procedures

Health Assessment Drug tests:

- Pre-employment- all Rail Safety Workers as per the National Standard for Health Assessment of Rail Safety Workers prior to appointment
- Change of medical category / grade

- As part of a triggered health assessment, employees who have made a declaration of history of substance misuse (illicit or pharmaceutical), or employees whose change in behaviour and demeanour has raised suspicion of substance misuse

	It is an **offence** for rail safety workers to undertake rail safety work while impaired by prescription medicines, over-the-counter medicines, herbal remedies, legal or illegal drugs or alcohol. Rail Safety Workers include MTM employees and Third Parties (contractors and sub-contractors)	

3.4.1 Alcohol – Am I Safe After Drinking?

As a Rail Safety Worker, you should attend work free from the effects of alcohol, drugs, or medication.

Your blood alcohol concentration is impacted by a variety of factors including your build, body size, illnesses, emotional state and what you have eaten during the day, and everyone responds differently to alcohol.

Whilst you might believe you're legally safe to drive a vehicle, i.e. while having a blood alcohol level of between 0.00 and 0.05, it is illegal for you work anywhere in the MTM network with a blood alcohol level greater than 0.00.

3.4.2 Illicit or Illegal Drugs

It is unlawful to be under the influence of illegal drugs whilst performing Rail Safety Work.

Random testing can occur for both drugs and alcohol for all Rail Safety Workers on MTM sites at any time.

3.4.3 Over the Counter' and Prescription Drugs

Some medications can affect you and make you unsafe at work. Whenever you are using medication, you **must** check with the doctor or pharmacist to confirm if it will affect your work. If you are taking prescription medications, you **must** inform your Supervisor / Manager **before** you start work.

This particularly includes:

- Prescription painkillers,
- Anti-depressant or other psychoactive medications,
- Herbal remedies,
- Antihistamines, and
- Heart or blood pressure medication.

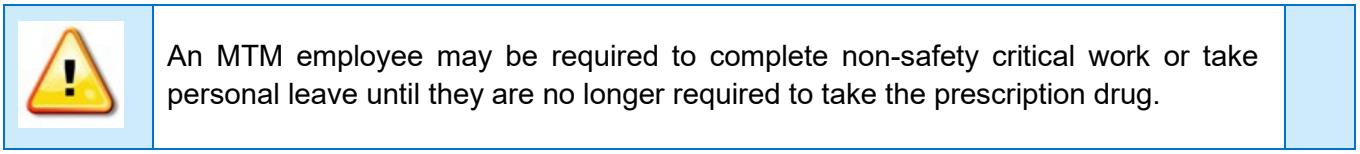
If you are using over the counter medication, this must also be declared. This particularly includes cold and flu medication that might cause drowsiness as well as painkillers.

Always advise your doctor you're a Rail Safety Worker and work in a **zero-tolerance industry**.

3.4.5 Management of Prescription and Over-the-Counter Medication

An **explained positive** is recorded when individuals disclose prior to undertaking the test, the recent use of over the counter or prescription medications. Rail Safety Workers must ensure that they:

- Seek medical advice about their ability to work safely while taking prescribed or over-the-counter medications and whether the medication may register on a drug test or cause occupational impairment
- Prior to commencement of work, declare the current use of prescribed or over-the-counter medication
- Not commence duties if a medical professional advises they are unable to safely perform their job
  With the exception of medical advice, not consume prescribed or over-the-counter medications while on duty or about to carry out their duty.



3.4.6 Authorised Persons

An Authorised Person is a person appointed pursuant to the Rail Safety National Law to conduct Drug and/or Alcohol testing:

Authorised Persons include:

- A Victoria Police Officer,
- An employee of MTM's approved Testing Contractor; or
- An Authorised Health Provider (AHP) for pre-employment change of health grade or triggered health assessment

3.4.7 Refusal to Undergo Drug and Alcohol Testing

An MTM employee or Third Party who is requested or required to undergo Drug & Alcohol testing and who refuses, shall be subject to the following:

MTM employees: Test refusals are treated as Confirmed Positive. Employees are stood down without pay immediately and subject to disciplinary action in accordance with MTM's Counselling and Disciplinary Procedure, which may include termination of employment.

Third Parties: Immediately escorted from MTM premises with transportation organised at the cost of the Third-Party employer. The Third Party's employer is notified that the individual is banned from entering MTM worksite /premises, and where held the Third Party's Rail Industry Worker Card shall be blocked. For third parties contracted to provide a service to MTM (i.e., Third Party Consultant) the Hiring Manager shall ensure their records are annotated of the breach.

3.4.8 Negative Test Results

A negative result is a result that does not exceed either Drug and/or Alcohol thresholds. Where the test result is negative, the MTM employee or Third Party will be allowed to return to normal duties.

3.4.9 Non-Negative Test Result

A Non-Negative result is a result that indicates the presence of drugs, including prescription medication.

3.4.10 Confirmed Positive

Term used when a Non-Negative result confirmed following laboratory testing, which indicates the presence of drugs in excess of the tolerances detailed in Section 4 of AS/NZS 4308:2008, regardless of impairment, and /or Blood Alcohol Concentration (BAC) level above zero. An individual who leaves MTM premises without approval as testing is about to commence shall be treated as Confirmed Positive.

3.4.11 Non-Negative Results – MTM Employees

MTM employees who produce a Non-Negative drug result will be stood down with pay until a Confirmed Positive result is received from an approved laboratory urine test undertaken, in accordance with Section 4 of AS/NZS 4308:2008 (Section 4). Where the Confirmed Positive test indicates the presence of drugs in excess of the tolerances of Section 4, it will be deemed a breach of this procedure, regardless of impairment.

MTM employees who have a Confirmed Positive result will be immediately stood down without pay and subject to disciplinary action in accordance with **A7557 Counselling and Disciplinary Procedure** which may include termination of employment.

3.4.12 Non-Negative Results – Third Parties

Third Parties shall be immediately escorted from MTM premises with transportation organized at the cost of the Third-Party employer. The Third Party's employer is notified that the individual is banned from entering MTM worksite/premises, and where held the Third Party's Rail Industry Worker Card shall be blocked. For Third Parties contracted to provide a service to MTM (i.e. Third-Party Consultant) the Hiring Manager shall ensure their records are annotated of the breach.

3.4.12 Reporting

All Non-Negative, Test refusals & Confirmed Positive results must be reported into MTM's incident management system (INX) within 8 hours; it is the responsibility of the MTM employees Line Manager / Supervisor to enter the Non-Negative result into INX. This entry into INX must include the work being performed at or around the time of test, the individual's role, the location and time of the test, and the result of the test.

3.5 Personal Protective Equipment

All MTM employees and Third Parties are required to comply with the MTM's Policy on Personal Protective Equipment.

3.5.1 Mandatory PPE Requirements

The following is a list of mandatory PPE that must be worn when undertaking maintenance or construction works in MTM's rail corridor or sidings:

1. Hard Hat
2. Safety Glasses (Eye protection)
3. Long sleeve shirt
4. Rail Approved Orange high visibility vest *
5. Full-length trousers
6. Steel capped, lace up boots with ankle support

*Approved high visibility vest /clothing (A2021 / L0-SQE-PRO-019) Appendix 2 Section 3 High Visibility safety garments must be of the background colour known as "Fluorescent Orange" AS/NZS 1906.4:2010). This must be fastened at all times to maintain encirclement of the torso and to prevent snagging and /or entanglement.

	In some circumstances a reduction in the above PPE may be permitted. This will be identified in the relevant worksite induction; however, the above six items are the standard PPE within the Rail Corridor and Danger Zone.	

3.5.2 Additional PPE Requirements

Where the PPE baseline requirements do not safely suit the task at hand, the risk assessment for the task will identify additional PPE that is required. Additional PPE must be approved and signed off by MTM. The requirement for additional PPE is briefed to all workers during the Work Group Supervisor Pre-Work Brief prior to commencing work.

Additional PPE may also be required in relation to the location of work or specific workplace requirements (site specific PPE), this is identified during the employee's site induction.

Additional PPE may include:

- Gloves
- Sunscreen (SPF50+)
- Hearing protection
- Head lamp
- Sun visor
- Harness and ancillary equipment
- Respiratory devices.

Where the listed minimum PPE requirements do not safely suit the task at hand, users should alert their supervisor immediately.

3.5.3 Night Works and the Melbourne Underground Rail Loop

Head lamps are a mandatory requirement for all infrastructure Rail Safety Workers (including contractors) when working in the MURL at all times and in the Rail Corridor at night.

	Head lamps are provided for work task lighting. Headlamps should not be directed towards oncoming trains as drivers could take the white light as an "All Right" hand signal.	

3.5.4 Clothing Not to be Worn

	Red, yellow, or green clothing or items, including but not limited to clipboards, folders, lunchboxes, umbrellas, bags etc **MUST NOT** be worn or carried as a train driver or track vehicle operators could mistake it for a track side signal or flag.	

3.6 Attend and Sign Pre-Work Brief

All Rail Safety workers must attend and sign onto a pre- work brief prior to them commencing any works, these brief details the risks and hazards associated with the work task. It outlines the scope of works, and the type of protection covered more details on this can be found in the next section Role of the TFPC

Section 4 – Role of TFPC and RSWHA - Pre-Work Brief

4.1 Track Force Protection Coordinator

The TFPC is responsible for determining the type of protection based on the RSWHA for the job. The TFPC has the responsibility of setting up the type of protection for the worksite and maintaining the safety of that worksite until the works have been completed.

They are identified by the Blue Hard hat with the writing TFPC.

Only, once the TFPC has confirmed that the works have been completed, will they hand back the track for normal train running to resume.

4.2 Levels of Track Force Protection Coordination

In Victoria, there are 3 levels of Track Force Protection Coordination and they're based on the complexity of work and level of risk associated with the area of track being protected. These levels are as follows:

- Track Force Protection Coordinator 3.1 (Lookout Protection)
- Track Force Protection Coordinator 3.2 (Track Force Protection, Absolute Occupation, Booked Out Track with one work group)
- Track Force Protection Coordinator 3.3 (Track Force Protection, Absolute Occupation, Booked Out Track with multiple work groups)

Simple and smaller works

Less Risk

More complex works

More Risk

4.3 Rail Safety Worksite Hazard Assessment (RSWHA) / Pre-Work Brief

Rail Safety Worksite Hazard Assessment is an assessment of the rail safety hazards to determine the method/level of protection required for a work site. The chosen level/methods of worksite protection **must** be in place prior to the work group starting work in the Danger Zone.

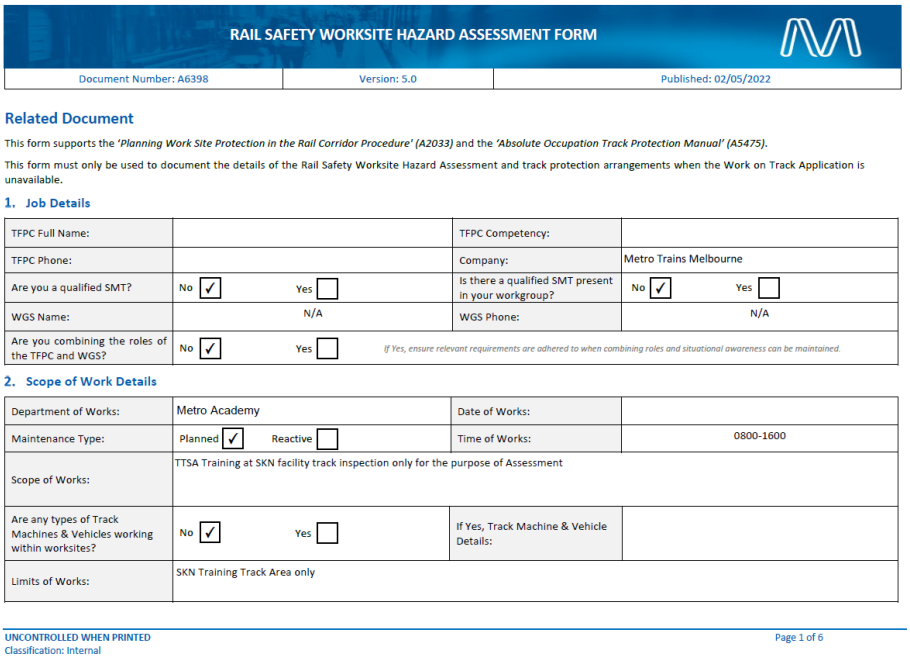
The Rail Safety Pre-work Brief is important as it identifies critical **safety information** about your protection that you **MUST** know before commencing work on any worksite within MTM's Rail Corridor.

The Rail Safety Pre-Work (RSWHA) brief is delivered to the Work Group Supervisor and all Rail Safety Workers associated with the worksite protection by the TFPC, at the conclusion of the brief all workers who attended, must sign on to this brief.

The Work Group Supervisor delivers the important rail safety information to the Work Group during the Work Group Supervisor Pre-work Brief. The required type of protection must be in place prior to the workgroup commencing work and must remain in place while working in the Danger Zone or Rail Corridor.

Information that is delivered in Rail Safety Pre-Work Brief is:

- Type of protection being used
- The protected area (start and end)
- Position of Hand signallers and/or Lookouts
- Train running information
- Position of safety
- Communications / Warnings



RAIL SAFETY WORKSITE HAZARD ASSESSMENT FORM

Document Number: A6398	Version: 5.0	Published: 02/05/2022

Related Document

This form supports the *'Planning Work Site Protection in the Rail Corridor Procedure' (A2033)* and the *'Absolute Occupation Track Protection Manual' (A5475).*

This form must only be used to document the details of the Rail Safety Worksite Hazard Assessment and track protection arrangements when the Work on Track Application is unavailable.

1. Job Details

TFPC Full Name:		TFPC Competency:	
TFPC Phone:		Company:	Metro Trains Melbourne
Are you a qualified SMT?	No ☑ Yes ☐	Is there a qualified SMT present in your workgroup?	No ☑ Yes ☐
WGS Name:	N/A	WGS Phone:	N/A
Are you combining the roles of the TFPC and WGS?	No ☑ Yes ☐	*If Yes, ensure relevant requirements are adhered to when combining roles and situational awareness can be maintained.*	

2. Scope of Work Details

Department of Works:	Metro Academy	Date of Works:	
Maintenance Type:	Planned ☑ Reactive ☐	Time of Works:	0800-1600
Scope of Works:	TTSA Training at SKN facility track inspection only for the purpose of Assessment		
Are any types of Track Machines & Vehicles working within worksites?	No ☑ Yes ☐	If Yes, Track Machine & Vehicle Details:	
Limits of Works:	SKN Training Track Area only		

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Classification: Internal
Page 1 of 6

4.4 Work Group Supervisor Pre-Work Briefing

The Work Group Supervisor Pre-Work Brief is delivered by the Work Group Supervisor to the Work Group prior to the work commencing.

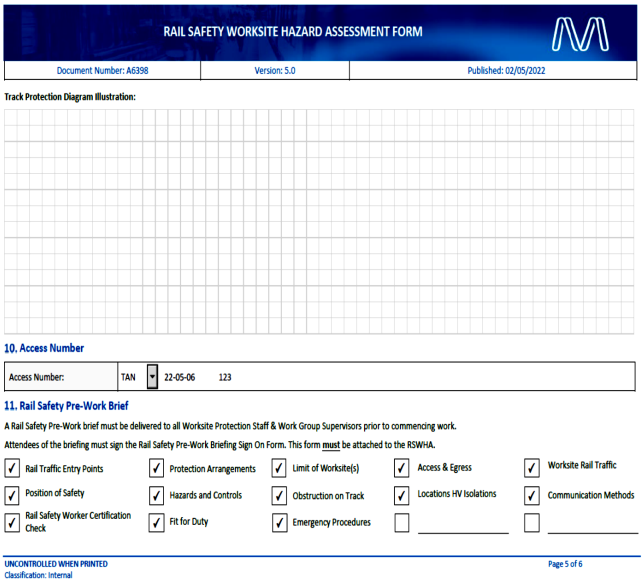
Different workgroups need different information so each Work Group Supervisor Pre-Work Brief will contain specific and relevant information for the day's activities.

The information that is delivered includes:

- The daily work schedules
- Hazards in the work area / controls in place
- First aid
- Environmental sensitive / restricted areas
- Evacuation procedures
- Competencies of the workers
- Location of worksite
- Communication of the Position of Safety for the workgroup in relation to their worksite
- Safe Work Method Statements related to the task
- Specific PPE requirements relevant to the task – additional PPE
- Reporting unsafe behaviour
- Actions on break out of fire, first aid emergency, emergency evacuation of work site
- Dangerous electrical assets

It is a MTM requirement that all Rail Safety Worker's must attend the Work Group Supervisor Pre-Work Briefing prior to entering the Rail Corridor. After attending the brief all members must sign on to the appropriate brief and SWMS before commencing any work in the Rail Corridor.

A Rail Safety Pre-Work Brief (RSWHA) and Work Group Supervisor Pre-work Briefing **<u>are not</u>** the same.



RAIL SAFETY WORKSITE HAZARD ASSESSMENT FORM

Document Number: A6398	Version: 5.0	Published: 02/05/2022

Track Protection Diagram Illustration:

10. Access Number

Access Number:	TAN	22-05-06	123

11. Rail Safety Pre-Work Brief

A Rail Safety Pre-Work brief must be delivered to all Worksite Protection Staff & Work Group Supervisors prior to commencing work.

Attendees of the briefing must sign the Rail Safety Pre-Work Briefing Sign On Form. This form must be attached to the RSWHA.

- ☑ Rail Traffic Entry Points
- ☑ Protection Arrangements
- ☑ Limit of Worksite(s)
- ☑ Access & Egress
- ☑ Worksite Rail Traffic
- ☑ Position of Safety
- ☑ Hazards and Controls
- ☑ Obstruction on Track
- ☑ Locations HV Isolations
- ☑ Communication Methods
- ☑ Rail Safety Worker Certification Check
- ☑ Fit for Duty
- ☑ Emergency Procedures
- ☐ _____
- ☐ _____

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Classification: Internal
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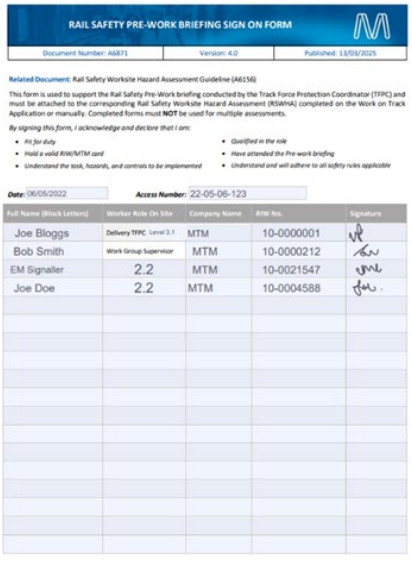


RAIL SAFETY PRE-WORK BRIEFING SIGN ON FORM

Document Number: A6871	Version: 4.0	Published: 13/03/2025

Related Document: Rail Safety Worksite Hazard Assessment Guideline (A6156)

This form is used to support the Rail Safety Pre-Work briefing conducted by the Track Force Protection Coordinator (TFPC) and must be attached to the corresponding Rail Safety Worksite Hazard Assessment (RSWHA) completed on the Work on Track Application or manually. Completed forms must **NOT** be used for multiple assessments.

By signing this form, I acknowledge and declare that I am:

- *Fit for duty*
- *Hold a valid RIW/MTM card*
- *Understand the task, hazards, and controls to be implemented*
- *Qualified in the role*
- *Have attended the Pre-work briefing*
- *Understand and will adhere to all safety rules applicable*

Date: 06/05/2022 **Access Number:** 22-05-06-123

Full Name (Block Letters)	Worker Role On Site	Company Name	RIW No.	Signature
Joe Bloggs	Delivery TFPC Level 3.1	MTM	10-0000001	
Bob Smith	Work Group Supervisor	MTM	10-0000212	
EM Signaller	2.2	MTM	10-0021547	
Joe Doe	2.2	MTM	10-0004588	

Section- 5 Basic Hand Signals

5.1 'All Right' Hand Signal

Anyone can give the **'All Right'** hand signal. This type of hand signal is used when the work you're doing doesn't obstruct the track.

Facing the oncoming train, the 'All Right' hand signal is used to show the train driver that you are aware of the trains approach.

During the day, the signal is given by holding the arm closest to the track in a steady horizontal position, in the direction of the train

At night, the signal is given by holding a steady white light in the extended hand closest to the track, in the direction of the train

You should stand outside the Danger Zone and in clear view of the train driver. Drivers are required to sound the whistle when they see you and again after you give the 'All Right' hand signal. After the second whistle, you can remove your hand signal and move to a POS.

	The 'All Right' hand signal is not to be used when protecting an obstruction with ATW and Hand signallers.

5.2 'Stop' Hand Signal

The **'STOP'** hand signal is used to alert the train driver that there is an abnormal obstruction ahead and that they should stop the train.

The stop hand signal should only be used in the event of an emergency to stop an oncoming train.

During the day, the signal is given by raising both arms above your head.

At night, A Red flag or light denotes 'Stop'. In the absence of a Red light, any light waved violently denotes 'Stop'. Even though there is an emergency it is still critical that you give these hand signals from outside of the Danger Zone.

Where possible to ensure adequate warning time:

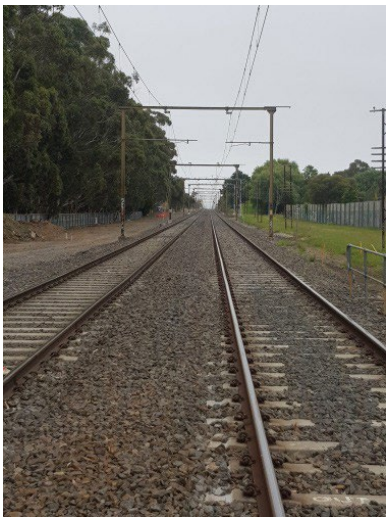
- Walk towards the oncoming traffic to a minimum distance of 1200 metres (Metropolitan) or 2000 metres (Country) from the obstruction and initiate the emergency stop hand signal above, or
- Contact your TFPC or if this is not possible contact your nearest controller / signaller of the nearest location to enable them to stop the train.

	Create as much distance as possible between the emergency and the oncoming traffic.

Section 6 – Working in the Rail Corridor

6.1 The Rail Corridor

Is from fence line to fence line or, where there are no fences, 15m from the nearest/ outer rail. This includes a station platform, where the task to be performed maintains the potential to or will intrude into the Danger Zone.



6.2 Conditions to be Met Prior to Entering the Rail Corridor

Prior to entering the rail environment, you must:

- Be fit for work,
- Wear approved **Personal Protective Equipment (PPE)** specific to the work you're doing,
- Carry your **MTM track protection or RIW card** on you at all times when working in the rail corridor,
- Have undertaken and satisfactorily passed the **appropriate medical examination** including a vision and hearing test, and
- Advise your supervisor if at any time you believe you are medically unfit to carry out rail safety work.

Section 7 – Safety and Working in the Danger Zone

7.1 The Danger Zone

The Danger Zone is located within the Rail Corridor. It is all space within 3 metres horizontally from the nearest rail and any distance above or below this zone including being on the line unless a Position of Safety exists or can be created.

7.2 Platform Danger Zone

On a station platform the Danger Zone is between the yellow (or white) line and the platform edge. Where there is no yellow line, it is 1.5 metres from the platform edge.

7.3 Who May Enter the Danger Zone?

You, providing:

- It is absolutely necessary
- You are trained to at least TTSA
- You have attended and signed on to the Work Group Supervisor Pre-work Brief
- When performing work, you are under the direct control and supervision of the Work Group Supervisor
- You are wearing the appropriate PPE for the task
- You are not wearing red, yellow, or green outer clothing
- You have physically identified the POS for when rail traffic approaches

	TTSA **DOES NOT** allow you to enter the Danger Zone and work on the track unsupervised. You must be under the direct supervision of a Work Group Supervisor.

7.4 Walking in the Rail Corridor or Danger Zone

	Walking in the Rail Corridor and Danger Zone is only permitted where there is no practical alternative.

Designated pathway: Is an established pathway built for use by railway personnel in the performance of their duties.

7.5 Obligations of All People Who Are in the Danger Zone

When in the Danger Zone – **you must**:

- Advise others when approaching rail traffic is detected
- Obey warning devices e.g., signs, lights, bells, whistles, or horns, etc. and
- Constantly look and listen for approaching rail traffic

7.6 Personal Safety in the Danger Zone

To ensure your safety, all Rail Safety workers **must**:

- Have a Position of Safety must be available at all times
- Visibility conditions must allow sighting distance to reach the Position of Safety at least 10 seconds before the arrival of rail traffic
- Be trained to a minimum of TTSA-Level 1
- Look and listen for approaching rail traffic at all times, where possible walk facing towards the direction of approaching traffic
- Walk on designated pathways were provided
- Carry a light at night, or if visibility is limited due to inclement weather
- Walk carefully on unstable surfaces
- Never wear or use anything that makes you less able to see or hear approaching rail traffic, e.g. hoods, headphones, or earmuffs etc.
- Never carry any tools or equipment that could affect your ability to walk safely or to see and hear approaching rail traffic
- Never allow yourself to be distracted by anyone or anything;
- Never use a mobile phone in the Danger Zone

	For your safety and to be notified of changing conditions, when working in the Danger Zone	

7.7 Crossing Tracks on Foot

	Care must be taken when walking on ballast, as it can be unstable and shift under foot. Points are operated remotely and with force and can crush and cause injury. If trapped the signaller will not be able to see you to assist with releasing the points!

Ballast

Points (DO NOT do this)

7.8 Respond to Approaching Rail Traffic

You must respond to approaching rail traffic by:

- Positively identifying the track on which the rail traffic is travelling on;
- Move to the POS; and
- Remain in that position until advised by the TFPC that you can re-enter the Danger Zone.

	Rail traffic can approach you from either direction, at speed and quietly you MUST remain in voice or visual contact with the Work Group Supervisor at all times.

7.9 Work in the Danger Zone and Rail Corridor

Work planned for the Rail Corridor must first be assessed by a TFPC for safety and the work's potential to intrude and obstruct the Danger Zone.

Work in the Rail Corridor, **NOT impacting** the Danger Zone must not commence until:

- A Rail Safety Worksite Hazard Assessment has been completed by a suitably qualified TFPC
- The Work Group Supervisor has briefed the workgroup
- All members of the workgroup have signed on to the Work Group Supervisor Pre work Brief
- A Rail Corridor Access Number has been granted

Work in the Rail Corridor, **impacting** the Danger Zone must not commence until:

- A Rail Safety Worksite Hazard Assessment has been completed by a suitably qualified TFPC
- The TFPC has briefed the Work Group Supervisor and the Safe Working team. The Safe Working team and the Work Group Supervisor have signed on to the Rail Safety Worksite Hazard Assessment
- The Work Group Supervisor has briefed the workgroup
- All members of the workgroup have signed on to the Work Group Supervisor Pre-Work Briefing
- The required work site track protection measures are in place
- There is a POS that can be easily reached
- All Rail Safety Workers involved are trained to at least TTSA Level 1
- A Track access number has been granted to the TFPC
- Permission from the TFPC has been granted for the Work Group to enter the worksite

	Work in the Danger Zone must be carried out using one or more of the protection methods listed in Section 14 of MTM Procedure A2033 (L1-SQE-PRO-054) Planning Work Site Protection in the Rail Corridor.	

Section 8 – Position of Safety

8.1 Position of Safety (POS)

The Position of Safety is a place where workers and equipment cannot be struck by rail traffic.

The Position of Safety, in relation to your work site will be communicated to you during the Work Group Supervisor Pre-work Brief. It is essential that you know where your POS is and how you are going to get there before you enter your worksite.

The TFPC is responsible for assigning the POS.

If you do not know where the POS is or feel it is not appropriate, it is essential that you raise the issue with your WGS or TFPC.

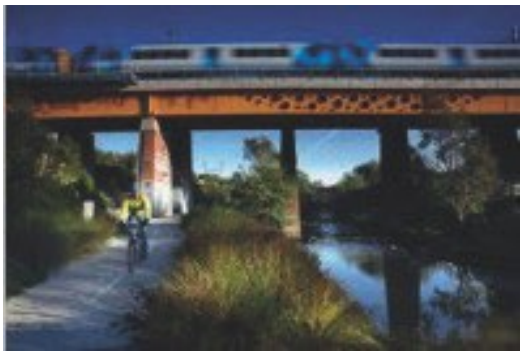
	A TFPC is the only person qualified to assign the POS.	

8.2 Restricted Locations

A restricted location is where access to a POS cannot be achieved within 10 seconds of seeing approaching rail traffic i.e. bridges, tunnels, viaducts, station pits.

Cutting

Station Pits



Viaduct: is a long bridge consisting of multiple spans with total length over 100 metres

8.3 Culvert

A culvert is a drain /pipe or access path for livestock and is typically smaller than a bridge. Culverts are typically surrounded by soil and represent a slip /fall hazard.

8.4 Tunnels

Artificial underground passage to allow the passage of rail traffic through hills or under roads, structures etc.

	You should **NOT** enter any of these locations without the TFPC setting up the necessary track protection and determining the Position of Safety – these are high risk areas.	

8.5 U-Troughs

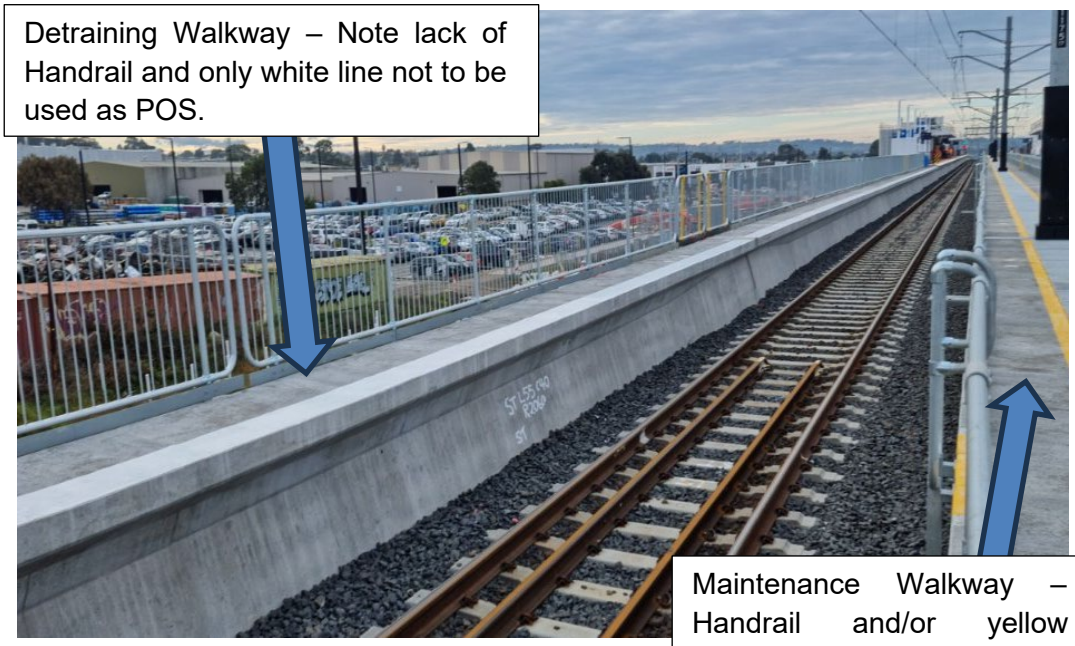
The new elevated stations and tracks have introduced new infrastructure such as the U- Trough Structures. These are similar to a station pit as they are in the Danger Zone and there is no Position of Safety on the tracks. They cannot be accessed during normal train running without the appropriate track protection in place.

Position of Safety on the U Trough Structures

Maintenance Walkways are designated as a Position of Safety and may be accessed during normal train running. They are identifiable as either having a full handrail either side of the walkway or a gapped handrail with a yellow line.

Detraining Walkways are not a Position of Safety and may not be accessed during normal train running. Has a white line on the Edge for edge visibility only.

Detraining Walkway – Note lack of Handrail and only white line not to be used as POS.



Maintenance Walkway – Note Handrail and/or yellow line protection.

Emergency Refuge

An emergency refuge is not a Position of Safety under any circumstance. Emergency Refuges exist in restricted locations in the event of an emergency.

Examples include Viaducts, the Melbourne Underground Rail Loop (MURL) and bridges.

If you need to access an emergency refuge, you MUST wait for your TFPC to give you further instructions before you leave.

Leaving a Position of Safety or Emergency Refuge

You must stay in a POS until:

- Rail traffic has passed,
- You are certain that you will not be in any danger,
- You have confirmed that there is no danger from rail traffic on another line and,
- Your TFPC tells you it's safe to leave.

8.6 Melbourne Underground Rail Loop (MURL)

The Melbourne Underground Rail Loop was fully commissioned in 1985 and consists of four single track tunnels, on two levels. The four tunnels that make up the MURL are called the Burnley, Northern, Clifton Hill /City Circle and the Caulfield.

There are numerous hazards in the MURL over and above those that exist in the Rail Corridor. For these reasons access is strictly controlled by Metrol – the train controller.

As part of the Work Group Supervisor Pre-Work Briefing, the WGS will provide the details of your worksite to highlight specific hazards.

Never enter the MURL without;

- The appropriate approvals obtained by your TFPC from Metrol;
- Track protection set up by a TFPC; and
- A functioning light /torch.

Hazards in the MURL:

- Rail traffic
- Difficult to locate a POS
- Toronto sleepers
- Drainage pits
- The shadowing effects of lighting
- Difficult to locate exits

	Never enter the MURL without protection set up by a TFPC.	

8.7 Emergency Refuge

An emergency refuge is not a Position of Safety under any circumstance. Emergency Refuges exist in restricted locations in the event of an emergency.

Examples include Viaducts, the Melbourne Underground Rail Loop (MURL) and bridges. In the event that you need to access an emergency refuge you MUST wait for your TFPC to give you further instructions before you leave.

8.8 Leaving a Position of Safety or Emergency Refuge

You must stay in a POS until:

- Rail traffic has passed
- You are certain that you will not be in any danger
- You have confirmed that there is no danger from traffic on another line and
- Your TFPC tells you it's safe to leave

Section 9 – Hazards and Risk Assessments

9.1 Situational Awareness

Situational awareness is always being aware about what is happening around you, understanding how events evolve, how information or and actions will impact on you or those around you.

A lack of situational awareness has been identified as one of the primary factors in accidents attributed to human error.

9.2 What is a Hazard?

A hazard is a source or situation with a potential for harm in terms of injury or illness, damage to property, damage to the environment or a combination of these.

9.3 What is Risk?

Risk is defined as an effect of uncertainty on objectives.

This effect can be considered as either positive or negative in nature. In terms of objectives this can be considered as personnel safety, financial, operational, environmental etc.

Risk is generally characterised in terms of:

Likelihood: The chance of the hazard happening

Consequence: The level of damage that would be caused if the hazard did happen

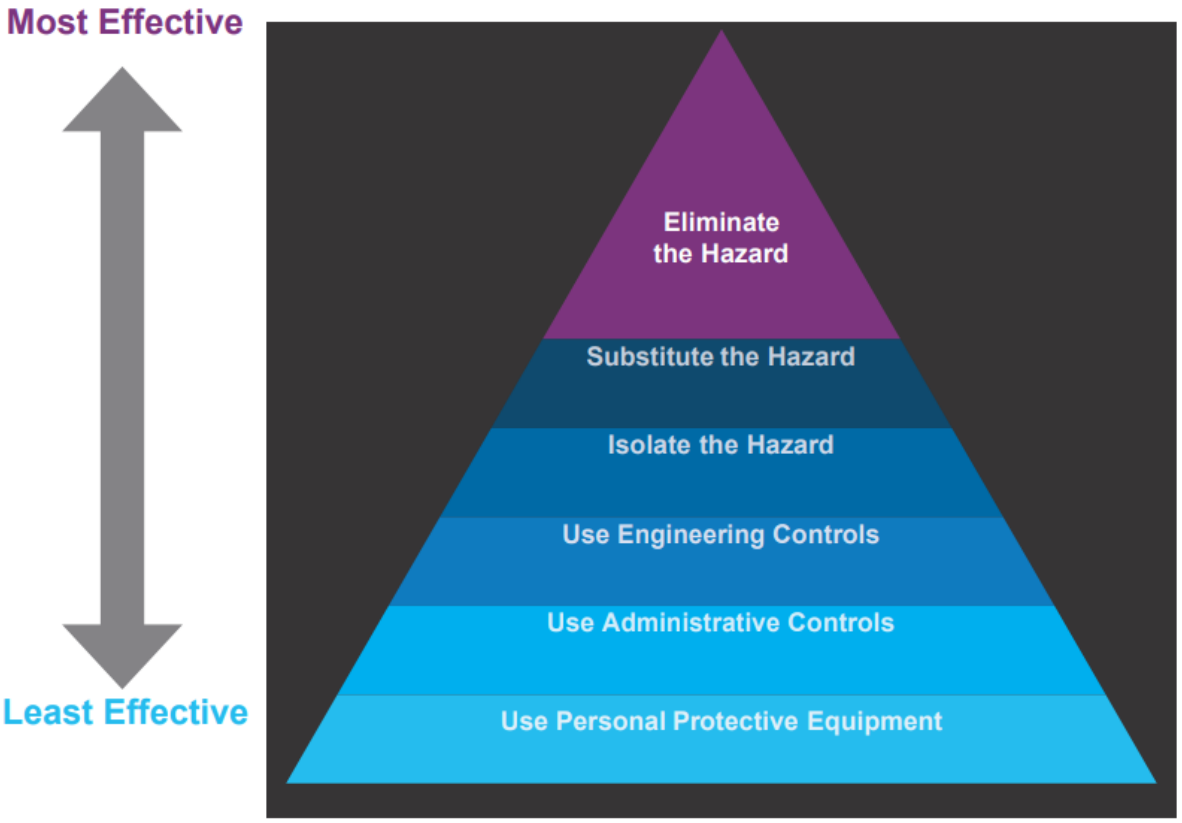
The Rail is a dangerous working environment. It is essential that you are able to recognise potential hazards in your working environment to ensure that safety is always maintained.

9.4 Hierarchy of Controls

Once the hazard and their risks are known, controls need to be put in place.

The best control measure involves completely eliminating the risk or hazard. This is often not a practical option.

When determining suitable controls, various options are considered to effectively eliminate the hazard or minimise the risk. This could be a single control or can be a combination of different controls that together provide the highest level of protection that is reasonably practical.



The rail environment can be dangerous. Some hazards are obvious, but others are hidden.

The risk to health and safety is increased when working in or around the rail.

Exposures to hazards such as:

- Moving rail traffic;
- Coming in contact with the High Voltage Electrical Infrastructure;
- Moving points;
- Drains;
- Loose surfaces;
- Confined Areas;
- Fallen electrical wires;
- Damaged or burnt spark gap; and
- Slips, trips and falls due to uneven surfaces.

Some ways to control the risks are:

- Follow all instructions, SWMS, Policies and Procedures
- Ensure that you perform work safely
- Ensure that each person is aware that they are responsible for their own safety, everyone must be able to assess the possible risks and take care to prevent accidents or injury
- Ensure you are able to have an appropriate line of sight to observe approaching hazards such as rail traffic
  Maintain awareness of changing conditions

9.5 Common Rail Hazards

Asbestos	An Asbestos Management Plan must be in place for any Asbestos encountered. Sites with Asbestos must have an Asbestos Register. Asbestos must not be disposed of in general rubbish. Licensed Asbestos contractors should only handle asbestos.
Ballast	One of the most common causes of injury is from tripping or slipping on the ballast.
Bridges and Viaducts	Never cross a bridge, viaduct or enter a restricted area without first getting clearance from your Track Force Protection Coordinator.
Cables Concealed in Buildings and Structures	Consider any cables that may be concealed in buildings and structures before cutting or drilling. Gain authority to commence work. If it is not possible to determine if there are cables in the way the person in charge of the work must seek the advice of the Regional Electrical Maintenance Engineer.
Crossing Tracks	Step over, not on the rails. (May be earth return rail or slippery surface). Do not cross tracks at points.
Cuttings	Limited line of sight. Identify safe places and options for rapid exit before working in a cutting. Mark emergency recesses with lights to improve rapid access.

Electricity	You must treat everything as live. Contact with electricity can be fatal. It can result in shock, burns and internal injuries with delayed impact. Power lines in the Rail Corridor include – 22,000 AC, 2.200 AC and 1,500 DC and are known as high voltage. They should be avoided at all times. As electricity can jump over air, stay outside the minimum approach safe distance at all times – consult a qualified electrical worker. All fallen wires must be considered live and be avoided by all persons with advice given to others that may enter the area. Stay clear of the substation perimeter fence as it is an electrical hazard Always carry long objects in a horizontal position and below shoulder height so that they don't touch the overhead wiring. If possible, keep the object parallel with the track so that it does not come into contact with other electrified infrastructure such as stanchions (two people must carry the object). Do not bridge the rails with long objects such as wire slings, chains, metal rods as this could interfere with signalling and electrical equipment. You can't gauge heights of power lines/cables from the ground. Also the ground levels can change so the overhead is not always the same height above the ground. The overhead wiring between poles and stanchions can sag. The amount of the sag can vary resulting in reduced clearances from live aerial conductors away from the poles or stanchions. Using metal tapes between the rail and stanchions is hazardous. Cabling is

Hazardous Substances Dangerous Goods	All chemicals are to be stored, handled and used in accordance with the Safety Data Sheet (SDS). A SDS and risk assessment must be available at the site for all Hazardous Substances/Dangerous Goods. All chemicals must be stored in correctly labelled containers. All chemicals/oils must be stored in bundled, undercover and away from storm water drains and pits.
Manual Handling	Manual Handling hazards are to be identified and the associated risks assessed and controlled. Mechanical and other aids should be used.
Noise	Noise can mask instructions, warnings and the sound of approaching trains. Noise is a contributor to work, health and safety incidents. Sources of noise hazards include: • plant and equipment, • steel on steel, and • power tools, • Wear hearing protection. (Note: the use of ear protection while working in a noisy environment may interfere with the ability to hear and respond to audible warnings. The use of ear protection must be discussed and addressed in the General Pre-Work Briefing
Plant, Track Machinery and Other Vehicles	Plant and equipment make noises that could mask oncoming trains. Beware of reversing vehicles. Noise of plant and equipment could affect hearing and possibly lead to hearing
Rail Traffic	Always walk towards any approaching trains or other items of rolling stock, off the side of the running line. Trains and work vehicles can travel in both directions so check to see that you know what the scheduled movements of trains are. Never step from behind one train onto an adjacent track without checking to see that another train is not in the vicinity. It may be difficult to hear a train coming because of the noise of track plant, equipment and or other traffic. Never get off a vehicle, either on or off the track unless it is completely

Signalling Equipment and Points	Beware of the train stop and other mechanisms around the signal. Control wires that may not be close to signals or signal wires – tripping hazards. Beware of rodding hazards. 1500V DC negative return feeders – avoid damaging them with cutting tools, etc. Continuity bonds – there are electrical hazards associated with these. Never place your feet or hands into any part of a set of points as often they are controlled remotely and can be changed very quickly without warning.
Under-ground Services	There are cables and other services buried underground by various authorities. Don't dig in any area without clear instructions from authorised personnel. Obtain a cable search certificate. Obtain a permit if plant is used. After receiving authority, excavate by hand carefully to locate all underground services before using a mechanical excavator.
UV Exposure	Personnel working outside should wear long sleeved/legged, loose-fitting clothing. Hats that shade the head, face, neck and ears should be worn. SPF30+ sunscreen should be used on all exposed areas of skin. Where possible use shade for protection from the sun.

9.6 Risk Management

MTM management, employees, Third Parties and their employees are required to manage all OH&S, Rail Safety and Environmental hazards associated with their workplaces and tasks to ensure the requirements of the relevant legislation are met.

MTM Procedure Safe Work Method Statements, states that SWMS are mandatory for all tasks, which are not covered by an existing approved procedure or document meeting the requirements of a **"Safe Work Method Statement"** as per R.5.1.5 of OH&S Regulations 2017 (Vic).

These tasks shall have a SWMS prepared and approved prior to commencing the task. This SWMS **must be** communicated to the workers prior to the task starting.

All construction work within the rail corridor including "high risk construction work" as defined by OH&S Regulations 2017 (Vic) r5.1.3, **must not** be performed without an existing approved procedure, document or SWMS.

High risk construction work relevant to MTM includes, but is not limited to:

- Risks from working at height,
- Involving demolition,
- Involving removal and disturbance of asbestos,
- With trenches or shafts deeper than 1.5 metres,
- In confined spaces,
- Involving tunnels,
- Tilt-up or precast construction,
- On or adjacent to roadways or railways used by road or rail traffic,
- On or near electrical installations or services,
- Involving structural alterations that require temporary support to prevent collapse,
- On or adjacent to pressurised gas distribution mains or piping,
- On or over water, or
- At workplaces where there is movement of powered mobile plant.

Prior to starting work on site, Third Parties are required to make their employees aware of the content and detail in their Site Safety & Environmental Plan and the SWMS / JSEA for the tasks that they are undertaking.

9.7 Mobile Phone Usage

Danger Zone: Mobile phones must **never** be used in the Danger Zone.

Rail Corridor: MUST be in a Position of Safety. Mobile phones should only be used for communication in regard to business matters. Personal phone calls **should not** be made or received unless it is an emergency.

Section 10 – Track Components

10.1 Track System

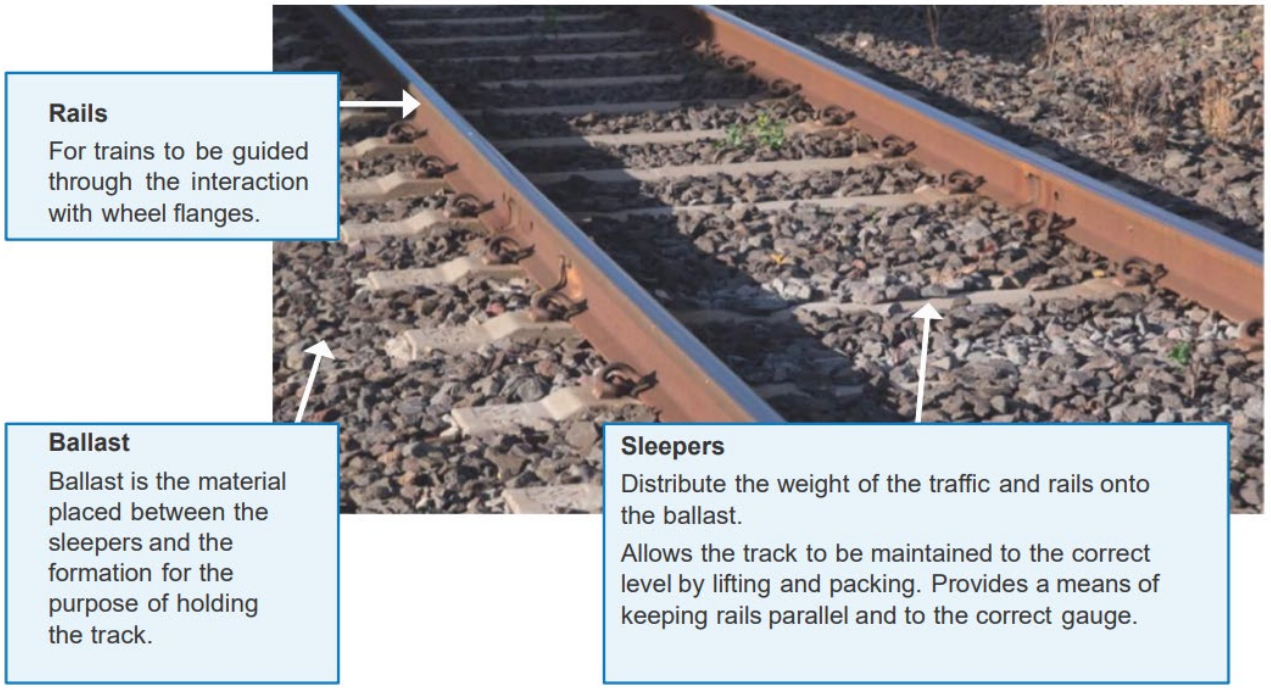
Within the Rail Corridor is the **track system** which consists of the rails, sleepers and ballast and is the structure on which the trains run.

Sleepers are made from concrete, steel or timber and maintain the correct spacing or gauge between the rails.

Ballast provides support and drainage and consists of a bed of crushed blue metal rock.

10.2 Track Components

The track system is designed to provide a path for the carriage of rail traffic.



10.3 Track Configuration

10.3.1 'Four Foot'

'Four foot' (1435mm) is the term applied to a standard gauge track.

It is controlled by the interstate network and freight trains predominantly run on this gauge.

10.3.2 'Five Foot'

'Five foot' (1600mm) is the term applied to a broad gauge track. The metropolitan network operates on the broad gauge.

	In some sections of the metropolitan network, you will find the standard gauge next to the broad-gauge tracks

10.4 Dual Gauge

Dual gauge are tracks that have three rails.

Both standard and broad-gauge trains can run on dual gauge tracks.

10.5 'Six Foot'

'Six foot' is the space between adjacent railway lines.

	When working on or around track belonging to other networks, your TFPC must obtain permission from the respective operators.

Section 11– Direction of Travel

Trains travel in **two** directions.

UP when travelling towards Flinders Street and **DOWN**, when travelling away from Flinders Street.

All traffic heading towards Flinders Street is travelling in an **UP** direction, and all traffic travelling away, from Flinders Street is travelling in a **DOWN** direction.

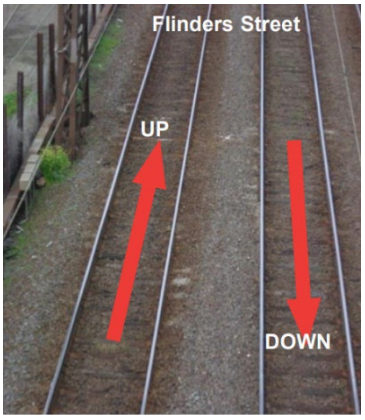
11.1 Single Line (Bi-directional)

Trains can travel in both the “up” and “down” directions on single line (bi-directional).
Up is towards Flinders Street and down is away from Flinders Street.

11.2 Double Line

One line is normally used for “UP” and the other is used for “DOWN” trains.

In some cases, double lines may be used as two single lines with trains travelling in both directions on each line.

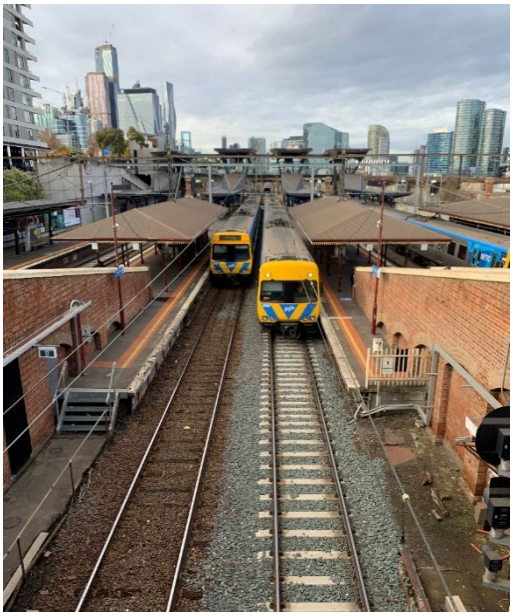


11.3 Double Lines

Once you have established which direction you are travelling in the Rail Corridor **UP** or **DOWN**, in the case of double **lines, you can determine** which direction the rail traffic generally travels.

If you are travelling in an **UP** direction generally the **UP** track, is the track on your left and the **DOWN** track, is the track on your right.

If you are travelling in a **DOWN** direction generally the **DOWN** track, is the track on your left, and the **UP** track is the track on your right.



11.4 Multiple Lines

Multiple lines are three or more lines. They are extremely hazardous due to an increased number of trains running and from both directions. Always watch for trains in both directions. Train running will differ at various locations throughout the network.

	A POS must always be available before entering or working within the Rail Corridor regardless of the track layout. E.g. Single, Double or Multiple lines. Trains can run in either direction on both the up and down lines so treat all tracks as if trains may approach from either direction	

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Section 12 - Sighting Distances

Members of the Workgroup must be given 25 seconds to react to the approach of rail traffic.

5 - React (Respond to the “Train on” or audible device – whistle or horn)

10 - Remove (Move to Predefined POS – Position of Safety)

10 - Remain (Stay in POS until advised to leave by TFPC and you have checked it is safe to do so)

12.1 Line Speeds & Sighting Distance

The maximum train speeds for the following areas are as follows:

Area	Line Speed	Minimum Sighting Distance
Inner Suburban Area	The maximum train speed is **65kmph**	Minimum Distance 455m
Suburban Area	The maximum train speed is **95kmph**	Minimum Distance 660m
Country Area	The maximum train speed is **130kmph**	Minimum Distance 905m
Regional Fast Rail	The maximum train speed is **160kmph**	Minimum Distance 1115m

Train speeds and loads will affect stopping distances. E.g. A train travelling at 50 km/h takes around 160 meters to stop in an emergency, at 80 km/h, 360 meters and a freight train travelling at 90km/h with a 2000 tonne load can take up to 2000–4000 meters to stop

12.2 Minimum Sighting Distances Table

If the average minimum sighting distance cannot be achieved, use the following table to calculate the minimum sighting distance required.

Maximum Line Speed (km/h)	25 Seconds Minimum Warning Time
160 km/h	1115m
130 km/h	905m
115 km/h	800m
110 km/h	765m
100 km/h	695m
95 km/h	660m
80 km/h	560m
75 km/h	525m
70 km/h	490m
65 km/h	455m
60 km/h	420m
55 km/h	385m
50 km/h	350m
40 km/h	280m
45km/h	315m
35km/h	245m
30 km/h	210m
25 km/h	175m
20 km/h	140m
15 km/h	105m

Section 13 – Rail Terminology (Definitions)

13.1 Points, Turnouts and Crossovers

13.2 Points

Points provide the means of altering the route of trains. They are operated by mechanical links or a power operated point machine which are controlled by the Signaller / Train Controller at a remote location.

Extreme care should be taken when working near points not to:

- Allow ballast or foreign matter to foul point blades;
- Damage or distort the spreader bars;
- Damage point machine linkages or operating mechanisms; and
- Place any part of your body between the point blade and the stock rail.

	Never put hands, feet or any object between the point blade and the stock rail as they can move suddenly without warning and will crush that part of your body Never allow ballast to foul the operating procedures.	

13.3 Turnouts (Points)

Turnout are provided as a means of altering the route of trains.

13.4 Crossovers

Crossovers are two sets of points linked together to allow trains to cross from one line to another.

13.5 Entering Sidings and Yards

(Only applicable when you are qualified / authorised to do so.)

- Always get clearance from the Signaller / Track Custodian / Yard Foreman or Train Controller
- Provide details of work and required access to Yard Foreman, Signaller or Train Controller
- Never climb on or under stationary trains
- Never walk between uncoupled rail vehicles
- Beware of shunting trains as they are very quiet and slow.

13.6 Signals

Signals control rail traffic movements. Signals are sets of lights that display **red, green, yellow and blue** aspects. Different combinations of these lights indicate to the train driver whether to stop or proceed at full or reduced speed.

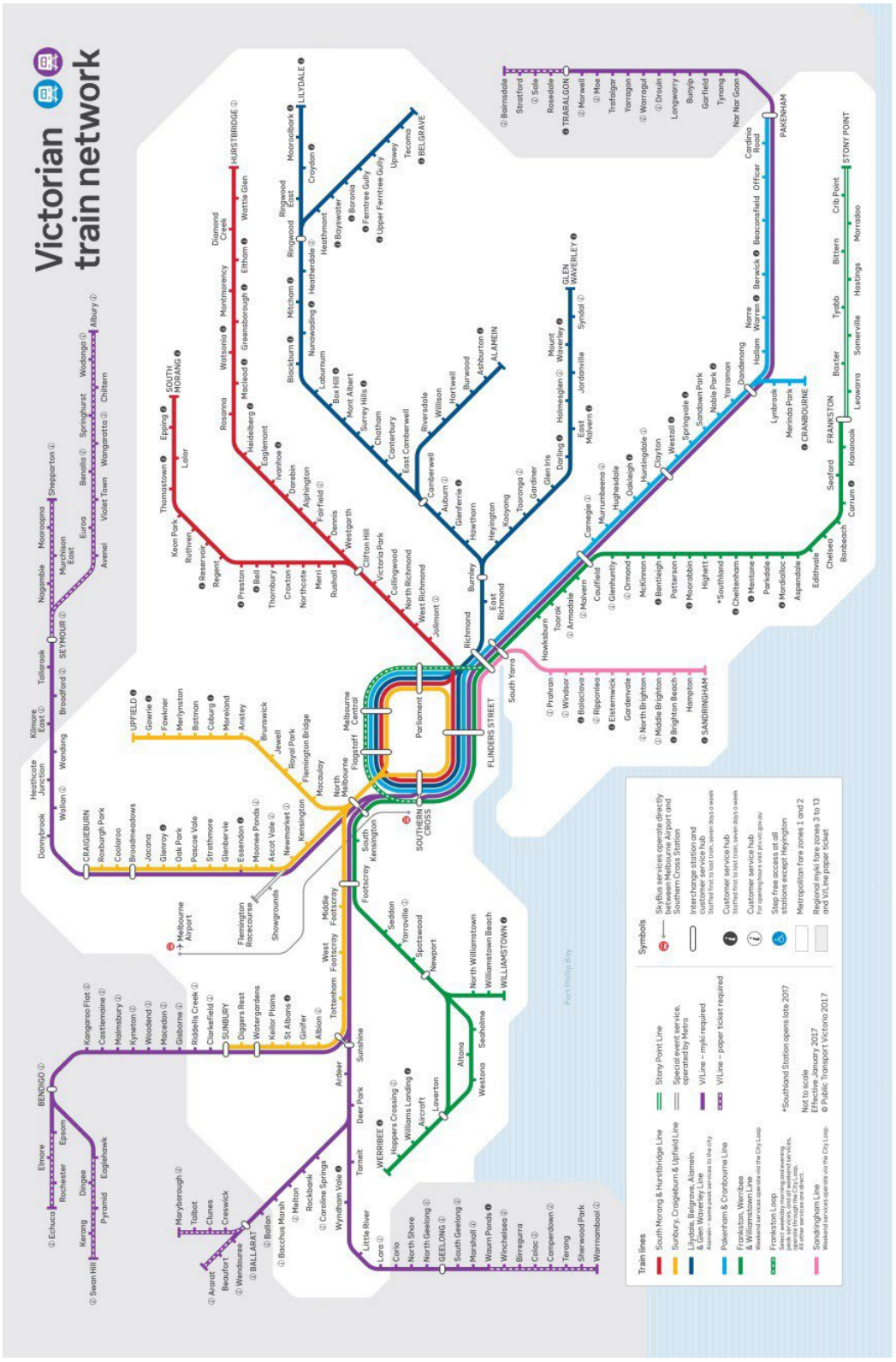
	RED, GREEN and YELLOW coloured items and clothing are not permitted to be worn or taken into the Rail Corridor.	

The electricity that powers the signals and points is carried around our network in the cable trunking. Electrical impulses are carried in the rails. The signalling system is broken up into 'sections' and trains passing from one section to another can cause responses such as, signal changes and level crossing booms to be lowered and raised.

	No matter the type of signal, a signal at 'STOP' does not protect you from a train. You must be vigilant at all times as signals may change without notice.	

13.7 Metro Network and Train Speeds

The Victorian train network is an extensive system with various types of rail traffic, speed zones, electrical / signalling operations.



TRAINING PURPOSES ONLY

13.8 Level & Pedestrian Crossing

13.8.1 Level Crossings

Level crossings are intersections where a railway line crosses a road or path. Trains generally activate the warnings associated with the crossings automatically.

In the MTM network, level crossings are protected by:

- Bells
- Lights
- Boom barriers

In country locations they may have:

- Signs only, or
- Occupation crossings, usually no signage or warning and most often unsealed.

	You must NEVER direct traffic through a level crossing, as you are not authorised to do so	

13.8.2 Pedestrian Crossing

Railway pedestrian crossings are pathways that allow pedestrians to cross the railway line. They can be located on one or both sides of a road-rail level crossing or as a 'stand-alone'

There are two types of railway pedestrian crossing protection:

- Actively protected crossings have train-activated mini booms, gates or barriers, audible warnings, line markings and safety signs; and
- Passively protected crib crossings have a maze and safety signs.

	Care must always be taken when crossing. Never cross until the mini-booms, gates, barriers and bells are up. Where there are no gates /barriers etc. you must look both ways and ensure it is safe to cross.	

13.9 Kilometre Posts

Exist in the MTM network and indicate how many kilometres you are away from Southern Cross Station. The number on the kilometre post gets smaller the closer you get to Southern Cross.

Example: If you are standing at kilometre post 20. This indicates that you are 20km away from Southern Cross. If you were travelling in an **UP** direction, then the next kilometre post you would see would be labelled 19.

13.10 Overhead structure numbers

Overhead structures are located closer together than the kilometre posts. Structure numbers also refer to a form of measurement. The structure numbers refer to the number of feet you are located from Flinders Street, if you add two zeros to the end of the structure number.

Example: The structure labelled 155 is 15,500 feet from Flinders Street.

The wording and terms used are consistent with those used in the Book of Rules and Operating Procedures – 1994 and the National Code of Practice – where appropriate. There are numerous terms that you will need to know and understand in order to be able to operate on or near the track.

Term	Definition
Audible Warning Device	A device such as a whistle, siren, horn, or hooter – used to give warning.
Danger Zone	All space within 3 meters horizontally from the nearest rail and any distance above or below this zone including being on the line unless a Position of Safety exists or can be created.
Down	Describes direction of travel away from Flinders Street or state capital city.
Electrical Infrastructure	Equipment and systems for supplying and distributing electricity for traction purposes, Wires, cables, and electrical equipment associated with low-voltage electrical switch rooms, signalling and substations
Five Foot	The five-foot area between the rails of a railway track also known as Victorian Broad Gauge. 1600mm
Four Foot	The four-foot area between the rails of a railway track also known as Standard Gauge (ARTC). 1435mm
Platform	A raised or level area, next to the line, that allows people to enter and leave trains.
Points	A track component consisting of paired pieces of tapered rail that can be moved and set to allow tracks to diverge or converge.
Position of Safety	A place where workers and equipment cannot be struck by rail traffic.
Rail Corridor	From fence line to fence line, or where there are no fences, 15 metres from the nearest rail. This includes a station platform, where the task to be performed maintains the potential to or will intrude into the Danger Zone.
Rail Safety Pre-Work Brief	Is a formal briefing on the work site protection arrangements provided by the Track Force Protection Co-ordinator to all Rail Safety Workers associated with the worksite protection and the Work Group Supervisor.

Term	Definition
Rail Safety Worker	Means a person who has carried out, is carrying out or is about to carry out, rail safety work, and includes- a) a person who is employed or engaged by a rail operator to carry out rail safety work; b) a person engaged by a person (other than by a rail operator) to carry out rail safety work; c) a trainee; d) a volunteer.
Rail Safety Worksite Hazard Assessment	An assessment of the rail safety hazards to determine the method/level of protection requirement for a work site.
Safeworking	The controlled movement of trains to protect the passengers, infrastructure, and workers.
Signaller	The person in charge of the working of points or signals on an interlocking apparatus or signal control panel.
Sighting Distance	Minimum distance required based online speed. (Also known as 'line of sight')
Six Foot	The minimum spacing between two adjacent running lines.
Train On	Train approaching.
Track Force Protection Coordinator	The person appointed to assess and implement worksite protection arrangements on site and trained to a minimum qualification of Track Force Protection Co-ordinator 3.1
Up	Describes the direction of travel towards Flinders Street or state capital city.
Work Group Supervisor (WGS)	The individual ultimately responsible for the supervision of the programmed activities within a Work Site.
Work Group Supervisor Pre-Work Briefing	A formal briefing on the task related activities provided by the Work Group Supervisor to the work group and the Track Force Protection Co-ordinator
Worksite	A site in the Rail Corridor where work occurs.

Section 14 – Worksite Protection in the Danger Zone

14.1 Safeworking Roles and Responsibilities

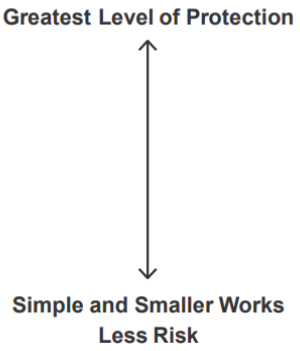
Safeworking Competency	Medical Category	Permitted Activities
Level 1 Train Track Safety Awareness (TTSA)	Category 3	Allows the holder to: • Walk alone in the Rail Corridor and Danger Zone when absolutely necessary to do so and where there is no practical alternative. • Perform work in the Danger Zone under the supervision of a TFPC.
Level 2.1 Lookout	Category 2	Allows the holder to perform Lookout duties under the supervision of a TFPC.
Level 2.2 Hand Signaller	Category 1	Allows the holder to perform Hand Signaller and Lookout duties under the supervision of a TFPC.
Level 3.1 TFPC	Category 1	Allows the holder to: • Carry out a Rail Safety Work Site Hazard Assessment • Establish Lookout Protection • Establish Enhanced Lookout Protection • Receive a Non-Obstructive 'Permit to Foul the Line'
Level 3.2 TFPC	Category 1	Allows the holder to carry out the roles of a Level 3.1 TFPC, and: • Establish Track Force Protection • Receive a Non-Obstructive/Obstructive 'Permit to • Foul the Line'. • Use a Train for Protection • Secure Points for Protection • Manage an Absolute Occupation consisting of only • One work group • Manage an area of Booked Out Track consisting of only One work group

Safeworking Competency	Medical Category	Permitted Activities
Level 3.3 TFPC	Category 1	Allows the holder to carry out the roles of a Level 3.2 TFPC, and: • Manage an Absolute Occupation • Manage the Booking Out of Track • Manage multiple work sites within an Absolute • Occupation or Booked out Track • Manage multiple work sites within an area of Booked out Track • Implement Zollner MRWS (where accredited) • Receive a Track Warrant
Level 4 Road Rail Vehicle Operator	Category 1 & TVO2	Allows the holder to Operate a Road Rail Vehicle on a Running Line via the issue of 'Road Rail Vehicle Permission'.
Level 5 On-Track Maintenance Machine Competent Person	Category 1	Allows the holder to supervise the operation of track maintenance machines and vehicles on a Running Line.

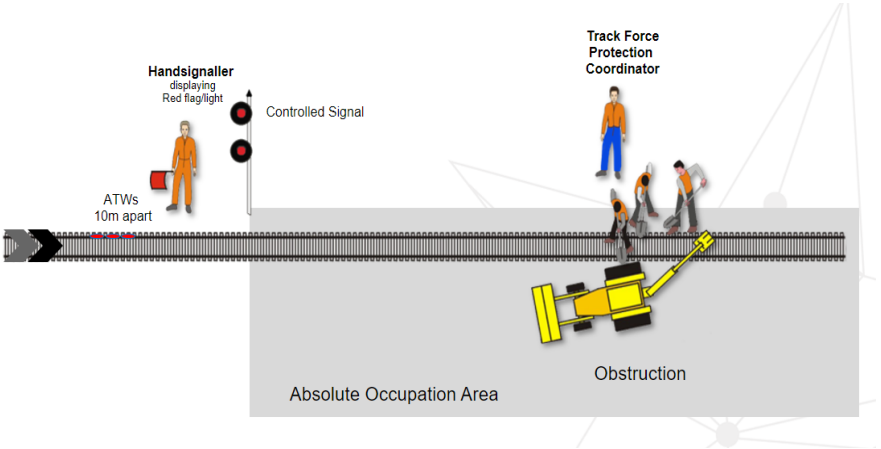
14.2 Types of Worksite Protection Available

The types of protection available are as follows:

- Absolute Occupation
- Booking out of Track
- Securing points for protection;
- Absolute Signal Blocking;
- Track Force Protection;
- Zollner Mobile Radio Warning System;
- Enhanced Lookout Protection;
- Lookout protection; and
- Track Warrant (designated ARTC and V/Line lines



14.3 Absolute Occupation



An authority that closes a defined portion of track for a specified period.

14.4 Booking Out Track

A method of protection that closes a defined portion of running line during an emergency, or for maintenance activities within a siding.

14.5 Securing Points for Protection (Inhibiting points)

Method of Protection that creates a POS within the Danger Zone by securing points to route rail traffic away from the worksite.

Where this method of protection is approved for use, the points are secured either by using a lockable point clip, a locking bar, or they are physically inhibited in their operation by a Signal Maintenance Technician.

14.6 Absolute Signal Blocking

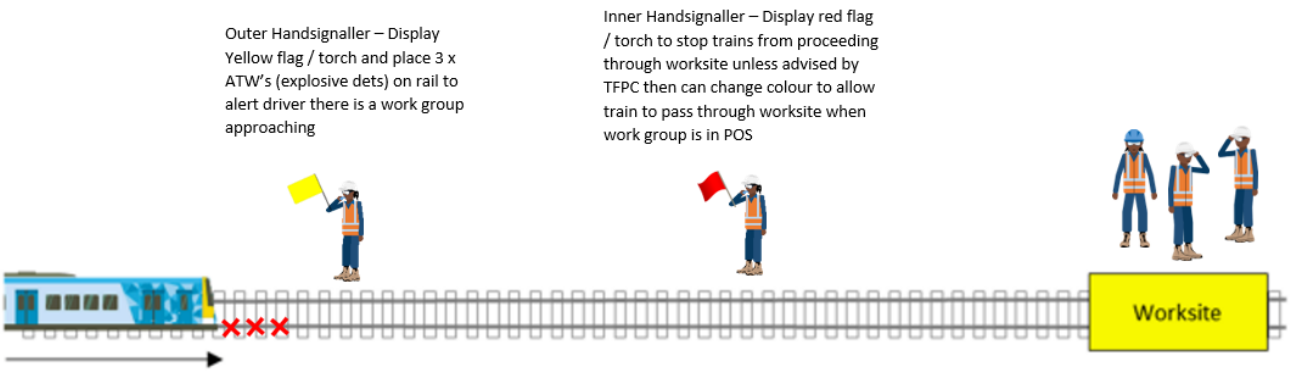
A method used by Competent Workers to carry out work on track using controlled absolute signals set and kept at STOP, without a formally issued work on track authority.

14.7 Track Force Protection

Track Force Protection is a method of protecting work on track between rail traffic movements. Track Force Protection is implemented by the TFPC who must manage the passage of rail traffic

through the worksite.

The track may be broken or obstructed but must be restored and cleared for rail traffic transit as necessary. Three ATWs are positioned 10 metres apart and are 40 metres out from the outer Handsignaller's position. (Note: Special conditions apply to certain regions).



14.8 Zollner MRWS

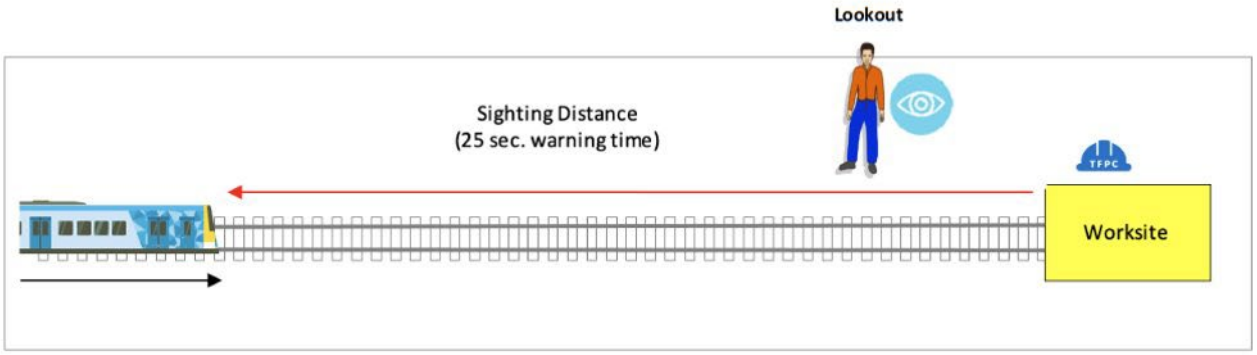
A method of protection that utilises long-range two-way radio technology to provide a visual and audible warning to all personnel whenever a rail traffic movement approaches and established worksite in the defined Rail Corridor.

14.8 Enhanced Lookout Protection

A method of protection that uses the signalling system to reduce the speed of approaching rail traffic to achieve the required minimum sighting distance.

14.10 Lookout Protection

A method of protection that utilises the provision of a Lookout(s) to advise of the approach of rail traffic to a worksite.



- Where we lookout for trains and move work group out of the way of the train to the POS to allow it to proceed at normal speed.
- Minor Works only with single person carry hand tools.

14.11 Track Warrant

A Track Warrant is only used when the worksite impacts the Danger Zone of the V/Line or ARTC network.

Track Warrants are an authority to occupy the track within specified limits for an agreed period of time. The Train Controller is responsible for the authorisation of a Track Warrant.

14.12 Demarcation Fencing

Demarcation fencing is an easily seen and continuous boundary marker. It is only provided as a warning that a boundary exists and does not prevent rail safety workers from entering the Danger Zone. This is also referred to as delineation fencing.

	When installing a safety barrier, a form of worksite protection may be required	

Section 15 – Electrical Infrastructure

Electrical Infrastructure is the equipment and systems for supplying and distributing electricity for traction purposes. These include wires, cables and electrical equipment associated with both low-voltage and high-voltage electrical switch rooms, signalling and substations.

15.1 Electrical Equipment / Electrical Infrastructure

No work should be conducted in or around Electrical Infrastructure unless you are authorised to do so. Even if the equipment has been isolated you are always still required to:

- Always maintain a safe distance
- **Do NOT** touch, sit, or walk on any electrical infrastructure unless you are authorised to do as a part of your duties
- Ensure you report any damage to your supervisor as soon as possible.

15.2 Cable Trunking

Cable trunking carries the cables that connect the signalling equipment to local and central signal boxes on the MTM network. This enables the Signaller or Train Controller to monitor the condition of the track under their responsibility, including the location of trains and the position of the points.

	Take care when operating /moving plant or machinery around cable trunking. Report any damage immediately to your TFPC or WGS, who will notify the appropriate personal.	

	The trunking lying next to the track may contain a 2,200 Volt signal feeder. Never touch, sit or walk along the trunking next to the track.	

15.3 Rescue from Electrical Equipment

If you see someone who has come into contact with live electrical equipment, immediately contact Electrol to arrange for the equipment to be isolated.

	DO NOT attempt to touch or move a victim of electrocution.	

NOTES: Contact with electricity can be fatal or can cause damage to the heart or other vital organs, depending on the path of the current. It may also result in delayed shock, where internal organs are damaged but this may not be apparent until well after the incident.

Be very careful when using flame-producing items near electrical equipment, as flame is a good conductor. Electrical fires require specialised firefighting equipment.

15.4 Overhead Power

The traction power system is live at 1500 volts of DC electricity. When a train is in contact with the traction system, the train and its electrical components are also live and dangerous to life. If any part of the traction power system becomes detached, or makes contact with any conductive material, that conductive material can also become live and dangerous to life. This might include:

- Parts of bridges
- Railway lines
- Fences
- Railway vehicles (that are not usually electronically live)

If a component becomes detached from the traction power system and makes contact with a body of water, the water can become an electrical hazard.

This again is a danger to life.

Any conductive item that makes contact with the overhead traction system can become electrically live. Even non-conductive items, such as rope or string, should be treated as conductive, as they may conduct electricity if they become wet.

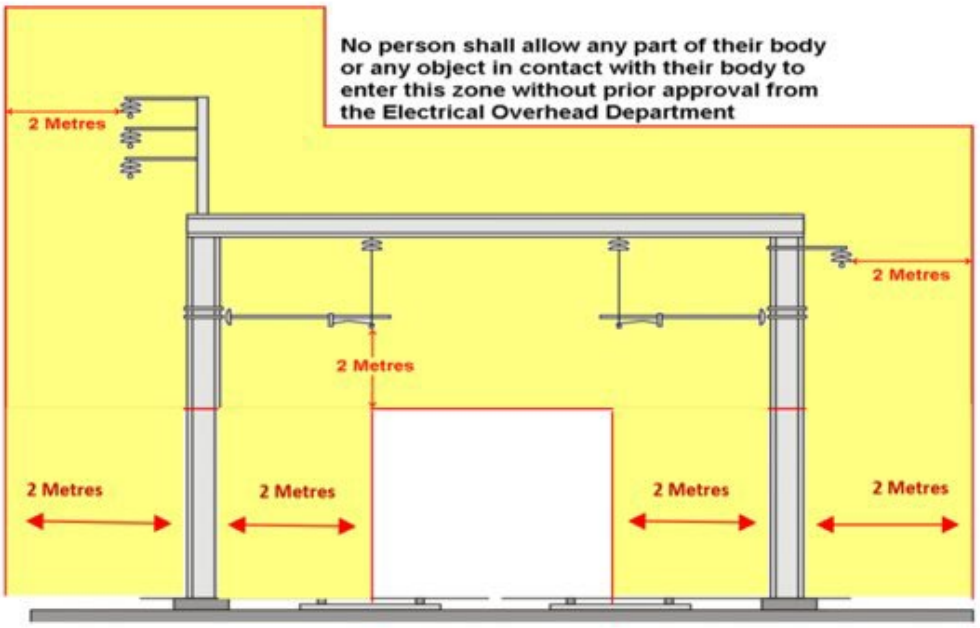
	Any wiring or conductive component in the rail electrical system may be or may become live at any time. AVOID CONTACT AT ALL TIMES.	

15.5 Safe Approach Distance

15.5.1 Electrical Safety Rules for 'Personnel' Near Live Apparatus

Two Metre Exclusion Zone. For personal approach you are not permitted to come any closer than 2 metres from train overhead wiring and fittings unless the power is isolated and a certificate called a Permit to Work Near has been issued.

Permission must be obtained from the Permit to Work Near Recipient in Charge before any work is undertaken within the 2-metre safe approach distance.



Maintaining Safe Approach Distance from Traction Overhead Equipment

As an additional layer of safety, extend the Safe Approach Distance all the way to the ground and keep clear of all infrastructure by 2 metres.

Long objects being carried:

- Must not be allowed to come within 2 metres of electrical apparatus;
- Should be kept in a horizontal position below shoulder height; and
- Must be carried by at least 2 people.

	**DO NOT** enter the 2 metre Safe Approach Distance around LIVE electrical infrastructure.	

15.5.2 Site Safety Inspections within the Rail Electrical Infrastructure

Prior to starting work within the electrified rail system, the scope of work is reviewed, to determine:

- The type and size of the plant and machinery required to complete the task;
- The number of people involved; and
- Where the plant is operating:

If plant is operating within the 2 – 6.4m zone of electrical infrastructure, an electrical safety observer must be in place.

A permit to work near is required within 2m of an electrical asset with the power isolated.

In Victoria, representatives from the following carry out site inspections:

- MTM Electrical Networks Department – Overhead;
- Track Manager / Custodian; and
- Works Group Supervisor.

Safety inspections are carried out before work is started near the electrical infrastructure to determine the level of protection and the permits that are required to ensure the work can be performed safely

15.5.3 Electrical Safety Rules for 'Mobile Plant' Near Live Apparatus

Under MTM's Electrical Safety Procedures, the following are considered mobile plant:

- Cranes;
- Backhoes;
- Excavators;
- Piling rigs;
- Tipping trucks;
- Boom lifts;
- Elevated work platforms; and
- Concrete pumps and other plant fitted with lifting equipment.

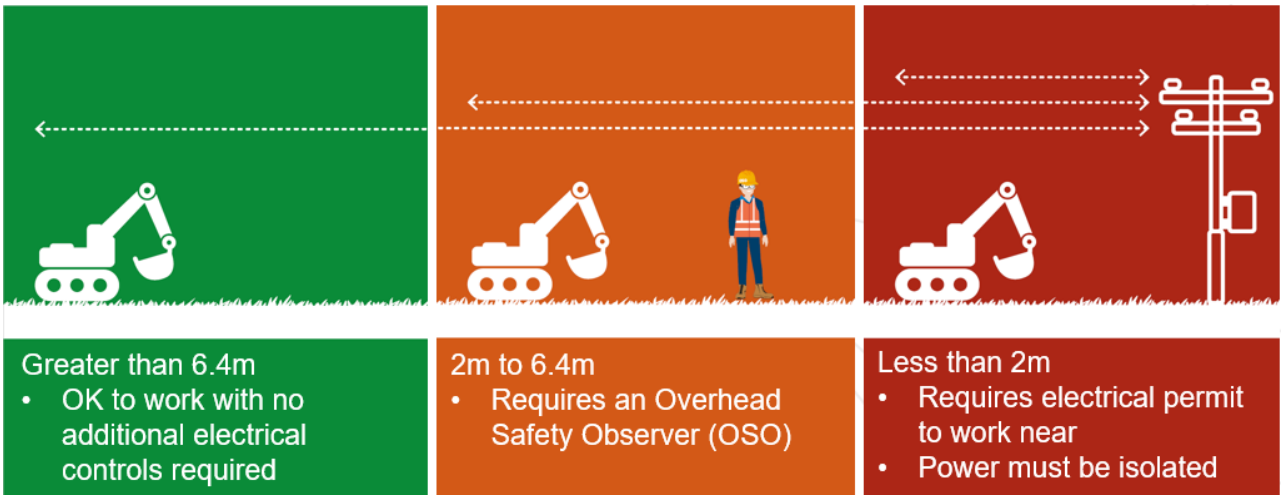
There are procedures to follow depending on how close the machine is operating near live apparatus. The site must be inspected by the Electrical Overhead Department to determine if a Permit to Work

Near is required. If the decision is that the line can stay live, then an **Approved MTM Electrical Safety Observer** will be required and must be located at the worksite at all times when the machine is in operation.

15.5.4 Safe Approach Distances

The following safe approach distances apply for all mobile plant working in and around all electrical infrastructure on the MTM network.

If the mobile plant will encroach within 6.4 metres of the electrical apparatus, Electrical Networks should be contacted.



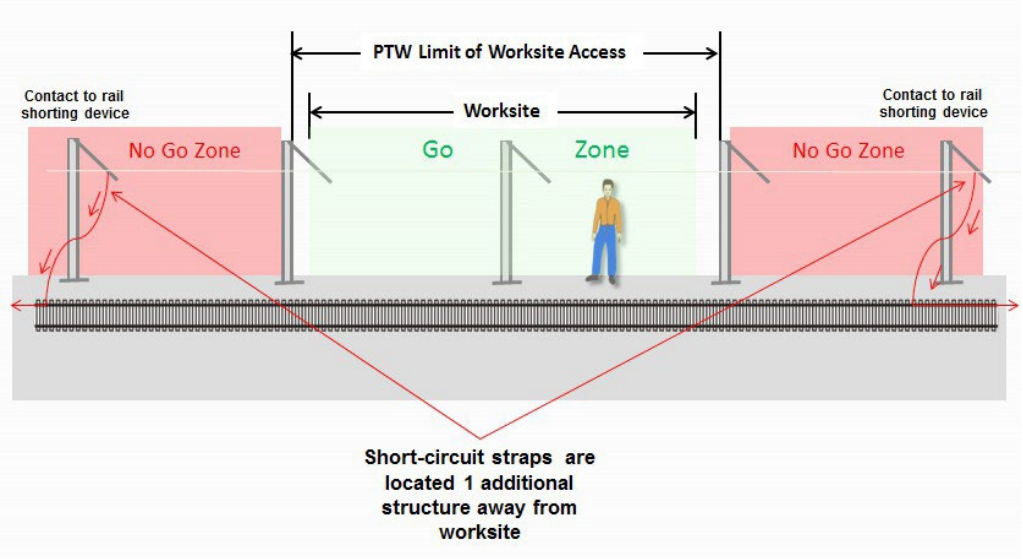
15.5.5 Machinery Working Under Live Overhead Wiring

At track level the overhead wire height will vary from 4.4 to 5.8 metres above the top of the rail. Plant such as back hoes and excavators are prohibited from working under live wiring unless fitted with approved restrictors that have been measured and approved by MTM, to stop contact with exposed electrical equipment, as they will be closer than 2 metres from the wiring.

15.5.6 Identifying the Safe Areas Under a Permit to Work Near

A Permit to Work Near is an authorised document that is issued to the permit to work authorised recipient. This document allows work to be carried out on the part of the electrical network that has been short-circuited, to the power return rail on both sides of your work area. This is achieved by using a device called a contact to 'rail shorting device'.

Once the TFPC has placed the worksite protection, confirms a Permit to Work Near is in place and the WGS has conducted the Pre-work Brief, work will then be permitted to start.



15.5.7 Fires Within the Rail Electrical Infrastructure

Even if fire extinguishers are marked "safe for use on electrical fires" they must NEVER be used on live electrical apparatus in rail traction, signal and industrial power supply installations.

These fire extinguishers are only intended for use on circuits with a voltage lower than those encountered in live electrical apparatus in rail traction, signal and industrial power supply installations.

15.5.8 Hazards With Electrical Fires

Hazards associated with electrical fires are:

- High voltage lines or equipment falling due to failure in support structures
- Reduced visibility and hidden potential hazards due to large amounts of smoke
- Toxic fumes from some products used for insulation.

Under **NO CIRCUMSTANCE** is firefighting permitted on electrical infrastructure. If you see an electrical fire, report it to your TFPC or WGS and await the fire brigade.

Section 16 – Safety Critical Communication

16.1 What Is Safety Critical Communication?

Safety Critical communication is any communication that, if not delivered or not delivered accurately or promptly, could likely result in death, serious injury or incur significant damage to property, infrastructure or the environment.

Safety Critical Communications are those that occur while:

- Sending /Receiving emergency messages
- Sending /Receiving Safeworking directions
- Driving or operating rail traffic movements
- Controlling and /or signalling rail traffic movements
- Reporting the state of equipment, infrastructure, or people (e.g., faults, trespassers) that might impact safety.

16.2 Why Is Effective Communication so Critical

One third of all railway incidents are partly caused by communication failures. Of these, communication errors were the main cause in 60% of cases.

MTM conducted a communications review in 2016.

In the review the main communication errors were:

- Wrong information communicated
- Incomplete information communicated
- No information communicated
- Unclear or ambiguous information communicated
- Safety Critical Communication Fundamentals

In the review the main factors influencing communication errors were:

- High operational demand
- Emotional /Occupational stress
- Distraction
- Team Coordination /Interference by other personnel
- Equipment reliability issues
- Pressure to get trains moving

The use of communication protocols is inconsistent. Some protocols are used more than others and effectiveness varies between individuals.

16.3 Safety Critical Communication Fundamentals

Safety critical communications on the MTM Network must be:

- **ABC** - **A**ccurate, **B**rief and **C**lear
- Relevant to the task at hand
- Agreed as to meaning before being acted upon.

What helps make communications ABC?

DO

- ✓ Plan what you intend to say.
- ✓ Use short complete phrases.
- ✓ Talk slightly slower than in normal conversation.
- ✓ Talk slightly louder than in normal conversation.
- ✓ Move to a quiet place to make a call if possible.

DON'T

- × Use redundancies e.g., 'you know,' 'er,' or 'um'
- × Interrupt or speak over the other party.
- × Use words with alternative meanings, e.g. 'Right', or 'Go ahead'
- × Use mobile phones or write documents when at places where there may be distractions or danger.

16.4 Communication Protocols

Rail Safety Workers will:

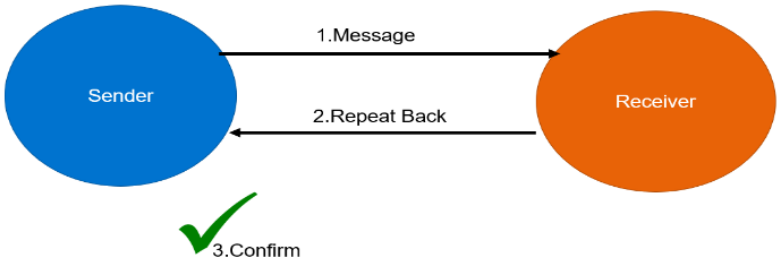
- Be Accurate, Brief and Clear slower than normal to ensure the message is received.
- Repeat back the important parts to ensure it is clearly understood.
- Do not communicate any false or irrelevant messages or information.
- Use the phonetic alphabet and spoken figures to aid clarity and avoid confusion.
- Pass messages in the following priority:
  - Emergency messages,
  - Safe Working information, then
  - All other rail voice communications

16.5 Communication Procedure

The receiver must confirm the content of a message by repeating the message back to the sender.

At a minimum, the following information should be provided/obtained in an emergency:

- The person's name or position.
- Location of the incident.
- What has happened.
- Has the incident affected another track or piece of infrastructure.
- What assistance is required.



16.6 Standard Terms

The standard terms in the table below shall be used to convey the associated meanings:

Term	Meaning
Emergency, Emergency, Emergency	This is an emergency
Correct	Yes. You are right
I read back	I am going to repeat all, or part, of your statement exactly as I received it
I say again	I am going to repeat all, or part of my last statement
I spell	I am going to use the phonetic alphabet
Loud and clear	Your signal is strong, and every word is understood
Message received	I clearly received and understand your message
Negative	No. Not correct
Out*	My transmission is complete
Over*	I have finished speaking, and I am waiting for a reply

Term	Meaning
Read back	Repeat all, or a specified part, of my message back to me exactly as you received it
Receiving*	I acknowledge your call. Proceed with the message
Roger	All your last statement is received and understood
Say again	Please repeat your last statement
Speak slower	Repeat what you said, speaking more slowly. It is hard to understand you
Stand by	Wait. I will be back soon

* Applies to radio communications only

16.7 Why Are Standard Terms and Phrases Important?

To ensure the correct meaning is communicated from one person to the other and to eliminate incorrect assumptions.

Some examples include:

- Say: “Negative” NOT “No” Because “No” may be misheard as “Go”
- Say: “State your message” Because the word “Pass” may be misinterpreted to mean you are clear to pass a certain point or signal or move a train.
- Never use the phrase “Not clear” to describe a blocked line. Poor reception may mean the recipient only hears the word “Clear”.

16.8 Phonetic Alphabet

What is the phonetic alphabet?

Method of spelling out words devised for NATO so that each of the NATO countries could talk to each other and be understood. So, the call sign VS23 is “Victor – Sierra – Two –Three” in the US, UK, Germany, etc.

Each letter name (e.g., Alpha, Romeo, Oscar etc.) has been specifically selected so that sounds distinct from all the others. No two words sound alike and only two words have one syllable.

If you start to substitute the approved phonetic words for your own, then you are introducing risk.

The phonetic alphabet is used to:

- Identify letters of the alphabet
- To spell words and locations that are difficult to say, or may be misunderstood
- If there is interference on the radio or phone

16.9 Spoken Numbers

When using spoken numbers, use the spoken numbers in the following table.

Stress the syllables in capital letters

For a decimal point, say “Day Cee Mal”

16.10 The Phonetic Alphabet and Spoken Numbers

For	Letter name	Say	For	Letter name	Say
A	ALPHA	AL-fah	**N**	NOVEMBER	No-VEM-bah
B	BRAVO	BRAH-voh	**O**	OSCAR	OSS-cah
C	CHARLIE	CHAR-lee	**P**	PAPA	Pah-PAH
D	DELTA	DELL-tah	**Q**	QUBEC	Ken-BECK
E	ECHO	ECK-oh	**R**	ROMEO	ROW-me-oh
F	FOXTROT	FOKS-trot	**S**	SIERRA	See-AIR-rah
G	GOLF	GOLF	**T**	TANGO	TAN-go
H	HOTEL	Hoh-TEL	**U**	UNIFORM	YOU-nee-form
I	INDIA	IN-dee-ah	**V**	VICTOR	VIC-tah
J	JULIET	JEW-lee-ETT	**W**	WHISKY	WISS-key
K	KILO	KEY-loh	**X**	X-RAY	ECKS-ray
L	LIMA	LEE-mah	**Y**	YANKEE	YANG-key
M	MIKE	MIKE	**Z**	ZULU	ZOO-loo

For Digit	Say
0	Zee-roh
1	WUN
2	TOO
3	thuh-Ree
4	FO-wer
5	FI-viv
6	SIX
7	SEV-en
8	ATE
9	NINE-uh

16.11 24-Hour Clock

The 24-hour clock shall be used. There are different ways to pronounce the 24-hour clock. Pronunciation can vary between rail operators and industries. At MTM the pronunciations in the table below are acceptable and shall be used to convey times.

Time	24 Hour time		Acceptable Pronunciations
12 am	**00:00**	Zero	Zero hundred hours
1 am	**01:00**	One	Zero one hundred hours
2 am	**02:00**	Two	Zero two hundred hours
3 am	**03:00**	Three	Zero three hundred hours
4 am	**04:00**	Four	Zero four hundred hours
5 am	**05:00**	Five	Zero five hundred hours
6 am	**06:00**	Six	Zero six hundred hours
7 am	**07:00**	Seven	Zero seven hundred hours
8 am	**08:00**	Eight	Zero eight hundred hours
9 am	**09:00**	Nine	Zero nine hundred hours
10 am	**10:00**	Ten	Ten hundred hours
11 am	**11:00**	Eleven	Eleven hundred hours
12 pm	**12:00**	Twelve	Twelve hundred hours
1 pm	**13:00**	Thirteen	Thirteen hundred hours
2 pm	**14:00**	Fourteen	Fourteen hundred hours
3 pm	**15:00**	Fifteen	Fifteen hundred hours
4 pm	**16:00**	Sixteen	Sixteen hundred hours
5 pm	**17:00**	Seventeen	Seventeen hundred hours
6 pm	**18:00**	Eighteen	Eighteen hundred hours
7 pm	**19:00**	Nineteen	Nineteen hundred hours
8 pm	**20:00**	Twenty	Twenty hundred hours
9 pm	**21:00**	Twenty-one	Twenty-one hundred hours
10 pm	**22:00**	Twenty-two	Twenty-two hundred hours
11 pm	**23:00**	Twenty-three	Twenty-three hundred hours

24-hour time	Pronounced as
01:15	One fifteen *or* zero one fifteen hours
04:35	Four thirty-five
11:03	Eleven ‘o’ three *or* eleven zero three hours
15:25	Fifteen twenty-five hours
21:48	Twenty-one forty-eight hours
20:00	Twenty hundred hours

Note: It is acceptable to say ‘o’ instead of zero when conveying time. ‘Hundred hours is only used on the hour.

16.12 Lead Communicator

During any conversation, one person shall take the lead.

Being the Lead Communicator involves:

- Following the communication protocols
- Asking questions when appropriate to ensure that all of the information is available at hand to make an informed decision on the correct course of action
- Challenging poor communications style of others and prompting the other party to use the protocols
- Calming the other party down if stressed, agitated or angry
- Concluding the conversation appropriately by summarising and /or ensuring the other party is clear about what is required

Lead Communicator	When Communicating with
Metrol and Electrol If these groups are communicating with each other, whoever initiates the call is the Lead Communicator.	Anyone
Signal Fault Centre	Anyone except Metrol and Electrol
Signaller (in field)	Anyone except Metrol, Electrol and Signal Fault Centre
Track Access Desk	Personnel requesting track access
Track Force Protection Coordinator	Members of work groups
Work Group Supervisor	Rail Safety Workers involved with worksite

Note: If it is not clear who is the Lead Communicator, or if two people in the same role are communicating with each other, the person who initiates the conversation takes the lead.

16.13 Written Safety Critical Communications

Personnel completing Safeworking documents must:

- Complete all required items on the form
- Write legibly
- Write numbers in numerals and not in words, for e.g., ‘10’ and not ‘ten’
- Write clearly in permanent ink
- Draw a single line through errors, initial all corrections, or start a new form if an error is made or it is no longer legible.

Safeworking books, forms and records must be kept for the period of time as indicated in Operating Procedure No.6 (Section 26) of the PTC 1994 Book of Rules and Operating Procedures, as amended.

Section 17 – Safety & Environment

17.1 Occupational Health & Safety Responsibilities

The success of an OH&S and Environmental Management System ultimately rests on the willingness of everyone to cooperate and work collectively.

OH&S and environmental requirements include legal responsibilities, which, if not complied with may lead to penalties imposed on the Company and individuals.

All parties must actively pursue the goals set out in all MTM's policies.

Senior Management is responsible for:

- Regularly reviewing compliance with policy and processes to prevent incidents;
- Applying a risk management approach to their areas of responsibility; and
- Taking effective action to provide and maintain safe and healthy working conditions for all employees and protection for the environment.

Supervisors are responsible for:

- Work methods, working conditions and workers under their control;
- Providing instructions and supervision for safe working methods for employees; and
- Ensuring safe work practices are adhered to by contractors and sub-contractors under their control.

Employees and Third Parties are responsible for:

- Reporting any hazardous conditions to their Supervisor for attention;
- Undertaking tasks and work in accordance with Company policies, procedures, and SWMS
- Ensuring their own safety and the safety of others, and the protection of the environment during the course of their daily work.

17.2 Incident Reporting

Safety depends on everyone. It requires everyone to be alert for potential hazards and to report them immediately so that action can be taken to reduce the risk. Unsafe situations, incidents and near misses must be reported to a Work Group Supervisor, Track Force Protection Coordinator or MTM management immediately.

17.3 Reporting Unsafe Situations

If you notice an unsafe situation, you have a responsibility to immediately notify the relevant people by following the steps below to pass on the critical information to that person:

Step	Critical information to be passed on
1	Identify yourself
2	Describe the situation
3	Indicate the urgency of the response required
4	Give the location of the incident or unsafe condition
5	Identify the immediate hazards

17.4 Reporting Incidents and Near Misses

All incidents, injuries and near misses must be reported **immediately**. If you observe a near miss or incident it is your responsibility to immediately alert your Work Group Supervisor and ensure that the site is safe. It is your Work Group Supervisor's responsibility to notify the relevant people and gain assistance where required.

17.5 For In-Running Near Misses and Incidents

For all in-running incidents (includes trespass or motor vehicle related near misses) must be immediately reported to Metrol.

Metrol will ensure the correct communications are instigated and that any restrictions or protocols are initiated, to ensure the safety of the train drivers and customers.

17.6 Incidents and near Misses Not Directly Impacting the Running of Services

For all other incidents arising from asset maintenance, inspection or use, whether at a worksite or in an office, these are reported using the **MetroSafe Hotline** on **9619 5647**.

All incidents and near misses will be documented and investigated to determine the causes and to prevent future occurrences

17.7 Protection of Flora and Fauna

Bio sites are locations within the metropolitan rail reserve that contain rare or endangered plant or animal species. They are protected under State and Commonwealth legislation.

The majority of bio sites on the MTM network are fenced off and clearly sign posted. If there is no permanent fencing then temporary fencing must be erected around the biosite prior to work starting.

If any work is to be conducted in the vicinity of a biosite, all relevant MTM personnel must be advised of all work requirements prior to work starting.

Penalties apply if flora and fauna is damaged or destroyed in these areas. These penalties can be found on the Environment Protection Amendment Bill 2018 and vary for individuals and companies and in severity.

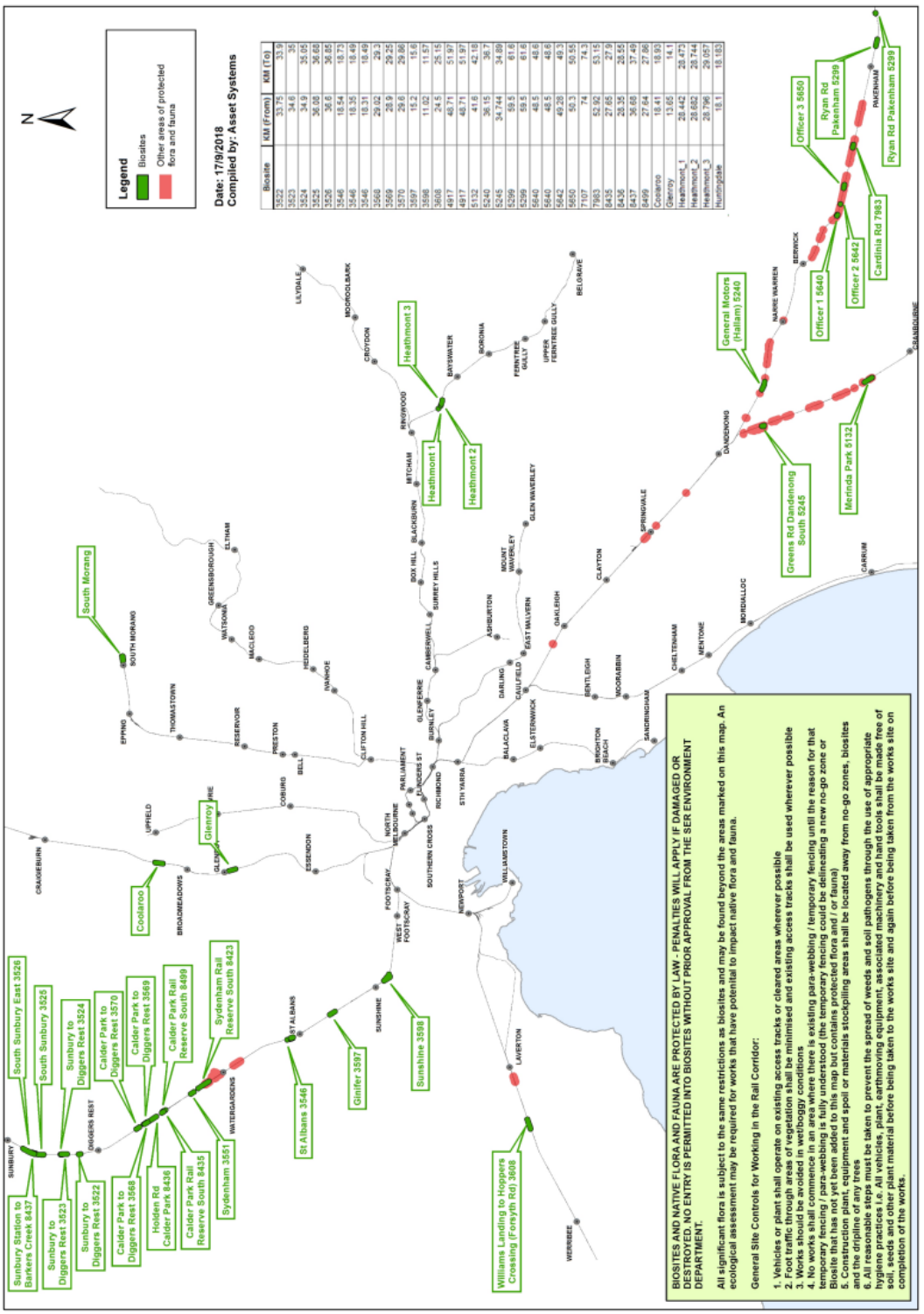
Bio sites are identified in the Network Protected Flora Sites Map.

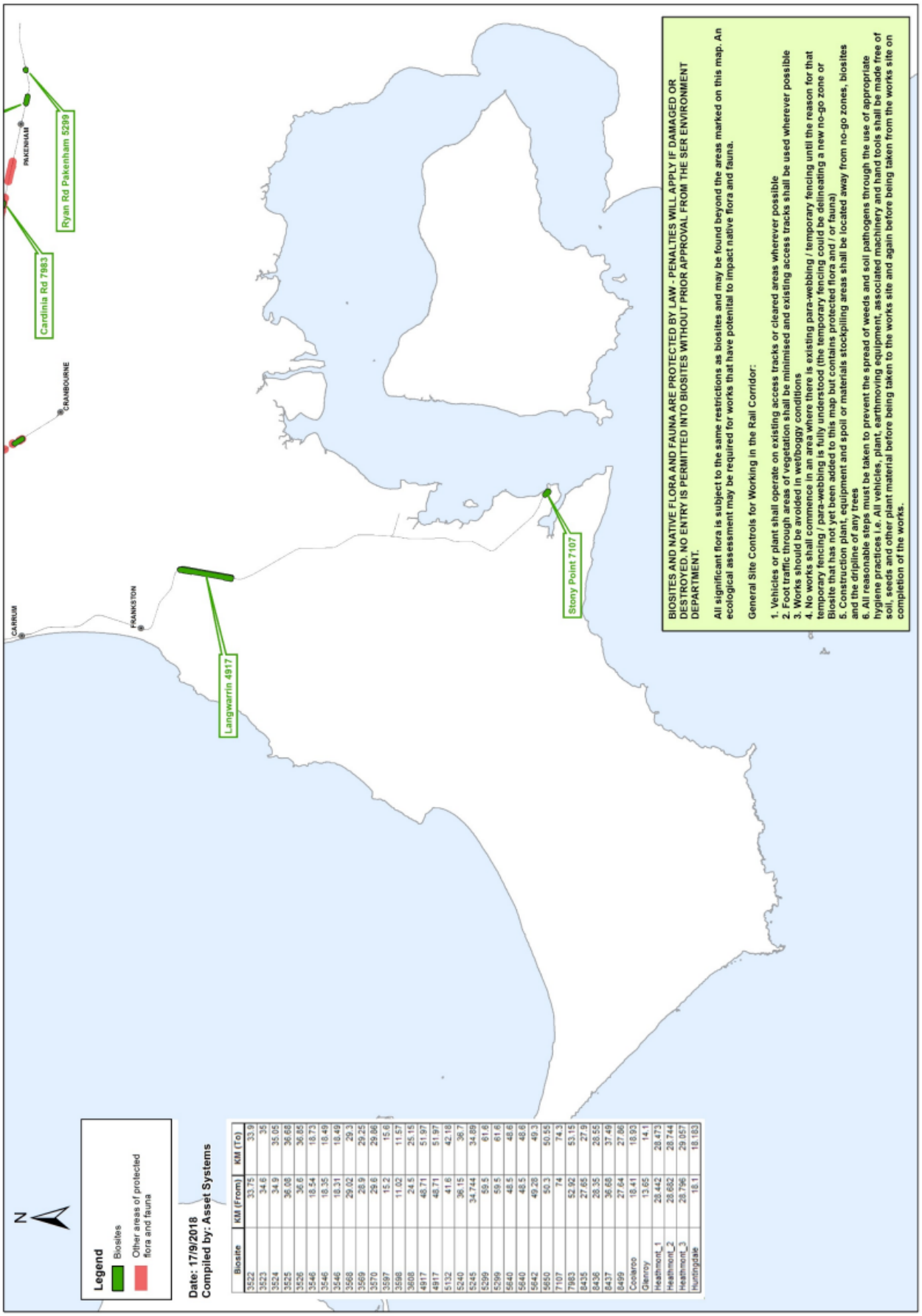
There are protocols in place to ensure protection of all bio sites on the MTM network. You are to ensure that you do not:

- Enter a fenced or sign posted area,
- Remove native or exotic vegetation,
- Remove habitat (plants, trees, grasses, nests etc.),
- Disturb soil,
- Spread weeds,
- Spray herbicides, or
- Cause any damage by machine or by hand.

17.8 Network Protected Flora Sites

Document: A1978 – Network Protected Flora Sites




BIOSITES AND NATIVE FLORA AND FAUNA ARE PROTECTED BY LAW - PENALTIES WILL APPLY IF DAMAGED OR DESTROYED. NO ENTRY IS PERMITTED INTO BIOSITES WITHOUT PRIOR APPROVAL FROM THE SER ENVIRONMENT DEPARTMENT.
All significant flora is subject to the same restrictions as biosites and may be found beyond the areas marked on this map. An ecological assessment may be required for works that have potential to impact native flora and fauna.
General Site Controls for Working in the Rail Corridor:
1. Vehicles or plant shall operate on existing access tracks or cleared areas wherever possible
2. Foot traffic through areas of vegetation shall be minimised and existing access tracks shall be used wherever possible
3. Works should be avoided in wet/boggy conditions
4. No works shall commence in an area where there is existing para-webbing / temporary fencing until the reason for that temporary fencing / para-webbing is fully understood (the temporary fencing could be delineating a new no-go zone or Biosite that has not yet been added to this map but contains protected flora and / or fauna)
5. Construction plant, equipment and spoil or materials stockpiling areas shall be located away from no-go zones, biosites and the dripline of any trees
6. All reasonable steps must be taken to prevent the spread of weeds and soil pathogens through the use of appropriate hygiene practices i.e. All vehicles, plant, earthmoving equipment, associated machinery and hand tools shall be made free of soil, seeds and other plant material before being taken to the works site and again before being taken from the works site on completion of the works.
Ryan Rd Pakenham 5299
Cardinia Rd 7983
Langwarrin 4917
Stony Point 7107
PAKENHAM
CRANBOURNE
FRANKSTON
CARRUM
N
Legend
Biosites
Other areas of protected flora and fauna
Date: 17/9/2018
Compiled by: Asset Systems
Biosite | KM (From) | KM (To)
3522 | 33.75 | 33.9
3523 | 34.6 | 35
3524 | 34.9 | 35.05
3525 | 36.68 | 36.68
3526 | 36.6 | 36.85
3546 | 18.54 | 18.73
3546 | 18.35 | 18.49
3546 | 18.31 | 18.49
3568 | 29.02 | 29.3
3569 | 28.9 | 29.25
3570 | 29.6 | 29.86
3597 | 15.2 | 15.6
3598 | 11.02 | 11.57
3608 | 24.5 | 25.15
4917 | 48.71 | 51.97
4917 | 48.71 | 51.97
5132 | 41.6 | 42.18
5240 | 36.15 | 36.7
5245 | 34.744 | 34.89
5299 | 59.5 | 61.6
5299 | 59.5 | 61.6
5640 | 48.5 | 48.6
5640 | 48.5 | 48.6
5642 | 49.28 | 49.3
5650 | 50.3 | 50.55
7107 | 74 | 74.3
7983 | 52.92 | 53.15
8435 | 27.65 | 27.9
8436 | 28.35 | 28.55
8437 | 36.68 | 37.49
8499 | 27.64 | 27.86
Coolaroo | 18.41 | 18.93
Glenroy | 13.65 | 14.1
Heathmont_1 | 28.442 | 28.473
Heathmont_2 | 28.682 | 28.744
Heathmont_3 | 28.796 | 29.057
Huntingdale | 18.1 | 18.183

17.9 Heritage Sites

The Heritage Act identifies and protects heritage places and objects that are significant to Victoria. There are a number of heritage sites on Victorian and national heritage registers that are within the MTM network.

Most of these sites have a heritage overlay from local councils, which require planning approvals prior to work being undertaken.

Examples of heritage sites include:

- Buildings, structures, and precincts,
- Gardens, trees, and cultural landscape, and
- Archaeological sites and artifacts.

MTM maintains a Network Heritage Sites Map and a register that lists the heritage sites on the network.

If in doubt as to the status of a particular asset you should check with MTM management prior to carrying out works.

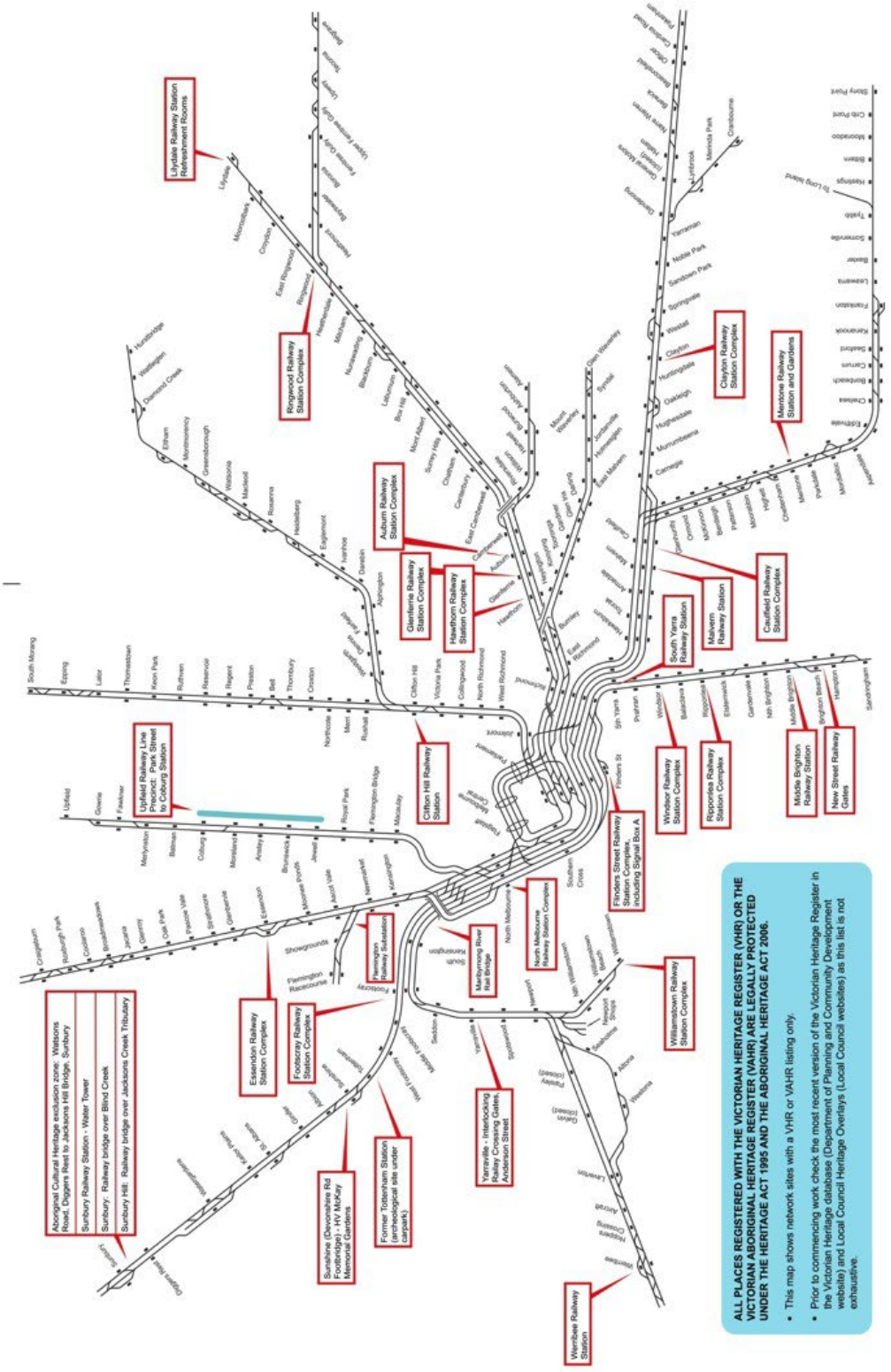
Heritage locations should be taken into account when planning work. This should be done to identify the controls that may be required. In some cases, it may also be necessary for permits to be obtained prior to work commencing.

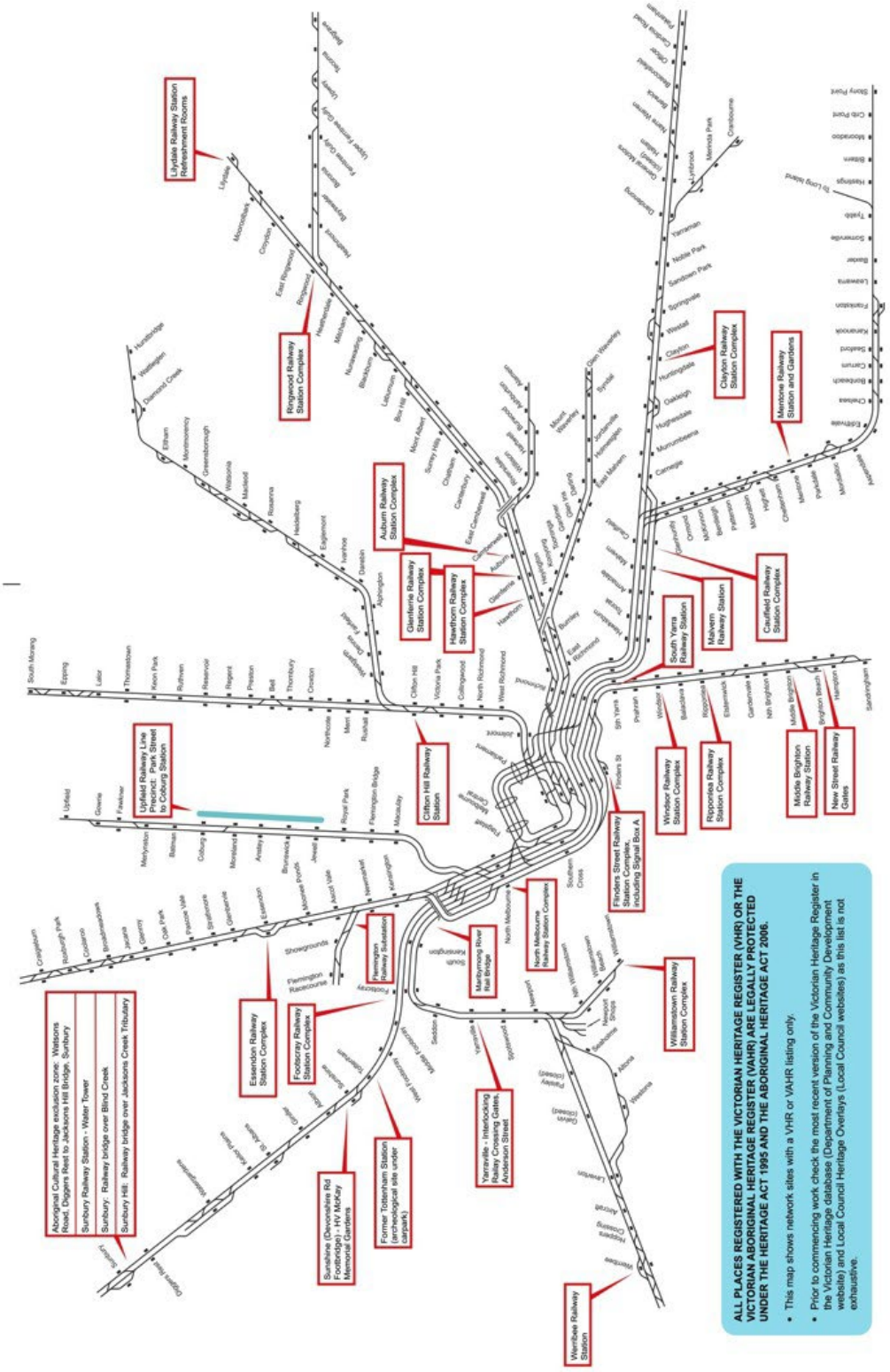
An Aboriginal cultural heritage exclusion zone is located between Sunbury and Diggers Rest on the

Metro network. This area is sign-posted and is not to be entered.

The exclusion zone is identified in the Network Heritage Sites Map and register. Penalties may be applied under legislation to both the company and the individual

17.10 Network Heritage Sites





17.11 Network Heritage Register

Asset	VHR* / HI** No.	Municipality and Heritage Overlay Number
Auburn Railway Station Complex	H1559	Boroondara – HO132; HO260
Brighton Beach Railway Station	H1077	Bayside – HO348
Brighton – New Street, Railway Gates	H269	Bayside – HO269
Caulfield Railway Station Complex	H1665	Glen Eira – HO78
Clayton Railway Station	H1667	Monash – HO12
Clifton Hill Railway Station	H1668	Yarra – HO90; HO313
Essendon Railway Station Complex	H1562	Moonee Valley – HO51
Flemington - Railway Substation	H1199	Moonee Valley – HO139
Flinders St Railway Station Complex (including Signal Box A)	H1083	Melbourne – HO649
Footscray Railway Station Complex	H1563	Maribyrnong – HO49
Glenferrie Railway Station Complex	H1671	Boroondara – HO46
Hawthorn Railway Station Complex	H1566	Boroondara – HO42
Lilydale Railway Station Refreshment Rooms	H2044	Yarra Ranges – HO399
Malvern Railway Station	H1575	Stonnington – HO103
Maribyrnong River Rail Bridge	H1213	Maribyrnong – HO51
Mentone Railway Station & Gardens	H2099	Kingston – HO106
Middle Brighton Railway Station Complex	H1561	Bayside – HO107
North Melbourne Railway Station Complex	H1582	Melbourne – HO302
Ringwood Railway Station Complex	H1587	Maroondah – HO39
Ripponlea Railway Station Complex	H1588	Port Phillip – HO137
South Yarra Railway Station	H1068	Stonnington- HO106
Sunbury Hill - railway bridge over Jacksons Creek tributary	H1964	Hume – HO64
Sunbury – railway bridge over Blind Creek	H1441	Hume – HO60
Sunbury Railway Station – Water Tower	H1673	Hume – HO41
Sunshine (Devonshire Rd Footbridge) - HV McKay Memorial Gardens	H1963	Brimbank – HO10
(Former) Tottenham Station (archeological site undercarpark)	H7822-0842	
Upfield Railway Line Precinct - Park St to Coburg Station	H952	Moreland – HO180; HO182
Watsons Road, Diggers Rest to Jacksons Hill Bridge, Sunbury – Aboriginal Cultural Heritage exclusion zone		
Werribee Railway Station	H1309	Wyndham – HO4
Williamstown Railway Station Complex	H1599	Hobsons Bay – HO144
Windsor Railway Station Complex	H1600	Stonnington – HO92
Yarraville - Interlocking Railway Crossing Gates, Anderson St	H1028	Maribyrnong – HO19

*Victorian Heritage Register number; **Victorian Heritage Inventory number.

- Prior to commencing work check the most recent version of the Victorian Heritage Register in the Victorian Heritage database (http://vhd.heritage.vic.gov.au/vhd/heritagevic#) and Local Council Heritage Overlays (Local Council websites) as this list is not exhaustive.
- Listings in the Victorian Heritage Register with an ID number with the prefix "D" have been de-listed.
- All places on the Victorian Heritage Register and the Victorian Aboriginal Heritage Register are legally protected under the Heritage Act 1995 and the Aboriginal Heritage Act 2006.

17.12 Managing Worksite Cleanliness

It is important to keep the Rail Corridor, worksites and depots clean and tidy not only to improve safety performance but also to comply with our environmental requirements.

Under the Environmental Protection Act it is an offence to;

- Discharge industrial waste, including oils, grease, wash effluent or solids into the stormwater system, and /or
- Cause or allow waste in any location where it could reasonably be expected to enter waters.

On MTM premises, we are all responsible for maintaining worksite cleanliness through safe practices, which include:

- Correct storing of chemicals and oils in containers
- Storing liquids on a sealed surface and within a bunded area either indoors or under cover
- Removing and disposing of waste appropriately
- Maintaining good housekeeping practices

Other practices that maintain worksite cleanliness include:

- Minimising the generation of dust,
- Minimising mud and dirt deposits on external roadways,
- Stopping erosion and trapping sediments for removal, and
- Reporting incidents immediately to a Supervisor or Manager.

The risks of generating, storing and disposing of waste must be identified during the planning stage of work. These risks are included in the risk assessments to identify controls which are then communicated in the SWMS / JSEA.

17.13 Employee Responsibility

MTM employees and Third Parties are responsible for adequately managing waste. These responsibilities include:

- Replacing lids on waste containers,
- Ensuring waste is deposited into appropriate containers,
- Seeking advice from a Supervisor or Manager if not sure about the correct way to dispose of waste, particularly ‘prescribed industrial waste’, and
- Reporting waste materials that have accumulated to unacceptable levels.

17.14 Prescribed Industrial Waste

Prescribed industrial waste, is waste that is potentially hazardous to people or the environment. It includes:

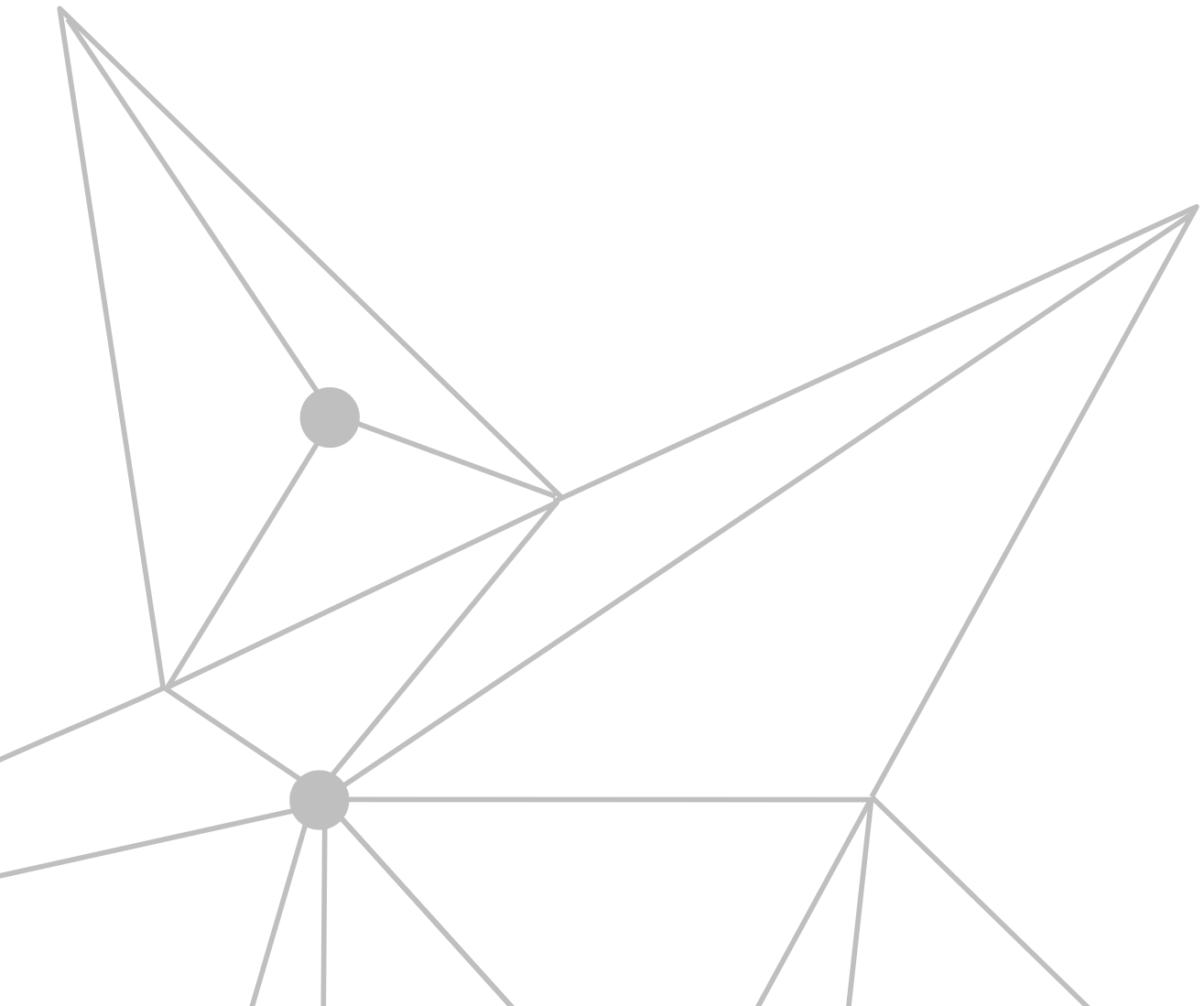
- Fluorescent tubes and light globes
- Asbestos
- Used batteries
- Empty containers (empty oil containers, empty aerosol cans)
- Scrap metal
- Absorbent materials (solvent or oil rags)
- Used oil filters
- Waste oil

Prescribed industrial waste must be:

- Removed by an Environment Protection Authority (EPA) approved contractor, and
- Taken to an EPA approved facility.

MTM has containers, bins and areas for storing these types of waste on-site.

Practical In-Class Activities
To be completed in the Simulated Rail Environment



Activity 1: Review of Drugs and Alcohol

Instructions
To ensure your understanding of MTM's Alcohol and Drugs policy, please answer the following questions

	Questions
1.	What blood alcohol reading must you have to perform work anywhere in MTM's Rail Corridor?
2.	When can you be tested?
3.	Do you need to advise your supervisor if you are taking "over the counter" or "prescription" medication?
4.	What happens if you refuse a test?

Activity 2: Mandatory & Additional PPE

Instructions

On the image below, label in the spaces provided the PPE and list the mandatory & additional PPE for a person undertaking maintenance or construction works within MTM's rail corridor or sidings in the table below:

Mandatory:
Additional:

Activity 3: Terminology Definitions

Instructions

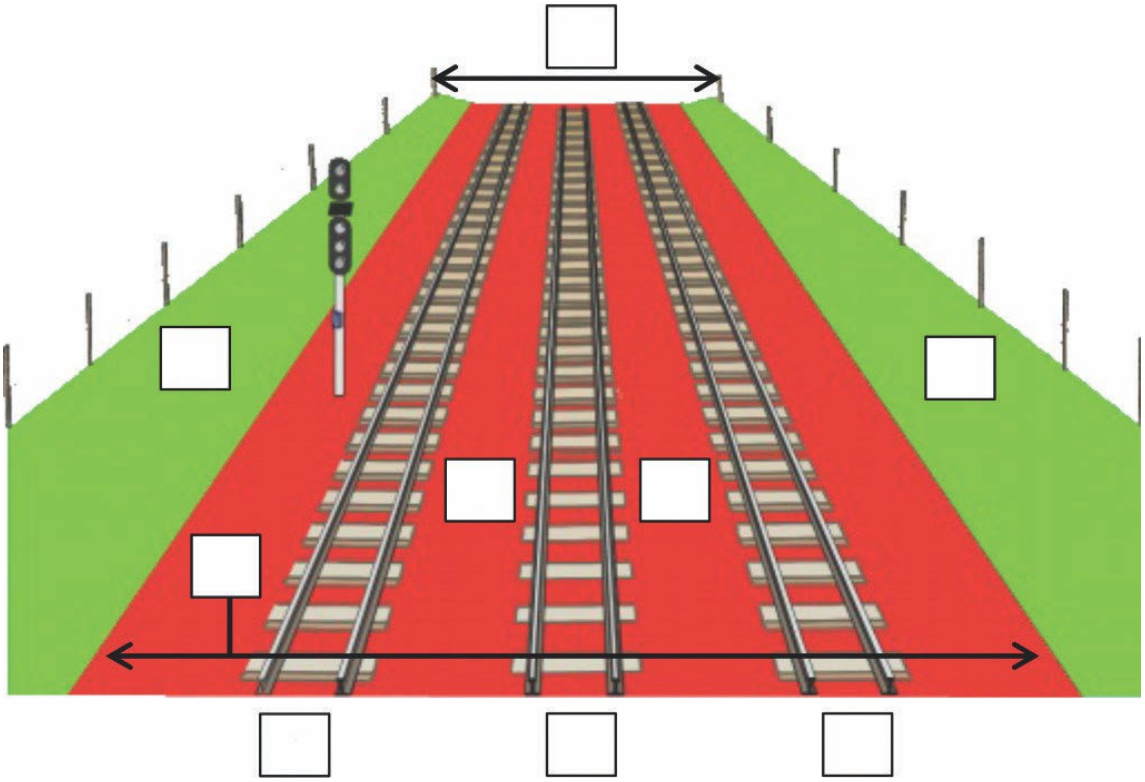
- Work in small groups for this activity.
- Fill in definition name against the relevant explanations for the following terminology.

You have 5 minutes to complete this activity.:

Term	Definition
RAIL CORRIDOR	
DANGER ZONE	
DANGER ZONE ON PLATOFRM	
	Is a formal briefing on the task related activities provided by the Work Group Supervisor to the Work Group.
	A place where workers and equipment cannot be struck by rail traffic.
	The controlled movement of trains to protect the passengers, infrastructure, and workers.
	A track component consisting of paired pieces of tapered rail that can be moved and set to allow tracks to diverge or converge.
TRAIN ON	
	The individual ultimately responsible for the supervision of the programmed activities within the Work Site.
	The person responsible for keeping the workers and the worksite safe from rail traffic.

Activity 4: Identifying the Rail Corridor

Instructions
You are to identify the following information in the squares provided by referring to the relevant explanations below and place the correct letter in the square blank boxes provided. (Some are repeated).



A. Rail Corridor

B. Position of Safety

C. Danger Zone

D. The 4- or 5-foot gauge depending on State / Network owner

E. 6 foot

Activity 5: Metro Safeworking Requirements

Instructions
Answer the following questions:

	Questions
1.	Describe what Safeworking is.
2.	What information will you find out at the Work Group Supervisor Pre-Work Brief?

Activity 6: Hazard Identification Activity

Instructions

Using the simulated track environment, identify 3 Hazards with the appropriate Risks and associated Controls to reduce the likelihood of injury and or damage occurring in the below table. Each Hazard must be different and relative to the environment.

This task is to be completed in the simulated track environment.

HAZARD	RISK	CONTROL

Glossary

Absolute Occupation	An authority that closes a defined portion of track for a specified period.
Audible Track Warning Signal (ATWS)	Also known as 'detonators'. Devices that are placed on the track to attract the attention of the train crews. They explode when rail traffic run over them. Min Safe distance of 40m should always be maintained when working near ATWS.
Audible Warning Device (AWD)	A device such as a whistle, siren, horn or hooter – used to give warning
Ballast	The rock product that is used as the foundation for track
Bi-Directional Lines	Allows for normal travel of rail traffic in either direction on a single track
Civil Infrastructure	The track, track formation and drainage, and fixed structures beside, over or under the track. This term includes supports for overhead electric traction equipment and supports for signalling and telecommunications equipment, but not the equipment itself.
Communication Device	A device that supports effective communication between Competent Workers.
Competent Worker	A worker certified as competent to carry out the relevant task.
Danger Zone	Is all space within 3 metres horizontally from the nearest rail and any distance above or below this zone including being on the line unless a Position of Safety exists or can be created.
Demarcation Fencing	Is an easily seen and continuous boundary marker. It is only provided as a warning that a boundary exists and does not prevent rail safety workers from entering the Danger Zone. This is also referred to as delineation fencing.
Designated Pathway	An established pathway built for use by railway personnel in the performance of their duties.
Down	Describes direction of travel away from Flinders Street Station or state capital city.
Electrical Infrastructure	Equipment and systems for supplying and distributing electricity for traction purposes, Wires, cables, and electrical equipment associated with low-voltage electrical switch rooms, signalling and substations.

Emergency	Incident requiring urgent action. The incident might involve death or serious injury, health or safety effects, significant damage to property or infrastructure, significant train service disruption or environment impact
Hand Signal	A signal given by hand movements, with or without a flag or light
Handsignaller	A Rail Safety Worker (trained to a minimum qualification of level 2.2) who displays hand signals to the operators of rail traffic movements. A Handsignaller is also referred to as a Flagman.
Hazard	A source or a situation with a potential for harm in terms of injury or illness, damage to property, damage to the environment or a combination of these.
Kilometre Posts	Posts on the downside of the down line which indicate the distance from Melbourne.
Level Crossing	A location where the railway line and a road or pedestrian walkway cross paths on the same level
Lookout	A Rail Safety Worker (trained to a minimum qualification of Level 2.1) appointed to watch for/warn the Work Group of all approaching rail traffic. As this is their sole function, at no stage is the Lookout to be involved in any other duties.
Major Task	Is a task involving the use of equipment which could not be completed under the definition of “Minor Task”
Minor Task	Is a light maintenance task that can be ceased immediately on the approach of rail traffic to enable the staff to reach a Position of Safety prior to rail traffic reaching the worksite. The task may only be performed through the use of light powered/non-powered hand tools that can be removed easily and immediately from the track by one person without mechanical assistance.
Overhead Power Lines	Power lines which provide traction for the electric trains
Permit to Work	A form of declaration signed and issued by a nominated person in charge of the work to be carried out on or near to overhead traction wiring equipment or high voltage apparatus. The Purpose of the form is to make known to the person in charge of the work exactly which equipment is isolated and upon which, or near to which, it is safe for work to be carried out so far as the respective equipment is concerned.
Points	A track component consisting of paired pieces of tapered rail that can be moved and set to allow tracks to diverge or converge

Position Of Safety	A place where people and equipment cannot be struck by rail traffic
Rail Corridor	From fence line to fence line, or where there are no fences, 15 metres from the nearest rail. This includes a station platform, where the task to be performed maintains the potential to or will intrude into the Danger Zone.
Rail Safety Pre-Work Briefing	A formal briefing on the work site protection arrangements provided by the Track Force Protection Co-ordinator to all rail safety workers associated with the worksite protection and the Work Group Supervisor.
Rail Safety Worker	Means a person who has carried out, is carrying out or is about to carry out, rail safety work, and includes: a) a person who is employed or engaged by a rail operator to carry out rail safety work; b) a person engaged by a person (other than by a rail operator) to carry out rail safety work; c) a trainee; d) a volunteer.
Rail Safety Worksite Hazard Assessment (RSWHA)	Is an assessment of the rail safety hazards to determine the method/level of protection requirement for a work site.
Risk	Defined as an effect of uncertainty on personnel safety, financial, operational, environmental etc. Risk is characterised in terms, of the likelihood of the hazard happening and the consequence of the hazard.
Siding	A portion of track where vehicles can be placed clear of the running lines
Signaller	A person in charge of the working of points or signals of an interlocking apparatus or signal control panel
Signals	Equipment used to authorise the safe movement of trains
Track Force Protection Coordinator (TFPC)	Is the person appointed to assess and implement worksite protection arrangements on site and trained to a minimum qualification of Track Force Protection Co-ordinator – Level 3.1
Train Controller	Responsible for directing movements of trains under the train control system

Track Force Protection	Track Force Protection is a method of protecting work on track between rail traffic movements. Track Force Protection is implemented by the TFPC who must manage the passage of rail traffic through the worksite. The track may be broken or obstructed but must be restored and cleared for rail traffic transit as necessary.
Track Force Protection Coordinator (TFPC)	Is the person appointed to assess and implement worksite protection arrangements on site and trained to a minimum qualification of Track Force Protection Co-ordinator – Level 3.1
Train Controller	Responsible for directing movements of trains under the train control system
Uni-Directional Line	Allowing for normal travel in one direction only according to the infrastructure and system of safe working in use
Up	Describes the direction of travel towards Flinders Street Station or state capital city.
Work Group Supervisor Pre-Work Brief	Is a formal briefing on the task related activities provided by the Work Group Supervisor to the work group and Track Force Protection Co-ordinator.
Work Site	A site in the Rail Corridor where work occurs.
Workgroup Supervisor	The individual ultimately responsible for the supervision of the programmed activities within a Work Site.
Uni-Directional Line	Allowing for normal travel in one direction only according to the infrastructure and system of safe working in use

Course Conclusion

If you need further information about any of the topics covered in this course, you should talk to your Supervisor.

Please complete the **Student Course Evaluation** form before you leave.

This information is very valuable and ensures that our best practice is continually monitored.

Course Feedback QR Code

Please use the following QR code to provide Feedback on the TTSA Course and its delivery. Thank you.

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