



**Traffic
Management
Training Pty Ltd**

RTO #45094 ABN 53 608 619 067

TRAFFIC CONTROL WORK TRAINING (TCWT)

Learner Guide

SafeWork NSW approved Training Provider

Course Description

TRAFFIC CONTROLLER

- RIICOM201E Communicate in the workplace
- RIIWHS201E Work safely and follow WHS policies and procedures
- RIIWHS205E Control traffic with stop-slow bat
- RIIWHS206 Control traffic with Portable Traffic Control devices

This course addresses the skills and knowledge for those responsible for stopping and starting traffic in temporary traffic management using a stop/slow bat or boom gate. This program is a good entry point for those wishing to establish themselves into the traffic control/management industry

This course does not qualify a participant to set up or work with traffic control plans. To obtain a SafeWork NSW Traffic Control Work Training (TCWT) card, training and assessment must be carried out by a SafeWork NSW approved training provider.

IMPLEMENT TRAFFIC CONTROL PLANS

- RIICOM201E Communicate in the workplace
- RIIRIS301E Apply risk management processes
- RIIWHS201E Work safely and follow WHS policies and procedures
- RIIWHS302E Implement traffic management plans
- RIIWHS303 Position set up and program portable traffic control devices

This course addresses the skills and knowledge for personnel responsible for traffic management on a site to implement a work zone traffic management plan in the immediate vicinity of a workplace.

This course does not qualify a participant to control traffic with a stop/slow bat or boom gate, or to modify existing traffic control plans.

This program is suited to those who have traffic controller experience and wish to further their career within the traffic control/management industry

To obtain a SafeWork NSW Traffic Control Work Training (TCWT) card, training and assessment must be carried out by a SafeWork NSW approved training provider

Learning Outcomes

TRAFFIC CONTROLLER

- Stop/direct road users using a stop/slow bat and understand stopping sight distances
- Monitor traffic with portable traffic control devices and temporary traffic signs according to traffic management plans and traffic guidance schemes
- Maintain traffic incident reports
- Understand the Traffic Guidance Schemes (TGSs) also known as Traffic Management Plans (TMPs) for the site
- Assess and respond to changes in the environment, for example traffic volumes, weather conditions, road conditions, Work Health and Safety (WHS) and operational requirements
- Carry out risk assessments for personal safety
- Participate in toolbox talks (specific to traffic control)
- Use communication methods and devices
- Conform to traffic control policy and procedures

IMPLEMENT TRAFFIC CONTROL PLANS

- Identify safety implications of traffic control at road works and personal responsibilities
- Set up, monitor and close down traffic control devices according to a nominated TGS/TMP, to WHS and legislative requirements
- Operate a two-way radio correctly and effectively
- Check, clean and store equipment on completion of work and close down a TGS/TMP
- Know the basic function of the TGS/TMP system
- Locate and apply required legislations, documentation, policies and procedures including documentation required for worksite projects and required traffic management
- Locate and apply required legislation, regulations, codes and procedures including Austroads Codes of Practice and WHS applicable to temporary traffic management
- Adapt to all work health and safety (WHS) and operational requirements
- Use the site/location assessment, distinguish topographical landmarks and carry out authorised risk control
- Conduct an onsite check of a TGS/TMP to identify any unexpected risks/hazards
- Plan for emergencies that may arise
- Ensure spacing between signs and traffic control devices is in line with a TGS/TMP
- Understand speed, environment, type and class of vehicles, traffic density, sight lines, environmental conditions, weather patterns and surface type
- Maintain traffic incident reports
- Monitor traffic controllers

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1. SITE SAFETY PROCEDURES

All work carries with it some degree of risk to health and safety, however, the traffic control industry poses unique and elevated levels of risk to workers. It is important that a worker become acquainted with how legislation and company policies and procedures interact to help keep workers safe and with what a workers own personal responsibilities to health and safety are.

INDUCTION

Workplace induction/orientation, also known as 'on-boarding' will introduce a worker to the various policy and procedures and introduce a worker to mandatory and statutory arrangements.

WHS in workplaces is supported and driven by legislation and codes of practice and there is a big responsibility on employers to ensure that workers are introduced to WHS requirements, therefore inductions are very important.

New workers could be at risk from the moment they enter the workplace on their first day, it is important to be exposed to WHS documentation from the start

SAFework NSW TRAFFIC CONTROL WORK TRAINING (TCWT) CARD

Workers who undertake traffic control work as defined by the WHS Act, need to obtain a mandatory SafeWork NSW Traffic Control Work Training (TCWT) Card.

This work includes:

Traffic	Direct traffic using a stop/slow bat or boom gate (TCR)
Implement	Implement a work zone traffic management plan in the immediate vicinity of a workplace (IMP)
Design	design(Including amend) or inspect a workplace traffic management plan (PWZ)

Students who have completed training can carry out supervised work until they complete their final assessment if they hold a valid Statement of Completion (SOC). Upon successful completion of the final assessment, students will be issued with a SafeWork NSW Traffic Control Training (TCWT) Card.



LEGISLATION

In all jurisdictions, there is a statutory body responsible to work with and assist industry to meet their WHS needs and requirements. They do this providing the following:

- Advice on improving WHS to prevent workplace injuries and deaths from occurring
- Provide support and advice for business in regard to WHS
- Provide licensing and registration for dangerous work
- Enforcing WHS laws and policies
- They may provide insurance for employers
- Manage Workers compensation systems
- Help workers return for work

If you are using this workbook in the context of traffic control, it is important to note that traffic control work may be designated as **high-risk work** in a workers jurisdiction. If this is the case, there may be additional safety requirements that must be adhered to on traffic control sites. This is partly why traffic control personnel need formal accreditation before they can work.

WHS Representative responsibilities

- Accessing a training course to upskill in WHS knowledge
- Investigating complaints about health and safety matters from their workgroup
- Receiving and giving information on health and safety matters in the workplace (to and from workers and PCBU)
- Accompanying Safework NSW inspectors during and inspection
- Issuing a provisional improvement notice (PIN) when issues can't be satisfactorily resolved
- Advising the worker to STOP WORK if they believe there is as a serious risk to health or safety

Workers WHS responsibilities

Workers must:

Take reasonable care for their own health and safety being fit for duty:

- Co-operate with any reasonable policy or procedure or instruction
- Follow safe work practices
- Maintain good house keeping
- Use PPE as Required

Workers must not:

- Participate in workplace bullying
- Misuse plant or processes
- Obstruct aid to an injured worker
- Create a risk to the health and safety of others

Snapshot of the Legal Framework:

The Work Health and Safety Act 2011

- Laws to protect the health, safety and welfare of people at work

The WHS regulation 2017

- Gives more details or information on parts of the Act

Codes of practice

- Are practical instructions on how to meet the terms of the Law
- TRAFFIC CONTROL AT WORKSITE MANUAL V5 2018

Australian standards

- Gives the minimum levels of performance or quality for a hazard, work process or product
- As1742.3 2009 Manual and uniform Traffic Control at worksites

COMPANY OR PCBU RESPONSIBILITIES

A 'person conducting a business or undertaking' (PCBU) is a legal term under WHS laws for individuals, businesses or organisations that are conducting business.

A person conducting a business or undertaking (PCBU) must not direct or allow a worker to carry out traffic control work unless:

- They have successfully completed traffic control work training for that type of traffic control work, and
- if the worker completed the training more than 2 years previously- the worker has carried out that type of traffic control work in the preceding 2 years.

This does not apply to a person who is directing traffic in the capacity of:

- A school crossing supervisor, or
- a heavy vehicle inspector

PCBU's are responsible for the health and safety of workers, contractors, volunteers, visitors and anyone else who might be put at risk by the work being carried out. By law a PCBU must:

- Talk to workers to identify any potential hazards
- Put systems in place for the safe use and maintenance of plant and machinery, such as machine guards
- Provide suitable information, instruction and supervision, especially to new workers
- Ensure there are adequate workplace facilities including toilets, drinking water, washing and eating facilities and first aid
- Record any workplace incidents in a register of injuries and respond to hazards quickly
- Prepare emergency plans
- Manage the risks of any remote and isolated work
- Have a return to work program to help injured workers with their recovery and return to work.

A PCBU is not the same as an individual worker or officer and the term does not apply to purely social, domestic or recreational activities. Individual workers and officers have separate duties under the WHS Act.

WORKERS

Anyone who performs paid work in any capacity for an employer, business or organisation is considered a worker.

Generally, a person who performs work for a PCBU is considered a worker. However the term can also include unpaid workers such as volunteers or work experience students. Under the WHS Act 2011, you are considered a worker if you are an:

- Employee
- Trainee, apprentice or work experience student
- Outworker, contractor or sub-contractor
- Employee of a contractor or sub-contractor
- Employee of a labour hire company

A worker has a responsibility to take reasonable care of their own health and safety, and that of others.

A worker is a person who carried out work in any capacity for a business or employer (or other PCBU). They can be:

- an employee
- a trainee, apprentice or work experience student
- a volunteer
- an outworker
- a contractor or sub-contractor
- an employee of a contractor or sub-contractor
- an employee of a labour hire company

While at work, a worker has a 'Duty of Care' and must:

- take reasonable care for their own health and safety
- take reasonable care for the health and safety of others
- comply with any reasonable instructions, policies and procedure given by their employer, business or controller (or other **PCBU**) of the workplace.

Workers need to ensure they are Fit for Duty and complete the I'm Safe Checklist, ensuring they are fit for duty in relation to:

- I- Illness
- M- medication
- S- stress
- A- Alcohol (and drugs)
- F- Fatigue
- E- Emotional distress

It is important to ensure you are fit, healthy and able to perform your usual duties without causing risk to yourself and others. If you are unwell, taking medication that may impair your ability to complete your usual duties, suffering significant stress, emotional distress or excessive fatigue or affected by alcohol or drugs, you have a responsibility to complete the I'm Safe Checklist before attending the workplace.

Taking Regular Breaks

All Traffic Controllers are required to take regular breaks to ensure the safety of themselves, coworkers and the public. Under AS 1742.3 CI 4.10.5 a worker should be relieved after 2 hours of duty for a 15 minute break.

Alcohol

Use of alcohol and drugs can impair your ability to do your job and lead to:

- Poor concentration
- Inability or reduced ability to problem solve
- Poor judgement or risk assessing ability

Remember most workplaces have zero tolerance for the use of alcohol and drugs in the workplace. You must also ensure you are fit for work and not under the influence of alcohol or drugs when performing your duties.

Heat Exhaustion or Heat Stroke?

Workers need to be aware of the symptoms of heat exhaustion and heat stroke in themselves and others.

Heat Exhaustion symptoms:

1. Faint or dizzy
2. Excessive sweating
3. Cool, pale, clammy skin
4. Nausea, vomiting
5. Rapid, weak pulse
6. Muscle cramps

How to treat it:

1. Move to cooler location
2. Drink water
3. Take a cool shower or use cold compresses.

Heat Stroke symptoms:

1. Throbbing headache
2. No sweating
3. Body temp above 103⁰ and red, hot, dry skin
4. Nausea, vomiting
5. Rapid, strong pulse
6. May lose consciousness.

How to treat it:

1. Get emergency help
2. Keep cool until treated

Fatigue

Long hours of work or long periods without adequate breaks can lead to loss of concentration, slow reflexes and increased risk of error. Excessive heat, poor ventilation, lighting and shift work also contribute to fatigue and should be taken into account when looking at plant and undertaking traffic control duties. Signs of fatigue include:

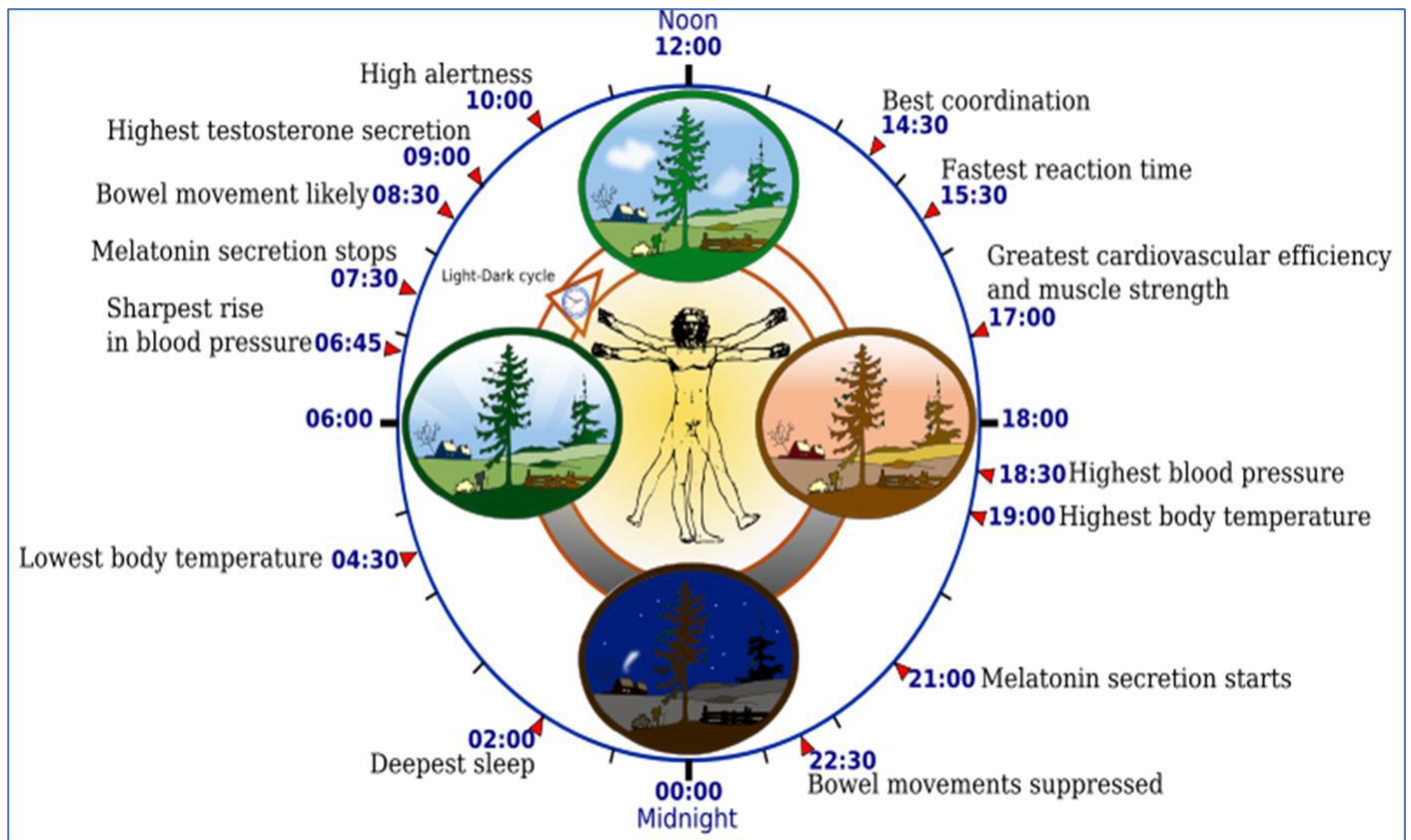
- Poor concentration
- Lethargy
- Vagueness
- Headaches

If you are feeling fatigued, speak to your supervisor and ensure you take regular breaks.

Circadian Rhythm

Circadian rhythm refers to the natural, internal 24-hour process that regulates the sleep-wake cycle.

The diagram below shows the times of the day when your body and mind will be more fatigued or alert based on your bodies circadian rhythm.



WHS PROCEDURES AND WORK ACTIVITY COMPLIANCE

A workers work site will have some form of Site Health and Safety Management System. This system will include risk management elements and practices that ensure safety and health of workers on site. It is the primary means by which an operator ensures the health, safety and welfare of employees and others at a work site

Work Health and Safety Procedures on a work site may include:

- Safe Work Method Statement (SWMS)
- Personal Protective Equipment (PPE)
- Hazard identification and risk assessment
- Personal health and hygiene
- Working with Hazardous Substances
- Working with Plant and Mobile Equipment
- Environmental protection
- Fire prevention and fire-fighting
- Site communications
- Training
- Emergency response
- Tagging and Isolation
- Defect Reporting System
- Standard Operating Procedures (SOPs)
- Work instructions (WI)

RISK MANAGEMENT

Risk management entails the identification and analysis of all hazards likely to arise during works on roads including the setting up, operating, changing and ultimate dismantling of a traffic guidance scheme, followed by the determination of appropriate measures to mitigate those risks.' (AS1742.3, 2009)

The process appropriate at all levels of planning and operations including the following:

- When preparing standardised plans and safe work method statements for the conduct of minor routine and mobile works.
- When preparing traffic guidance schemes for more extensive or complex works where site specific risks will assume importance.

EVALUATING HAZARDS AS SOURCES OF RISK

Every work site has hazards, but if we avoided carrying out work because of hazards, no work would ever be done. Risk management is about identifying all of the potential sources of risk and controlling those sources, or hazards, that produce unacceptable risks. The definitions of are:

- **Hazard** – Anything (including work practices and procedures) that has the potential to harm the health or safety of a person in the workplace
- **Risk** – The combination of the likelihood of injury or illness occurring (whether the hazard can actually do some harm) and the *consequence* of it occurring (how serious the harmful effects would be).

When discussing risk management it is important to remember that employers are responsible for all people at work sites. This applies to the employer's staff, as well as contractors, agents and members of the public. There are many common risks at road work sites, for example:

Moving Vehicles	Exposure to fumes	Uneven surfaces	Adverse weather
Poor Visibility	Exposure to power lines	Faulty equipment	Poor manual handling
Driver fatigue	Exposure to Chemicals	High noise levels	Unsupervised visitors

It is important to manage the **risks** and **hazards** to ensure the safety of everyone at the work site

-Assess the risk means decide how big the risk might be. There are two aspects to this:

- **likelihood** (what are the chances of it actually happening)
- **severity** (how bad could it be)

ASSESSING RISK

Assessing risk on a Traffic Control Site is undertaken through a process that involves a 4-step approach:

1. List the hazards to health and safety
2. Assess the risks arising from the hazards
3. Work out what to do about the risks
4. Make sure it works

Once a hazard has been recognised, the risk of harm or damage and how great that may end up, will have to be assessed. This involves determining impact or consequences (how great will the damage or harm be) and the likelihood of occurrence (chances of it happening). By matching the Likelihood with the Consequence we will get a Risk Rating. The higher the rating, the greater and stronger the controls must be.

The following is a Risk Matrix can be used as the guide for assessing the severity of identified risks. The level of severity of each risk determines the actions required to manage the risk

RISK MATRIX GRAPH

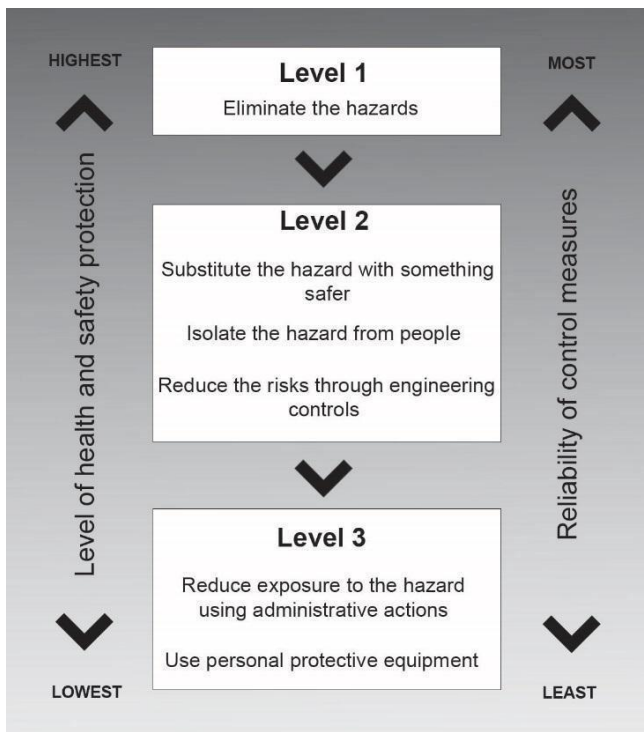
Likelihood	Consequence				
	1	2	3	4	5
5	Medium 5	High 10	Very High 15	Extreme 20	Extreme 25
4	Medium 4	High 8	Very High 12	Very High 16	Extreme 20
3	Low 3	Medium 6	High 9	Very High 12	Very High 15
2	Low 2	Medium 4	Medium 6	High 8	High 10
1	Low 1	Low 2	Low 3	Medium 4	Medium 5

CONSEQUENC		
5	Catastrophic	Fatality or permanent disability or ill-health
4	Major	Long-term illness or multiple serious injuries
3	Moderate	Possible hospitalisation &
2	Minor	Minor injury - Medical treatment & some days lost
1	Insignificant	Minor personal injury - First Aid needed but no

LIKELIHO		
5	Almost	The event is expected to occur in most circumstances
4	Probable	The event will probably occur in most circumstances
3	Possible	The event might occur at some
2	Unlikely	The event could occur at some time
1	Rare	The event may occur only in exceptional circumstances

HIERARCHY OF CONTROL

The hierarchy of control is the recommended approach in safety controlling risks in the workplace by providing a structure to select the most effective control measures to eliminate or reduce the risk associated with hazards that have been identified. The hierarchy of control has six levels of control measures, the most effective measure is at the top of the hierarchy and the least effective is at the bottom. So the idea is that a worker start from the top of the hierarchy in choosing a workers control measure, and work a workers way down. The hierarchy of control is as follows:



(SafeWork Australia - Code of Practice: How to manage Work Health and Safety risks)

Note: The use of PPE to control hazards should always be the last resort.

SAFE WORK METHOD STATEMENT (SWMS)

A SWMS is a key piece of compliance documentation in high risk environments with:

“the primary purpose being to enable supervisors, workers and any other persons at the workplace to understand the requirements that have been established to carry out the high risk construction work in a safe and healthy manner. It sets out the work activities in a logical sequence and identifies hazards and describes control measures.

Any activity, no matter how simple or complex, can be broken down into a series of basic steps that will permit a systematic analysis of each part of the activity for hazards and potential accidents. The description of the process should not be so broad that it leaves out activities with the potential to cause accidents and prevents proper identification of the hazards, nor is it necessary to go into fine detail of the tasks.”

Safe Work Australia - Construction Work Code of Practice March 2012

SAFE WORK METHOD STATEMENT (SWMS):

- Describes how the work is to be carried out
- Identifies the work activities assessed as having safety risks
- Identifies those safety risks
- Describes the control measures that will be applied to the work activities
- Describes the equipment to be used in the work
- Lists the standards & codes to be complied with
- Describes the qualifications of the personnel doing the work
- Describes the training required to do the work

A SWMS must be prepared for all high risk construction work will:

- List the types of high risk construction work being performed
- State the health and safety hazards and risks arising from the work to be carried out
- Describe how the risks will be controlled
- Describe how the risk control measures will be implemented, monitored and reviewed
- Take into consideration factors that may affect the way in which the high risk work is carried out be accessible and easy to read
- Risk Matrix that assess Risk Impact and Risk Likelihood
- Duties/Responsibilities of personnel
- Qualifications, Experience and Training required to perform the work
- Legislation, Codes of Practice and Standards
- Authorities and/or Permits
- List of Plant and Equipment
- Hazardous materials or chemicals

The PCBU must make sure that the high risk construction work activities are carried out in accordance with the SWMS. If high risk construction work is being carried out in connection with a construction project, it must take into account all relevant information that is in the work health and safety management plan. A SWMS must be given to the Principal Contractor before the high risk construction work starts. The SWMS must be reviewed and updated if relevant control measures are revised.

RECORD KEEPING

The PCBU must keep a copy of the SWMS until all the work is completed. If there is a notifiable incident when the work is carried out, the SWMS must be kept for at least two years after the incident has occurred.

PCBU's are responsible for preparing and distributing SWMS for all high risk activities within the workplace in consultation with workers and must provide all workers involved with high risk work with a SWMS.

SAFETY (SDS) DATA SHEETS

When handling and storing hazardous substances workers need to completed a Safety Data Sheet (SDS) to highlight:

- Identify and ingredients of the substance or chemical
- Safe handling and storage procedures
- Accidental spill procedures
- Toxicological information
- Exposure controls
- First aid Treatment
- Firefighting procedures
- Environmental and disposal considerations

Hazards can include:

- Biological
- Environmental
- Psychosocial
- Confined spaces
- Extreme temperatures
- Disruption to essential services and Excavation
- Physical environment Hazards (Asbestos)

Environmental Hazards

Some environmental protection requirements that you may be required to adhere to as an Traffic Controller:

- Waste/clean up management.
- Water quality protection.
- Noise and vibration control.
- Dust management.

There will be different environmental conditions or factors that would be a hazard on a traffic control site, they could include:

- Sun glare/sunrise/sunset
- Haze
- Fog
- Dust
- Rain/hail

SAFE WORK METHOD STATEMENT

Task / Activity	Traffic Control - as per TCGP/TCP	Project	Telstra - Underground fibre mains installation
Location/Address	Junction Road, Potts Point	Date	23/07/2015
Permits	- RMS Permit - Traffic Control Guidance Plan/Traffic Control Plan (TCGP/TCP)		





Legislation, Codes, Work Health & Safety Act 2011, Work Health & Safety Regulations 2011, NSW: Code of Practice - Working in Hot or Cold environments, WorkCover NSW: Code of Practice - Moving Machinery, WorkCover NSW: Code of Practice - Moving Plant on Construction Sites, Safe Work Australia COP, Hazardous Manual Tasks 2012, Safe Work Australia COP, How to manage Health & Safety Risks 2012, Safe Work Australia, WHS Consultation, Co-Operation & Co-Ordination 2011, AS 1742 Manual of Uniform

Plant & Equipment	<ul style="list-style-type: none"> Static Plant and Equipment - Cones, Signs, Flashing Traffic Control Wand; 2 Way Radio; Stop/Slow Bats. Mobile Plant and Equipment - Traffic Control Vehicle – Inspection carried out via daily hazard sheet, Lighting Towers, Arrow Board Safety/Emergency Equipment - First Aid Kit (located in vehicles), 2 Way Radios (as required), Inspection & Maintenance - Inspections carried out 	Competency / Licence	<ul style="list-style-type: none"> Construction Industry General Induction (white Card) Workplace Specific Induction onto site and Site Risk Assessment including induction into this SWMS RMS Accredited Traffic Controller Licence (Blue) – for stop/slow bat to control traffic RMS Accredited Implementing Traffic Management Plan (Yellow) – for setting up Traffic Controls in Accordance with TCGP/TCP RMS Accredited Prepare Work Zone Traffic Management Plan (Red) – for Design, Selection and Modification of TCGP/TCP
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HAZARDOUS SUBSTANCES PRESENT ON SITE

Product	SD	Product	SD

PERSONAL PROTECTIVE EQUIPMENT – REQUIRED

Uniform	Footwear	High	Helm	Eyewear	Fall	Gloves	Hearing	Dust	Respirator	Other PPE
										Reflective Stripes White Overalls (Night Work)
	X	X	X	X			X	If Req.		X

RISK MATRIX (Likelihood x Consequence = Risk)

CONSEQUEN				LIKELIHO		Likelihood	Consequen				
Catastrophic 5	Fatality or permanent disability or ill-	Almost Certain 5	The event is expected to occur in most circumstances	Likely 4	The event will probably occur in most circumstances		1	2	3	4	5
Major 4	Long term illness or multiple serious	Moderate 3	The event might occur at some	Unlikely 2	The event could occur at some	5	Medium 5	High 8	Very High 9	Extreme 10	Extreme 10
Moderate 3	Possible hospitalisation and numerous days lost.	Rare 1	The event may occur only in exceptional circumstances			4	Medium 4	High 6	Very High 8	Very High 9	Very High 10
Minor 2	Medical treatment and some days lost.					3	Low 3	Medium 4	Medium 6	High 8	High 9
Insignificant 1	First Aid needed but no days lost.					2	Low 2	Low 2	Low 3	Medium 4	Medium 5
						1	Low 1	Low 2	Low 3	Medium 4	Medium 5

ACTION REQUIREMENT FOR RESIDUAL RISK	
Low	Work continues (no further controls on risk are required)
Medium	Requires periodic monitoring by site supervisors.
High	Requires supervision by an appropriately qualified or competent person
Very High	Stop work immediately and reconfirm hazard controls with supervisor
Extreme	Stop work immediately. Contact management

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
1.	Sign Placement (as per TCGP/TCP) Note: Road Occupancy Licence and TCGP/TCP are required to be held on site during the traffic control works	<ul style="list-style-type: none"> Interaction with Traffic 	E	<ul style="list-style-type: none"> Use Shadow Vehicle When required Remove signs from passenger side of Vehicle Do not sit on tray of Ute when dispatching signs. Wear High Visibility Clothing Flashing Arrow and Beacons on Work Vehicle All work vehicles will have reversing alarms and mounted warning devices in accordance with the RMS Traffic Control at Worksites Manual No Mobile Phones to be used when setting or on the stop / slow bat 	M	Traffic Controller
		<ul style="list-style-type: none"> Vehicular Accident due to inadequate advance warning to traffic 	E	<ul style="list-style-type: none"> All personnel setting up traffic delineation devices require appropriate RMS Certification (Minimum Yellow for TCP set up) All persons to be trained in the correct sequence of placement of advanced warning signage, intermediate signs and devices and delineation devices in accordance with the RMS Traffic Control at Worksites Manual 	M	Traffic Controller
		<ul style="list-style-type: none"> Manual Handling 	H	<ul style="list-style-type: none"> Lift with legs not with the back; keep the signs close to the body with feet slightly apart. Use 2 Person lift if required Keep vehicle within close proximity to sign location when setting up to minimize carrying signs long distances 	L	Traffic Controller
		<ul style="list-style-type: none"> Signs being knocked / blown over displaced, after placement 	H	<ul style="list-style-type: none"> Delineation devices should be placed a reasonable distance so as to maintain visibility to oncoming traffic, but clear of the traffic flow. Cones placed a foot inside the lane being taken out (from the adjacent lane of traffic) No traffic controller to be exposed to live traffic 	L	Traffic Controller

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				<ul style="list-style-type: none"> Where barrier boards/signage are set out, ensure that they are adequately secured, e.g. via sand bags. A person(s) from the crew shall be delegated responsibility to check traffic control devices periodically throughout the work, the times at which traffic control devices are checked will be nominated by the works supervisor. 		
2.	Cone Placement <ul style="list-style-type: none"> Taper Lane Footpath Closure / Delineation 	<ul style="list-style-type: none"> Interaction With Traffic 	E	<ul style="list-style-type: none"> Ensure the ROL is logged with Transport Management Always use Protective Vehicle Keep within 3M of Work Vehicle when placing cones Wear High Visibility Clothing Flashing Arrow and Beacons on Work Vehicle Have an Escape Route For stop/slow arrangement, traffic must be stopped while setting up cones 	M	Traffic Controller
		<ul style="list-style-type: none"> Interaction With Pedestrians, Slips/trips/falls 	VH	<ul style="list-style-type: none"> Safe thoroughfare to be provided for pedestrians at all times, keep clear access and maintain delineation around tools/equipment. Maintain enough room for disabled pedestrians & buggies Do not force pedestrians to walk onto the roadway 	L	Traffic Controller
		<ul style="list-style-type: none"> Manual Handling 	H	<ul style="list-style-type: none"> Lift with legs not with the back; keep the cones close to the body with feet slightly apart. 	L	Traffic Controller
3.	Stopping Traffic	<ul style="list-style-type: none"> Interaction with Traffic 	VH	<ul style="list-style-type: none"> All traffic controllers must be appropriately RMS certified Always face oncoming Traffic Always have an escape route ready Wear High Visibility Clothing For night works always use flashing wands Have 2-way radio readily available for each traffic controller should this be required as a communication method. For example if the line of sight between traffic controllers is broken. Work Supervisor to ensure that an adequate number of crew members are available to control traffic depending on the circumstances 	L	Traffic Controller
		<ul style="list-style-type: none"> Fast Moving Traffic 	E	<ul style="list-style-type: none"> Never stop traffic on roads where speed zones exceed 60Kmph 	M	Traffic Controller

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				<ul style="list-style-type: none"> Reduce Speed Zones 		
		<ul style="list-style-type: none"> Sun Stroke/Burn 	H	<ul style="list-style-type: none"> Always Wear Sun Screen Wear Hard Hat Brims in Hot weather Use sun eye protection Have Regular Breaks Drink Plenty of Water 	L	Traffic Controller
4.	Slowing Traffic in Lane Closure	<ul style="list-style-type: none"> Hit by moving Vehicles 	E	<ul style="list-style-type: none"> Always have a protective barrier/vehicle in the closed lane to protect from passing traffic and if possible Concrete Jersey Kerbs maybe installed Reduce Speed Zones if required Wear High visibility Clothing Always face oncoming traffic 	M	Traffic Controller
		<ul style="list-style-type: none"> Night Shift traffic controllers not visible traffic 	E	<ul style="list-style-type: none"> For night works always use flashing wands For night shift works safety apparel must be retro reflective in accordance with AS4602:1999, traffic controllers must wear apparel with reflective strips on arms and legs. Adequate lighting must be available to illuminate the position of traffic controllers, caution must be exercised not to point day maker lights directly at traffic (angle downward) 	M	Traffic Controller
5.	Working in proximity to mobile road plant	<ul style="list-style-type: none"> Being struck be mobile road plant 	VH	<ul style="list-style-type: none"> Do not enter the operating radius of mobile plant until you are sure the operator has seen you and has granted permission for you to approach. Do not use mobile phones when in proximity to mobile plant, always stand a safe distance from mobile plant 	L	Traffic Controller
6.	Removal of Cones	<ul style="list-style-type: none"> Interaction with Traffic 	E	<ul style="list-style-type: none"> Always use Protective Vehicle Keep within 3M of Work Vehicle when placing cones Wear High Visibility Clothing Flashing Arrow and Beacons on Work Vehicle Have an Escape Route For stop/slow arrangement, traffic should be stopped while packing up cones 	M	Traffic Controller
		<ul style="list-style-type: none"> Manual Handling 	H	<ul style="list-style-type: none"> Lift with legs not with the back; keep the cones close to the body with feet slightly apart. 	L	Traffic Controller
7.	Leaving Site	<ul style="list-style-type: none"> Injury / Damage 	H	<ul style="list-style-type: none"> Ensure all signs are packed safely and secure before 	L	Traffic

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				departing from site. <ul style="list-style-type: none"> Obey Road Rules All debris to be removed from site e.g.: Food scraps drink bottle 		Controller
8.	Removal of Signs	• Interaction with Traffic	E	<ul style="list-style-type: none"> Use Shadow Vehicle were required Put signs into Passenger side of Vehicle Wear High Visibility Clothing 	M	Traffic Controller
		• Manual Handling	H	<ul style="list-style-type: none"> Use Gloves as sign may heat up in sun to avoid hands burning Flashing Arrow and Beacons on Work Vehicle Lift with legs not with the back; keep the signs close to the body with feet slightly apart. Keep vehicle within close proximity to sign location when packing up to minimize carrying sings long distances 2 person lift if required Once all Traffic devices are off road contact Transport Management to notify road is clear and open 	L	Traffic Controller

I confirm that I have been involved in and/or been able to add value to this SWMS. I have read, understand and will comply with it and I am aware that all persons engaged in this work are to provide and maintain a safe work environment. I will not undertake to perform any work for which I do not have the appropriate qualification and competency or for which I am equipped to undertake and will seek instruction from my Supervisor should I be required to perform work which I believe may cause injury to myself, other workers or the general public. I have been provided me with the awareness training in the hazards & control associated with the chemicals listed in the hazardous substance register attached.

Print Name	Signature	Date

ISOLATION AND IMMOBILISATION OF POTENTIAL ENERGY SOURCES

Isolation is the process of ensuring that harm or damage cannot be caused by an energy source when undertaking work.

A Hazard can be defined as a source of potential harm or a situation with potential to cause harm. If a worker looks at hazards as an energy source, then a worker will need to know how to identify and manage it. Below are some examples of the common types of energy sources/hazards that a worker may encounter at a traffic control worksite:

- Mechanical - Vehicle/mobile equipment, vehicle fan belts
- Hydraulic - Pressurised hydraulic systems,
- Pneumatic - Pressurised air or gas systems
- Electrical - Power supply to electrical equipment
- Thermal - Hot mechanical components, hot liquids, fire,
- Chemical - Liquids such as fuels, cleaning products, acid and caustics
- Radiation - Ultra Violet (sun), welding arc flash, microwaves, lasers
- Acoustic/Vibration - Plant and machinery noise

Energy becomes hazardous when it builds to a dangerous level or is released in a quantity that could injure a worker. Hazardous energy in the workplace can kill. To control hazardous energy, a worker must prevent it from being transmitted from its source to the equipment that it powers. A worker can accomplish that by doing the following:

- Identify energy sources and energy-isolating devices
- De-energise equipment
- Secure energy-isolating devices in a safe position
- Dissipate or restrain potential energy that cannot be isolated
- Verify equipment isolation

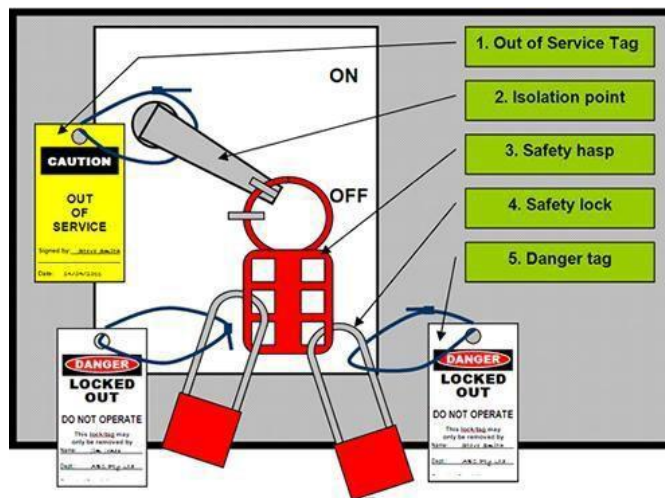
ISOLATION

Isolation is the process of ensuring that there is no possibility of any energy source being present which could cause injury to workers as they are carrying out tasks on or near plant and equipment.

Isolation measures include:

- locks,
- clasps,
- tags,
- closing and blanking devices,
- removal of mechanical linkages,
- blocks,
- slings, and
- removal from service.

Isolation is a measure that is high on the hierarchy of control after elimination and substitution is found to be not practical. Isolation must be used where practicable to isolate the energy sources(s). This does not mean simply switching off the source of energy. Failure to shut down, de-energise or isolate energy sources on plant during maintenance and non-production tasks puts workers at risk of death or injury.



General procedures regarding isolation provide a basis to which a worker can add site-specific information. The basic steps of safe isolation are:

1. **Identify** the equipment to be worked on and the isolation requirements.
 - a. Including all locations where the equipment can be started
 - b. Including any associated equipment
2. **Isolate** - Ensure that the intended isolation will not cause injury or damage and that all points are isolated. Be aware that the equipment may require the isolation of several energy sources.
3. **Lock & Tag** - Apply a workers personal isolation lock and personal danger tag to the isolation point/s.
4. **Dissipate** - Check and remove all stored energy
5. **Verify** – Test to ensure that the equipment is correctly isolated and cannot be re-energised

Other lockout methods can include group lockouts with items such as scissor locks, lock boxes and isolation boards.

In addition to a Personal Danger Tag other tags often used on site include:

- **Out of Service Tags** – are placed on the isolation point/s of defective equipment which, if operated, could cause injury, equipment damage or adversely affect some part of the operation.
- **Information Tags** – are used to pass on a message or instruction to personnel operating or working on a particular item of equipment or machinery.

Tagging out (TO) is a procedure for securing a warning sign to an energy-isolating device when a lockout device cannot be used.

Locking out (LO) is a procedure for physically securing energy-isolating devices in an off, closed, or neutral position. A lockout device, typically a lock with a unique key secures the energy-isolating device in a safe position. When an energy-isolating device is secured by a lockout device, it physically prevents the energy-isolating device from being manipulated.

The following is a sample checklist for isolating plant.

Steps to isolating plant		Yes ✓										
1 Shut down the plant		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ operator is aware ▪ plant is turned off. 		<input type="checkbox"/>										
2 Isolate energy sources, such as:		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ multiple control stations ▪ independent energy sources ▪ local isolators ▪ single/multiple point isolation. 		<input type="checkbox"/>										
3 De-energise stored energy.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Plant has been de-energised. This includes different forms of energy (consider plant not returned to its rest position gravity etc). 		<input type="checkbox"/>										
4 Lockout isolation points – personal danger locks.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Each worker has been allocated sufficient locks to lock out each isolation point. ▪ There is only one key per lock. ▪ Locks are attached to each isolation point for each worker performing work on the plant. 		<input type="checkbox"/>										
5 Lockout isolation points – out of service locks.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ A supervisor or nominated person has been allocated with out of service locks. ▪ There is a system to fit locks to jobs that run over one shift or day. 		<input type="checkbox"/>										
6 Tag out.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Plant has been tagged with the appropriate tag. Note: tagging is not lockout. 		<input type="checkbox"/>										
7 Confirm isolation has been achieved effectively. Ensure:		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ No errors have been made (eg correct isolators have been selected). ▪ Isolators are in safe positions. ▪ All stored energy is dissipated or restrained. ▪ Locks are attached to each isolation point for each worker performing work on the plant. 		<input type="checkbox"/>										
8 Test for zero energy.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Before starting work, the plant has been tested to ensure energy is isolated and the plant and its parts will not move. ▪ Testing included different operational controls (eg remote computers). 		<input type="checkbox"/>										
9 Changing shifts or crews.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Handover discussions have been held. ▪ Locks and tags have been changed over. 		<input type="checkbox"/>										
10 Removing another worker's locks and tags.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ All options to remove their own locks and tags have been allowed. ▪ A senior person is accountable for the process to remove the locks and tags. ▪ An assessment has been conducted to ensure health and safety is maintained and no additional hazards or risks have been created. 		<input type="checkbox"/>										
11 Reactivate isolated plant.		<input type="checkbox"/>										
<ul style="list-style-type: none"> ▪ Plant has been reactivated in the correct order after work is finished: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1 work completed and all involved are aware</td> <td style="width: 50%;">6 sensory guarding tested</td> </tr> <tr> <td>2 workers clear of hazardous areas</td> <td>7 emergency devices tested</td> </tr> <tr> <td>3 blocks and wedges are removed</td> <td>8 workers understand how energy will be restored.</td> </tr> <tr> <td>4 physical guarding in place</td> <td></td> </tr> <tr> <td>5 locks and tags removed</td> <td></td> </tr> </table> 	1 work completed and all involved are aware	6 sensory guarding tested	2 workers clear of hazardous areas	7 emergency devices tested	3 blocks and wedges are removed	8 workers understand how energy will be restored.	4 physical guarding in place		5 locks and tags removed			<input type="checkbox"/>
1 work completed and all involved are aware	6 sensory guarding tested											
2 workers clear of hazardous areas	7 emergency devices tested											
3 blocks and wedges are removed	8 workers understand how energy will be restored.											
4 physical guarding in place												
5 locks and tags removed												
Date:	Signed:											
Next review date:	Name and position: <small>(Health and safety representative)</small>											

SITE PLANS, TRANSPORT RULES AND SIGNAGE

When moving around a work site a workers needs to be aware of the specific rules regarding plant and equipment, pedestrians, signage and devices and no go zones. A worker must become familiar with the main locations, access routes and especially restricted zones, all of which are areas that will be identified in the Traffic Management Plan. The Site plans should also have details regarding:

- First aid kits
- Spill kits
- Parking
- Fire fighting equipment
- Emergency exits
- Maintenance areas

SIGNS

Within the traffic control environment workers will encounter signs that are used in the implementation of traffic control guidance schemes to warn and guide road users. Traffic control signs and devices are specified in Australian Standard —AS1742.3 *Manual of Uniform Traffic Control Devices*”, as well as in State and Territory Codes of Practice and Manuals for Traffic Control.

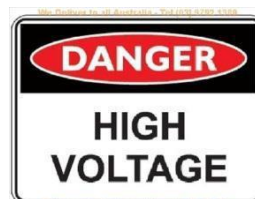
Common signs that workers will come across on a site will be based around work health and safety and risk. These types of signs will assist in general workplace communication and may refer to general and mandatory instructions and directions, such as the following:



MANDATORY



FIRST AID



DANGER



PROHIBITED



WARNING



FIRE RELATED



EXITS



HAZCHEM/DANGEROUS GOODS

BREACHES IN SITE SAFETY

PCBUs and workers have significant responsibilities when it comes to duties regarding safety in the workplace. All workers have obligation to identify and report hazardous and dangerous issues and situation that may occur in the workplace. Potential safety issues can be identified through:

- The conduct of regular safety checks, which is a proactive approach
- Knowing the immediate work environment, so that any out of the ordinary issues or concerns are noticeable
- Becoming familiar with other workers and equipment
- Checking all activities against the Site Risk Assessment and the SWMS

Some examples of breaches in safety include:

- Working at heights without safety controls
- Inappropriate or incorrect use of tools and equipment
- Unsafe movement around plant and equipment
- Allowing unqualified and/or unlicensed workers to use equipment or perform duties they are not competent to undertake
- The lack of proper guards and restrictors on equipment
- Using mobile phones whilst carrying out duties whereby they can be a distraction

REPORTING BREACHES IN SAFETY

Workers are required to understand the reporting structure and escalation process for reporting safety breaches. These steps generally include:

- Reporting the issue verbally to a workers supervisor or manager
- Reporting the issue through the workplace's hazard reporting procedures
- Raising the issue with the health and safety representative
- Raising the issue with management

Reporting safety breaches will also contribute to the overall risk management of the workplace. These reports will be used to identify long term system issues and can lead to a process of improvement in safety. Assumptions should not be made that it is someone else's job to report issues as failures to report or act upon safety breaches may result in injury, damage or a workplace fatality.

2. PERSONAL SAFETY MEASURES

It is incumbent upon each individual to safeguard themselves against incidents, near misses and risks. One of the best ways to maximise personal safety risk is to follow basic safety rules such as:

- Follow directions and instructions
- Use equipment correctly
- Do not participate in 'horse play'
- Know a workers emergency procedures and equipment
- Stay alert
- Understand a workers responsibilities
- Conduct regular safety checks
- Keep yourself fit and healthy
- Look out for others
- Treat all high risk environments with respect
- Be familiar with the site and equipment
- Wear personal protective equipment and clothing

There are no guarantees of personal safety in any environment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

There are requirements for Traffic Controllers to wear appropriate clothing and PPE to ensure their safety while conducting their specific duties.

HIGH VISIBILITY CLOTHING

Traffic Controllers are required to wear approved high visibility clothing (outer garments):

- at all worksites affected by traffic
- while outside a vehicle within the bounds of the road reserve

Due to the potential hazards associated with working on, or adjacent to road worksites, all persons working on or authorised to enter such worksites, must be supplied by their Employer or the PCBU with the relevant high visibility PPE and be instructed that they must to wear it at all times where required on the job. This equipment and clothing should comprise of the following items (but may

not be limited to):

- High visibility garments:
- Fluorescent high visibility vest, shirt, jacket or overalls (day use only)
- Retro-reflective outer garment (night use only)

There are different types of Approved High Visibility Clothing that Traffic Controllers must wear at the appropriate times. These include:

For day time work:

- Approved High Visibility vest.
- Approved High Visibility shirt.

For night time work –

- High Visibility overalls with reflective tape



In order to protect the traffic controller from exposure to UV radiation and to ensure that they are visible they should wear:

- broad brimmed hats
- broad brimmed safety attachments to safety helmet (if appropriate)
- long sleeved collared shirt
- long pants or overalls (especially when working near bitumen)
- tinted safety glasses (recommendation AS 1337.1: Safety Glasses and Spectacles)
- safety footwear
- broad spectrum SPF +30 sun screen and lip creams

A CLEAN AND TIDY SAFE WORKING AREA

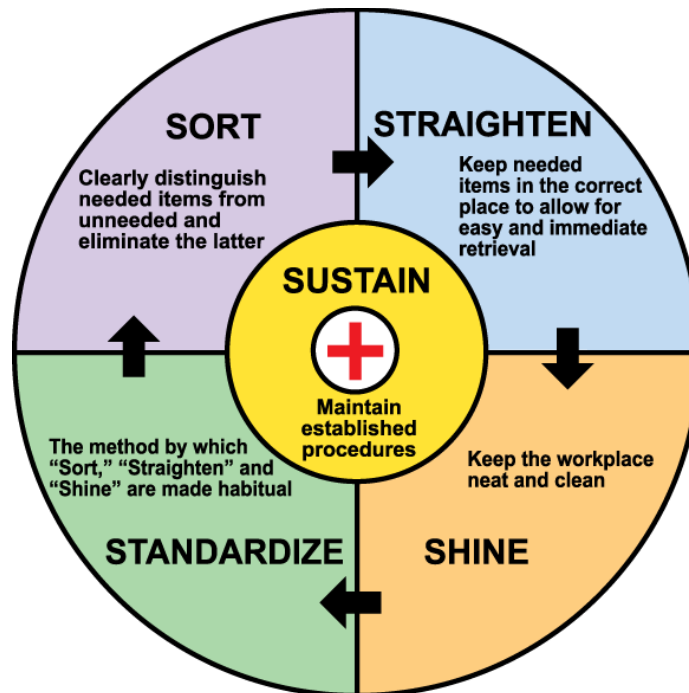
Tidy and safe work environments minimise risk and damage to equipment, worker, road users and supports a professional approach to the overall business, It is everyone's responsibility to maintain a clean and tidy workplace; poor housekeeping can lead to the unnecessary creating of hazards

A common practice relating clean and tidy workplaces is adopting the **5S** method by which workplaces are organised in an efficient and sustainable order.

- Sort
- Systematic arrangement
- Shine (keep the workplace tidy)
- Standardise
- Sustain

This is emphasised in the next diagram.

THE 5 'S' CHART:



PERMITS AND CLEARANCES FOR SPECIALISED WORK

Permit systems are used extensively on work sites for specialised work, especially in traffic control at worksites. In addition to Traffic control Guidance Schemes, Traffic management plans, other work may be carried out on the worksite that may need additional permits and clearance before work can be carried out

The responsible officer must complete a risk assessment and put all appropriate controls in place prior to issuing a permit. Work that may require permits may include:

- Access to restricted areas
- Welding and cutting
- Working at heights
- Digging and excavation work

Permits and clearances need to be applied for and issued before the specialised work can begin. To apply for a permit or clearance, a worker needs to have all the appropriate information about the work and those who will be involved in carrying it out. Information may include;

- Locational and duration
- Hazards that may be encountered
- PPE
- Qualified workers
- Types of plant and equipment
- Environmental impact information
- Urgency of work
- Hazard control measure
- Risk management processes

APPLY SAFE MANUAL HANDLING PROCEDURES

Manual handling covers a wide range of activities including lifting, pushing, pulling, holding, throwing and carrying. It includes repetitive tasks such as packing, typing, assembling, cleaning and sorting, using hand-tools, and operating machinery and equipment. As most Traffic Control work involves some form of manual handling, most workers are at risk of manual handling injury.

The types of injuries that can be caused by manual handling may include

- Muscle sprains and strains
- Injuries to muscles, ligaments, intervertebral discs and other structures in the back
- Injuries to soft tissues such as nerves, ligaments and tendons in the wrists, arms, shoulders, neck or legs
- Abdominal hernias
- Chronic pain

A Worker must manage risks to health and safety relating to manual tasks by:

- Identify hazards
- Eliminate the risk, wherever possible
- Minimise the risk by implementing control measures in accordance with the hierarchy of control
- Maintain the control measure so that it remains effective
- Review risk control measures

The following questions should be considered when attempting manual tasks:

- Change the task; does the load or task need to be carried out?
- Change the object; can it be repacked, decanted or made smaller?
- Use mechanical aids; can the load be moved mechanically?
- Change the workspace; can we use ergonomic approaches, furniture
- Can a worker change the nature of work?
- Can assistance be obtained?
- Is the load too heavy to lift safely?



HAZARDOUS MANUAL TASKS

Characteristics of hazardous manual tasks may include

- **Repetitive force** - using force repeatedly over a period of time to move or support an object
- **Sustained force** - occurs when force is applied continually over a period of time.
- **High force** – may be exerted by the back, arm or leg muscles or by the hands and fingers. A task where force is applied suddenly and with speed also generates high force. High force occurs in any tasks that:
 - a worker describes as very demanding physically
 - a worker needs help to do because of the effort it requires
 - require a stronger person or two persons to do the task.
- **Sudden force** – jerking or unexpected movements while handling an item or load are particularly hazardous because the body must suddenly adapt to the changing force

SITE PROCEDURES FOR CONDUCTING HIGH-RISK ACTIVITIES

High risk activities are tasks that require a higher level of precautions to ensure the safety of those involved. High Risk activities are usually defined by legislation governing the particular industry affected and may include in general works that:

- involves a risk of a person falling more than 2 metres
- is carried out on a telecommunication tower
- involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure
- involves, or is likely to involve, the disturbance of asbestos
- involves structural alterations or repairs that require temporary support to prevent collapse
- is carried out in or near a confined space
- is carried out in or near a shaft or trench with an excavated depth greater than 1.5 metres, or a tunnel
- involves the use of explosives
- is carried out on or near pressurised gas distribution mains or piping
- is carried out on or near chemical, fuel or refrigerant lines
- is carried out on or near energised electrical installations or services
- is carried out in an area that may have a contaminated or flammable atmosphere
- involves tilt-up or precast concrete
- is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians
- is carried out at a workplace in which there is any movement of powered mobile plant
- is carried out in an area in which there are artificial extremes of temperature
- is carried out in or near water or other liquid that involves a risk of drowning, or

Most high risk work requires:

- Permits and licenses
- Specialised training and certification
- Specialise plant and equipment
- Specialised facilities
- Designated time frames and environmental controls
- Specific PPE
- Extra Supervision
- Specific Emergency planning
- Exclusion zones
- Traffic management
- Essential services

3. APPLY OPERATIONAL SAFETY MEASURES

Operational or essential safety measures form the baseline of life safety within the workplace, relating to freighting, emergencies, evacuation, alarm and first aid.

ALARMS

Traffic control sites will be different than most regular or stable worksites as alarms are temporary. While there may not be fixed alarms, there will still be procedures for alerting site personnel that an emergency situation is unfolding. Radio communication will be the most common type of onsite method for communicating and will be significant in any alarm.

- In the event of an emergency on a work site generally some form of visual or audible alarm will activate. The types of alarms may include:
- Alarm bell
- Electronic tone (warbling, whoop-whoop etc. often used for fire)
- Sirens
- Tones transmitted over site radio/communication systems
- Flashing lights

EMERGENCY SITUATIONS

All workers will have differing responsibilities relating to responding to an emergency. The details must be covered during a workplace induction, and/or through toolbox talks and regular training. A worker has a responsibility for ensuring their own safety in the event of an emergency.

In the context of traffic control and traffic management, worker may be responsible for moving traffic through and around safely during an emergency.

- Traffic may need to be stopped completely
- Diverted or restricted from the area for lengths of time
- The worksite may need to be shut down completely

The types of roles and some suggested responsibilities during emergencies are:

General workers	Traffic controllers	Team leaders	Managers
<ul style="list-style-type: none"> • Isolate energy sources • Deploy fire-fighting equipment • Move plant and equipment • Call emergency services • Administer first aid 	<ul style="list-style-type: none"> • Communicate with road users • Stop traffic completely • Maintain communication with other traffic controllers • Do not leave the post unless directed • Remain calm 	<ul style="list-style-type: none"> • Take control of the situation • Communicate to all workers • Manage staff • Direct plant and equipment • Direct and manage emergency service • Complete reports 	<ul style="list-style-type: none"> • Manage workers and road users • Manage Media • Consult with major stakeholders • Manage the continuation of the site/project

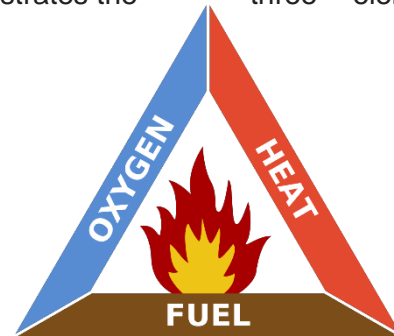
BASIC FIREFIGHTING TECHNIQUES

The potential for a fire to occur in high risk environment is very likely, as there may be present a range of plant equipment, combustible waste and hazardous chemical and materials. Before fighting a fire it is crucial to understand more about fires, how they start, how they can be controlled and what to do after the fact

THE FIRE TRIANGLE

There are three basic components that are required for a fire to ignite burn and continue to burn. The fuel can be any material that can be burnt. The **Fire Triangle** is a simple model for understanding the necessary ingredients for most fires. It illustrates the three elements a fire needs to ignite:

- **FUEL** - any combustible material - solid, liquid or gas.
- **OXYGEN** - Sufficient oxygen must be present in the atmosphere surrounding the fuel for fire to burn.
- **HEAT**- Sufficient heat energy must be applied to raise the fuel to its ignition temperature



CLASSES OF FIRE

The following table sets out the classes of fire. Note that they are classified according to the fuel the fire needs to exist.

Class A – Paper, textiles, wood, most plastics and rubber

Class B – Flammable liquids

Class C – Combustible gases

Class E – Electrically energised equipment

Class F – Cooking oils or fats

FIRE EXTINGUISHERS

There are a number of different types of portable fire extinguishers, each can be identified by the colour coding and labelling. With proper use, a portable fire extinguisher will be able to reduce or eliminate the degree of injury, damage and cost to business in the event of a small fire

Warning: Never use an extinguisher on a fire type not included on the label.

The table below summarises the common extinguishers and their uses.

INDICATOR 	PORTABLE FIRE EXTINGUISHER							
	TYPE OF EXTINGUISHER	FIRE CLASSIFICATION		CLASS A Wood Paper Plastics	CLASS B Flammable & Combustible Liquids	CLASS C Flammable Gases	CLASS E Electrically Energised Equipment	CLASS F Cooking Oils and Fats
		PRE 1999	FROM 1999					
	WATER			YES	NO	NO	NO	NO
	WET CHEMICAL			YES	NO	NO	NO	YES
	FOAM			YES	YES	NO	NO	LIMITED
	DRY CHEMICAL POWDER			YES (ABE) NO (BE)	YES (ABE) YES (BE)	YES (ABE) YES (BE)	YES (ABE) YES (BE)	NO (ABE) YES (BE)
	CARBON DIOXIDE			LIMITED	LIMITED	NO	YES	LIMITED
	VAPOURISING LIQUID			YES	LIMITED	NO	YES	NO

FIGHTING A FIRE

Before a worker considers fighting a fire they must ensure that all people in the area are alerted and evacuated. Workers must ask themselves if a fire should be fought at all.

GENERAL FIRE FIGHTING PROCEDURE

A worker who discovers a fire must follow these steps:

- Remain calm.
- Sound the fire alarm and/or alert all the occupants to evacuate.
- Alert the fire brigade by dialling 000 (or a workers supervisor – depending on what procedures are currently in place).
- Leave the area
- Assemble with other staff at the evacuation assembly point.
- Upon their arrival, inform the fire fighters of the situation

In addition if a worker are going to fight the fire;

- Attack the fire with the fire fighting equipment that is available and suitable–
- Send another person to raise the alarm.
- Arrange for power or fuel supplies feeding the area to be turned off.
- Approach the fire from a safe direction
- Do not turn a workers back on the fire.

USING FIRE EXTINGUISHERS

There are four (4) basic steps for using modern portable fire extinguishers. The acronym **PASS** is used to describe these four basic steps.

1. Pull (Pin)

Pull pin at the top of the extinguisher, breaking the seal. When in place, the pin keeps the handle from being pressed and accidentally operating the extinguisher. Immediately test the extinguisher. (Aiming away from the operator) This is to ensure the extinguisher works and also shows the operator how far the stream travels

2. Aim

Approach the fire standing at a safe distance. Aim the nozzle or outlet towards the base of the fire.

3. Squeeze

Squeeze the handles together to discharge the extinguishing agent inside. To stop discharge, release the handles

4. Sweep

Sweep the nozzle from side to side as a worker approach the fire, directing the extinguishing agent at the base of the flames. After an A Class fire is extinguished, probe for smouldering hot spots that could reignite the fuel

Remember the **PASS** Word



EXTINGUISHER TIPS

Australian Standard "AS 2444 - Portable Fire Extinguishers and Fire Blankets selection and location" provides comprehensive information on the type and use of portable fire fighting equipment. In the workplace, workers should:

- Know the location of all extinguishers and how to use them.
- Only ever operate an extinguisher if safe to do so. If in doubt, get out.
- Remove the safety pin by pulling it sharply (this also breaks the plastic seal).
- Test to ensure that the extinguisher is operable immediately after removing from the mounting bracket.
- Always try to work in pairs for safety.
- Carry or drag extinguisher to the scene of the fire
- Keep the area where extinguishers are kept free form obstruction

FIRE PREVENTION

Fire prevention includes:

1. Implement a program that includes preparation, prevention, and recognition of fire hazards.
2. Make sure a worker practice proper handling of combustible and flammable material.
3. Maintain safe housekeeping practices that reduce the risk of fire danger.
4. Always keep adequate fire suppression equipment in a workers work area to extinguish fire before it goes out of control.

The following are general safety measures in establishing and maintaining fire protection in the workplace:

- Never pile or lay material in a way that it covers or blocks access to fire-fighting equipment.
- Make sure to use only approved containers for the separation and disposal of combustible refuse.
- Never store flammable materials within 10 feet of a building or other structure.
- Stack and pile all materials in orderly and stable piles.
- Never let unnecessary combustible materials get accumulated in any part of a workers work area.
- Make a periodic clean-up of entire work site and keep grass and weeds under control.
- Regularly dispose of combustible debris and scrap from a workers work area.
- Use only approved containers and tanks for storage, handling, and transport of combustible

and flammable liquid.

- Always perform evaluation procedures before performing operations that present fire hazards like welding

EMERGENCY ESCAPE ROUTE(S) AND PROCEDURES

PCBUs must ensure that an emergency plan is prepared for the workplace, including for workers who may work at multiple workplaces. An emergency plan is a written set of instructions that outlines what workers and others at the workplace should do in an emergency. An emergency plan must provide for the following:

- emergency procedures, including: an effective response to an emergency
- evacuation procedures
- notifying emergency service organisations at the earliest opportunity
- medical treatment and assistance, and
- effective communication between the person authorised to coordinate the emergency response and all people at the workplace
- testing of the emergency procedures—including the frequency of testing, and
- information, training and instruction to relevant workers in relation to implementing the emergency procedures

EXAMPLES OF INCLUSIONS IN AN EMERGENCY PLAN

An emergency plan may include practical information for workers such as:

- emergency contact details for key personnel who have specific roles or responsibilities under the emergency plan, for example fire wardens, floor wardens and first aid officers
- contact details for local emergency services, for example police, fire brigade and poison information centre
- a description of the mechanisms for alerting people at the workplace to an emergency or possible emergency, for example siren or bell alarm
- evacuation procedures including arrangements for assisting any hearing, vision or mobility-impaired people
- a map of the workplace illustrating the location of fire protection equipment, emergency exits, assembly points
- triggers and processes for advising neighbouring businesses about emergencies, and
- the post-incident follow-up process, for example notifying the regulator, organising trauma counselling or medical treatment.
- Procedures for testing the emergency plan including the frequency of testing must be included.

EVACUATION PATHS

A worker must ensure that a worker have a clear and direct escape or evacuation path that a worker can use in the event that a workers health or safety is threatened in a workers designated position, such as if a vehicle loses control and will hit a worker. This path should lead a worker clear of the path of traffic and away from any hazards associated with the work area. A workers evacuation path should only be used in these circumstances; otherwise, a worker should stay in a workers position, unless directed to move by the site supervisor.

MUSTER POINTS

A worker should familiarise yourself with the location of a workers nominated muster point on site and ensure that a worker make a workers way there during an emergency. Once at the muster point a worker should remain there until a worker have been notified that the emergency is over.

4. MAINTAINING PERSONAL WELLBEING

Maintaining a workers wellbeing is not just about minimising risk or the absence of disease or illness. It is also about a person's physical, mental, emotional and social health factors.

RISKS TO PERSONAL WELLBEING AND PREVENTATIVE STRATEGIES

There are many risks to a workers personal wellbeing both away from and at work. It is essential that a worker understand that a worker are primarily responsible for a workers own personal safety and health. Some of the risks that may affect a Worker's wellbeing at work may include

- Stress
- Poor Environment (conditions)
- Negative Worker interaction
- Over worked
- Poor Equipment
- Lack of Training
- Poor fatigue management

It is easy to identify these risks; the difficulty is managing these risks and put preventative measure in place. Preventative measure may include

- Rotating of shifts, this will allow workers the opportunity to vary the times they are at work, allowing them to experience different break times and travel times
- Job share, if the opportunity arises, this could reduce issues and spread the load
- Employee assistance programs, there are a number of free services available that can assistance workers to discuss issues or concerns confidentially
- Information kits, well-being information kits provide details on nutrition, exercise, stress management as well as balancing home and social life
- Safe work systems, these are inherent to ensure that staff feel safe and secure and reduces anxiety
- Ergonomics, attempt to have good workplace design
- Job design, have a look at the overall job and the tasks required, is there a better and more efficient way.
- Prevention of workplace bullying and harassment
- Prevention of sickness and disease, ensure that a worker encourage sick staff to stay at home rather than spread illness through the workplace
- Improved communication, informed staff are less like to stress or become anxious

FATIGUE MANAGEMENT

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental and/or physical exhaustion that reduces a person's ability to perform work safely and effectively. It can occur because of prolonged or intense mental or physical activity, sleep loss and/or disruption of the internal body clock. Signs of fatigue include:

- tiredness even after sleep
- reduced hand-eye coordination or slow reflexes
- short term memory problems and an inability to concentrate
- blurred vision or impaired visual perception
- a need for extended sleep during days off work

It is important that a worker manage fatigue effectively. On a construction site, a worker may be out in the elements for long periods, in differing conditions. A worker will be required to be on a workers feet standing for long periods

- Carry water and food
- Wear comfortable footwear and appropriate clothing
- Always take breaks and adhere to task rotation

When working shifts, all workers should be aware of the problems associated with fatigue that may occur where there are periods of consecutive night shifts or during a series of long shifts.

SITUATIONS WHICH MAY ENDANGER OTHERS

In a construction environment such as traffic control, there are numerous activities occurring at the same time. Some of these activities a worker will be part of, some of these a worker will control and some a worker will not see at all. As a worker becomes familiar with the different types of traffic control worksites, a worker will be exposed to various risks and safety issues. Some of the most common situations a worker may come across in traffic control include

- Vehicle accidents (road users)
- Workers around plant and equipment
- Dust exposure
- Exposure to heat
- Exposure to chemicals
- Exposure to excessive noise
- Working at night
- Pedestrians

What can a worker do?

- If there is a danger, make sure that a worker are free from danger
- Raise the alarm immediately to warn others, but noise and distance may be an issue
- A worker need to be able to act and report these issues within the area a worker are working and managing
- A worker can use a worker communication devices to seek the assistance of others
- Enlist other around a worker to act appropriately
- Upon any issue a worker will need to report it, and follow all policy and procedure and the chain of command

FITNESS FOR DUTY REQUIREMENTS

WHAT IS FITNESS FOR DUTY?

Fitness-for-duty means that an individual is in a physical, mental, and emotional state which enables the employee to perform the essential tasks of his or her work assignment in a manner which does not threaten the safety or health of oneself, co-workers, property, or the public at large. Generally a worker needs to be fit for duty in terms of:

- Alcohol
- Drugs
- Fatigue
- Physical or Psychological impairment.

If a worker feel that a worker are not fit for duty for any reason at the start of or during a workers shift, a worker must talk to a workers supervisor about it immediately which is a shared responsibility between workers and management.

I'M SAFE CHECKLIST

Illness - do I have any symptoms?

Medication – have I been taking prescription or over the counter drugs

Stress - Am I under psychological pressure from the job? Worried about financial matters, health problems, of family issues?

Alcohol – Have I been drinking within 8 hours?

Fatigue – Am I tired and not adequately rested

Emotion – Am I emotional update

Fitness for duty may also refer to returning to work

WHS POLICES - SMOKING, ALCOHOL AND DRUG USE

There will be a number of general health and safety polices in procedures that a worker will be required to follow and fulfil noted earlier that include

- Personal Protective Equipment (PPE)
- Hazard identification and risk assessment
- Personal health and hygiene
- Working with hazardous substances
- Working with plant and mobile equipment
- Environmental protection
- Fire prevention and fire fighting
- Site communications
- Training
- Emergency response
- Tagging and isolation
- Defect reporting system
- Standard Operating Procedures
- Work instructions

In addition to these specific policies, it is important to understand a workers responsibilities regarding smoking, alcohol and drug use

SMOKING

Smoking is restricted and banned for all worksites. The Smoke-free Environment Act 2000 bans smoking in enclosed public places and certain outdoor public areas. These bans protect people from harmful second hand tobacco smoke - the smoke which smokers exhale after inhaling from a lit cigarette. There is no safe level of exposure to second hand smoke. There will be designated smoking areas and these are usually off the work site entirely.

ALCOHOL

Most jurisdictions in Australia have mandated that traffic control workers must maintain a 0% blood alcohol content (BAC) while on duty. It is important to note that alcohol can stay in a workers blood for long periods of time well after a worker have stopped consuming alcohol and may still affect how a worker work and operate equipment. Workplaces now have the opportunity and authority to conduct alcohol and other drugs testing.

MEDICATION AND DRUGS

Many prescribed and over-the-counter medications may affect a workers ability to perform a workers normal work safely. Check that

- It allows the allocation of jobs and tasks which are safe for a worker on medication to perform.
- It provides important information that may be of use in a medical emergency.

5. IDENTIFY AND REPORT INCIDENTS

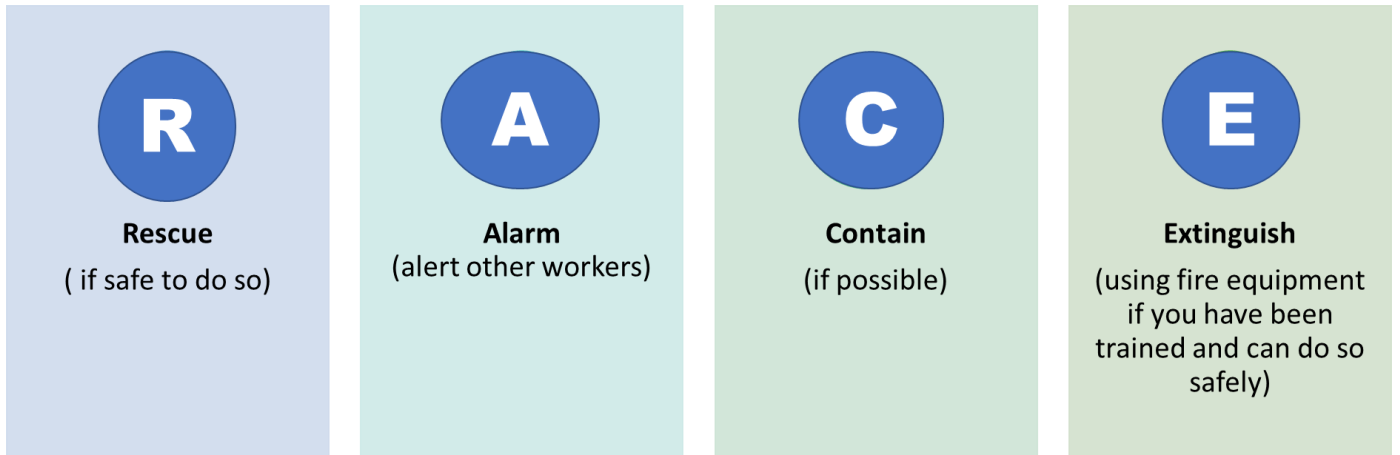
High risk work environments will never be injury or incident free; employers must keep a register of injuries or illnesses sustained by workers regardless of whether there has been a claim

The register of injuries must include

- name of the injured worker
- the worker's address
- the worker's age at the time of injury
- the worker's occupation at the time of injury
- the industry in which the worker was engaged at the time of injury
- the time and date of injury
- the nature of the injury
- the cause of the injury

First responder to work zone incident

- Use communication equipment to call for assistance and raise the alarm
- Communicate with motorists to maintain the safe control of traffic
- Assess the dangers to work colleagues and others by communication with each other
- Communicate site details with Police and preserve the work site by observing Safework NSW non-disturbance requirements to allow and investigation to be conducted



Details to record and report in an Incident

- Type and colour of vehicle
- Vehicle registration
- Date and time of the incident
- Location (Include street or road names if applicable, or other landmarks)
- Nature of the offence or type of incident
- Direction of travel
- Description of driver/other road user and occupants
- Witness details

Report and investigate all incidents

- All incidents are indicators that something have gone wrong with the system, procedures or controls and we need to know what it was!
- To determine the cause and prevent the same incident from happening again by recommend improvements to procedures.
- Provide accurate details for Regulators (SafeWork NSW, Police and Transport NSW) and
- Comply with legislation and avoid litigation
- Avoid loss of reputation

INCIDENT AND INJURY STATISTICS

Recording and communicating injuries and near misses at work assists, employers, industry bodies and safety actioners in many ways

- Assists with prevention
- Provides incident and behaviour patterns
- Contributes to risk management processes
- Contributes to improved practices
- Aids in insurance claims and premiums
- Assists with investigations
- Analysis can be made to prevent future incidents

Which incidents and Injuries and incidents need to be reported?

- Deaths and life threatening injuries
- Physical injuries (accidental and deliberate)
- Psychological injuries (abuse/bullying/harassment)
- Near misses

Incidents may include

- Breaches of safety and security
- Road users breaking the road rules
- Misuse of plant and equipment
- Fire and emergency issues
- Damage and destruction of plan and equipment
- Collapse of buildings
- Explosions
- Chemical spills

SAMPLE INJURY/ILLNESS REPORT

Injured / ill worker's details			
First name:		Last name:	Date of birth:
Position:		Department/team:	
Volunteers:		Worker's address:	
Manager/supervisor's name:			
Injury or illness details			
Date of injury/illness:		Time of injury/illness:	am/pm
Nature of injury/illness:			
Bodily location of injury/illness (for illnesses include symptoms):			
Location at time of injury:			
How was the injury/illness sustained (cause of injury /illness):			
Was any plant, equipment, substance or thing involved in the injury/ illness? If yes, provide details:			
Witnesses			
Were there any witnesses to the injury/illness? Yes or No. If yes, please list name and contact number for each witness:			
Name:		Contact:	
Name:		Contact:	
Follow up			
Has the injury been reported to the worker's supervisor? Yes or No:			
Was any treatment provided? Yes or No. If yes, please provide details:			
Did the injured worker return to work following the injury/illness? If yes, please provide details:			
Details of person making this entry			
First name:		Last name:	
Position:		Department/team:	
Signature:		Date:	
If a worker is not the injured worker, did a worker witness the injury/illness? Yes or No			
To be completed by manager/supervisor of injured / ill worker			
Has an investigation been conducted into the incident? If yes, by whom?			
What controls have been implemented to ensure the incident doesn't happen again:			
Employer confirmation			
I,		(print name), of	
			(insert company name),
Hereby confirm receipt of this notification.			
Signature:		Date:	

WorkCover NSW

WRITTEN RECORDS OF INCIDENTS AND INJURIES

INCIDENTS AT WORKSITES OR ROAD WORKS

A traffic controller shall report incidents occurring at or within a worksite or road works to which they are stationed immediately to their supervisor. Written reports shall be completed and submitted to their site supervisor at the conclusion of their shift or at the resumption of duty on the following day.

An incident is an occurrence that in the opinion of the traffic controller affects the safety and/or effectiveness of any persons at a worksite or at road works and may include:

- Road users disobeying a direction or signal given by a traffic controller when approaching a designated worksite.
- Drivers who fail to stop at a hand held stop sign.
- Accidents occurring within the designated worksite or road works.
- Dangerous practices of other road users within a worksite or at road works.
- Suggested improvements to operational procedures during adverse weather conditions.
- Difficulties experienced with stopping certain vehicle types (for example excess dimension vehicles).

A traffic controller may report to their supervisor, incidences of road users disobeying a direction or signal given by a traffic controller when approaching a designated worksite.

Incident reports may contain the following information:

- time, date and location of incident;
- type of incident (for example, a motorist fails to stop; accident; abusive/insulting/threatening language; assault; breach of these Approved Procedures by another person);
- incident identification, including:
 - vehicle type and colour
 - registration number including registered state or territory
 - direction of travel
 - description of driver/other road user and occupants
 - full and accurate description of the incident
 - witness details

In an emergency situation, Traffic Controllers must:

- never leave their post (unless their own safety is threatened or a competent person takes over the job of traffic controlling)
- never risk their personal safety when trying to get a vehicle to stop
- secure traffic behind the incident to prevent additional collisions
- always warn co-workers, other Traffic Controllers and supervisor (if time permits) of the situation

CONTRIBUTE TO AND PARTICIPATE IN INCIDENT INVESTIGATIONS

The general duty of care for employers under the *WHS legislation* requires employers to maintain safe and healthy workplaces and systems of work.

The investigation of incidents helps to prevent recurrence in achieving safer workplaces.

The main objective of an investigation is prevention. A good investigation aims to establish a series of events that should have taken place and compares it to what actually happened to identify areas that need changing. In general a worker will need to

- Cooperate with all reasonable requests
- Recount information as accurately and honestly as possible

Although a worker may also be involved in the following, investigation procedures need to be systematic. For any investigation a worker should:

- act as soon as possible after the incident;
- visit the scene before physical evidence is disturbed;

- not prejudice the situation;
- not remove anything from the scene;
- enquire if anyone else has moved anything; and
- Take photographs and/or sketches to assist in reconstructing the incident.

After the initial investigation is complete the team should:

- Identify, label and keep all evidence. For example, tools, defective equipment, fragments, chemical samples etc...
- interview witnesses separately;
- check to see if there have been any 'near misses' in similar circumstances;
- note down all sources of information;
- keep records to show that the investigation was conducted in a fair and impartial manner;
- review all potentially useful information, including design specifications, operating logs, purchasing records, previous reports, procedures, equipment manuals, job safety analysis reports, records of training and instruction of the people involved and experiences of people in similar workplaces/industries; and reconstruct the incident (while ensuring that another incident does not occur) to assist in verifying facts, identifying what went wrong and what can be done to prevent it happening again.

This following is a list of questions that may assist the investigation to establish the facts.

WHO	WHAT	WHEN	WHY	WHERE
<ul style="list-style-type: none"> • was injured? • saw the accident/incident? • was working with the injured person/s? • had instructed and/or assigned the job? • else was involved? • has information on circumstances/events prior to the accident/incident? 	<ul style="list-style-type: none"> • is the injury? • is the damage or loss? • was the injured person/s doing? • is the work process? • had the injured person/s been instructed to do? • tools were being used? • machinery/plant/equipment was in use? • previous similar accidents or incidents have occurred? • action had been taken to prevent recurrence? • did the injured person/s and any witnesses see? • safety rules were 	<ul style="list-style-type: none"> • did the accident/incident occur? • did the damage become evident? • did the injured person/s start the job? • was an explanation of the hazards given? • did the supervisor last see the injured person/s? • was something seen to be wrong? 	<ul style="list-style-type: none"> • did the injury occur? • did communication fail? • was training not given? • were there unsafe conditions? • was the hazard not evaluated? • was the system of work inadequate or inappropriate? • was personal protective equipment not provided? • was protective equipment not used? • was there no safe system of work, permit to work or isolation procedure operating? • were specific safety instructions not given? • was the supervisor not consulted when 	<ul style="list-style-type: none"> • did the accident/incident occur? • did the damage occur? • was the supervisor at the time? • were the witnesses at the time? • HOW • did the injury occur? • could the accident/incident have been avoided? • could the injury have been avoided? • could the supervisor have prevented the accident/incident? • could better design of plant or systems of work help?

6. WORKPLACE COMMUNICATION

Workplace Communication is the process of exchanging ideas and information, effective communication plays an important role in the day-to-day operations of any workplace. There are a number of ways we can communicate in the workplace that may include:

- Radio
- Telephone
- Computer
- Lights
- Business management systems
- Social media
- Public address systems and intercom systems
- Audible signals (bells, whistles and sirens)
- Approved hand signals
- Signage
- Written documents such as previous shift reporting, forms and reports
- Face-to-face individual and group verbal communication
- Non-verbal communication such as body language and gestures

Effective communication = Productive relationships

We communicate to...

- Get informed
- Motivate
- Receive and Provide feedback
- Achieve tasks
- Solve problems and issues
- Persuade

Traffic controllers need to be expert communicators by ensuring:

- Clear and concise messages are given to motorists
- Motorists understand the message according road conditions
- Traffic is managed through the work-zone safely
- Barriers in communicating with motorists are effectively managed
- Safety of themselves and crew members when directing traffic

COMMUNICATION IN THE WORKPLACE

When you communicate well with your team, it helps eliminate misunderstandings and can encourage a healthy and peaceful work environment. Efficient communication with your team will also let you get work done quickly and professionally. Workplace and WHS legislation requires that all practical steps to be taken to protect the health and safety of employees at the workplace. Some examples of the essentials of communication

- Use precise, powerful words
- Support your words visually where you can
- Give examples
- Use eye contact where acceptable
- Paraphrase where needed
- Active listening
- Keep it simple
- Use appropriate facial expressions and body language where needed

Avoid

- To many technical terms and references where possible
- Speaking to fast or to slow
- Do not assume that everybody understands you
- Do not interrupt speakers

This means complying with the policies and procedures associated with communication in the workplace, which are in part designed to ensure safety. In a traffic control, you also have a responsibility to contribute to the safety of road users when they are interacting with traffic control arrangements.

Active Listening

Active listening requires you to consciously hear the words someone is saying and to focus on the message being communicated. This means you need to pay close attention to the person who is speaking without becoming distracted by other people, things happening around you or your pre-conceived ideas. The benefits of active listening include:

- Establishing and building both trust and rapport
- Demonstrating genuine interest and concern

Active listening involves:

- Having a positive, engaged attitude
- Paying attention to what's being said and how it's being said
- Paraphrasing to demonstrate you're listening and understand what's being communicated
- Using nonverbal cues/ positive body language including nodding, eye contact and leaning forward to show engagement
- Responding at appropriate points in the conversation to clarify what's being said and to let the person know you're listening to what they are saying

EFFECTIVE COMMUNICATION

Good communication skills are vital in helping individuals to work effectively by applying the following factors:

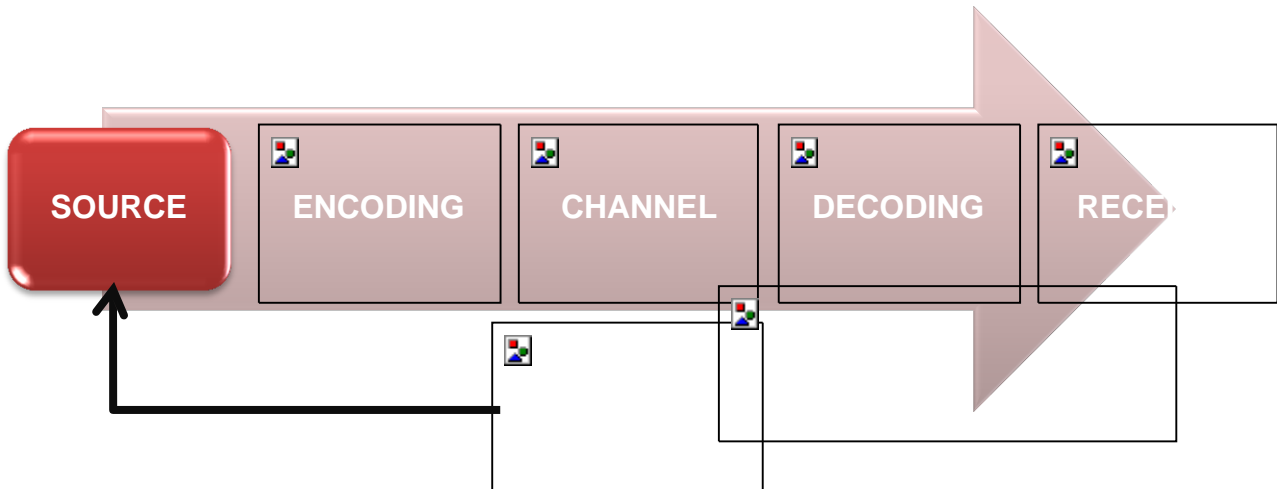
- Listening
- Empathising
- Patience
- Clarity
- Positive

However, there are real barriers to communication like:

- Noise
- Location
- Stereo typing
- Generalising
- Bias
- Emotions
- Language
- Complexity
- Assumptions
- Selective listening
- Poor communication devices

THE COMMUNICATION PROCESS

The process of communication can be described in the following diagram:



- **Source or idea** - Before you can communicate any information, you need to be sure of what it is that you want to say. This is the subject matter of the communication; this may be an opinion, attitude, feelings, views, orders, or suggestions.
- **Encoding** - Encoding is the process of taking the idea or overall subject matter and turning it into something that another person can understand.
- **Transmitting/Channel** - At this stage of communication, the message is sent from the sender to the receiver using a medium of communication. Verbally, non-verbally, or through written formats
- **Decoding** - The person who receives the message from the communicator will need to convert or decipher it before they can understand it and respond to it.
- **Receiver** - The receiver is the person who receives the message or for whom the message is meant for.

7. WORKPLACE COMMUNICATION USING EQUIPMENT AND SYSTEMS

COMMUNICATION, SITE DOCUMENTATION AND WORK ACTIVITY COMPLIANCE

Depending on the type of workplace and environment, communication and documentation will vary, in the traffic management industry; there are specific documents and communication methods that are unique. In the traffic management industry a Traffic Management Plan provides the details of proposals to safely manage traffic during the conduct of works on roads and normally includes:

- A traffic guidance scheme (diagrams).
- Worksite hazard assessment (such as a Safe Work Method Statement).
- Details of the location, nature and duration of the works.

For long-term work, the plan should also include details of the requirements to manage traffic through the worksite outside normal working hours or when workers are not present at the site (after-care). The Traffic Management Plan aims to:

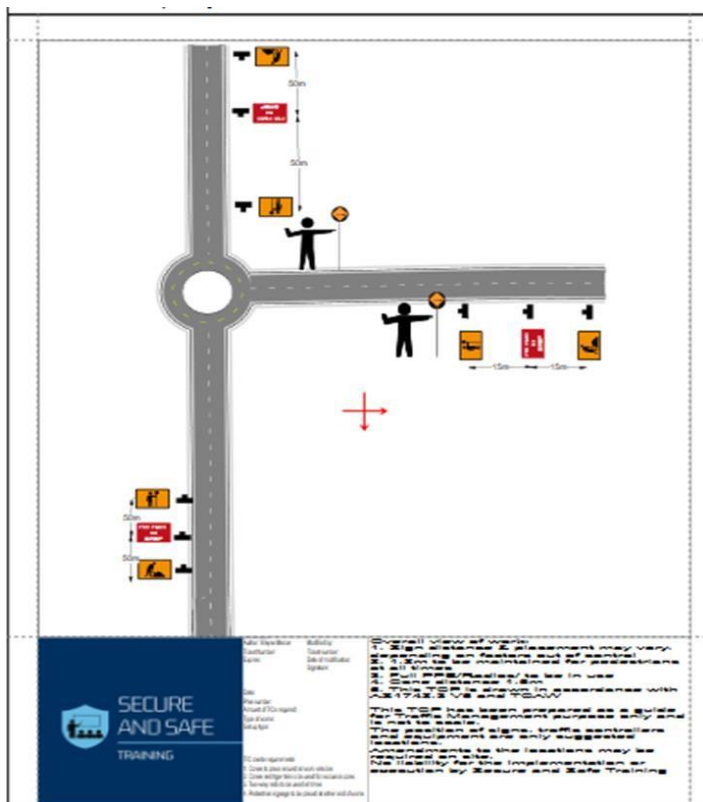
- Protect workers, road users and pedestrians.
- Adequately instruct and guide road users safely through, around or past the worksite.
- Provide appropriate warnings of changes in the road surface, driving conditions and of personnel/workers and plant engaged in work on or adjacent to the road.
- Minimise the impact of the works on traffic and adjacent landowners/occupiers.
- Minimise disruptions to public transport.
- Communicate the arrangements for and impacts of, any activities affecting traffic.

TRAFFIC CONTROL PLAN (TCP)

A Traffic Control Plan (TCP) should be available & followed on all sites. The traffic controller shall direct traffic at and/or through a work site or other event in a manner specified in the approved operating procedure for the safety of all road users and road workers. Traffic controllers:

- Must be qualified, having passed an approved Traffic Controllers training course, and shall be authorised to control traffic in their jurisdiction
- Must be used if road users are to be directed to disobey a traffic regulation, such as crossing a barrier line (portable traffic signals may also be used to direct road users across barrier lines)
- Must act in accordance with the policies, procedures and/or codes of practice in their jurisdiction that govern traffic control

A Traffic Control Plan (TCP) is a diagram showing signs and devices arranged to warn traffic and guide it around, past or, if necessary, through a work site or temporary hazard.



Dimension D

Dimension D (AS1742.3 CI 4.1.5) Dimension D is related to the speed of traffic and is defined as a distance expressed in metres. It is used for positioning of advance signs and related purposes. The signs shall be placed at specific distances apart so that road users have sufficient time to read and absorb their messages or instructions. See also Section 3.2.3, Advance warning sign distances (AS1742.3 CI 4.7.4).

Modifications to a Traffic Control Plan (TCP)

All modifications to an example TCP will need to be done by a person holding the Prepare a Work Zone Traffic Management Plan qualification, and will need to be supported by a TMP or risk assessment. The only instance where a minor modification can be made by a person holding the qualification of Implement Traffic Control Plans is to vary the positioning of signs and devices in accordance with Section 3.5.8, Tolerances on positioning of signs and devices (AS1742.3 CI 4.1.6)

Tolerances and positioning

3.5.8 Tolerances on positioning of signs and devices (AS1742.3 CI 4.1.6) Where this Manual gives a specific distance for the longitudinal positioning of signs or devices with respect to other items or features, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied: Positioning of signs, length of tapers or markings:

- Minimum, 10% less than the distances or lengths given
- Maximum, 25% more than the distances or lengths given

Safe Clearances between workers and through traffic at static work sites (as1742.3 CI 4.1.6)

- Work area 6m or more clear of traffic (3.6.1)
- Worker symbolic (T1-5)

Plan and Prepare

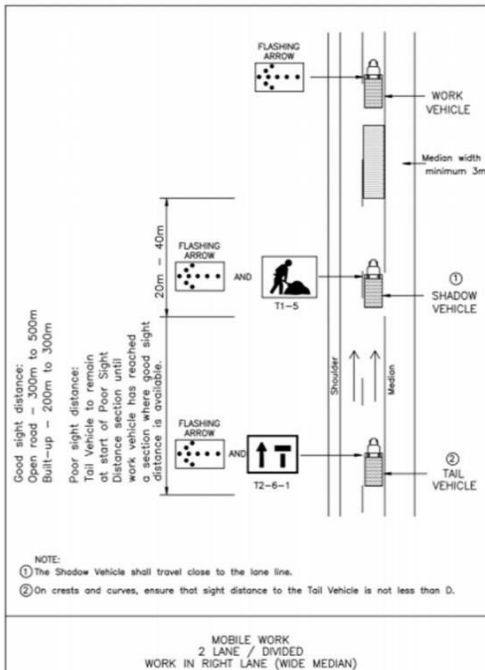
Long-term work: The description which applies when a traffic guidance scheme is required to operate both day and night and may be left unattended.

Work zone: An area which includes the work area(s) and any additional length of road required for advance signing, tapers, side-tracks or other areas needed for associated purposes

Short term: Work requiring traffic control taking less than or equal to one work shift and where traffic control is not required when the work is complete and where road conditions are returned to normal when the shift ends.

Mobile works (9.17): Designed as work which entails vehicles moving along the roadway continually and at a speed significantly lower than other traffic and obstructing or partially obstructing traffic lanes.

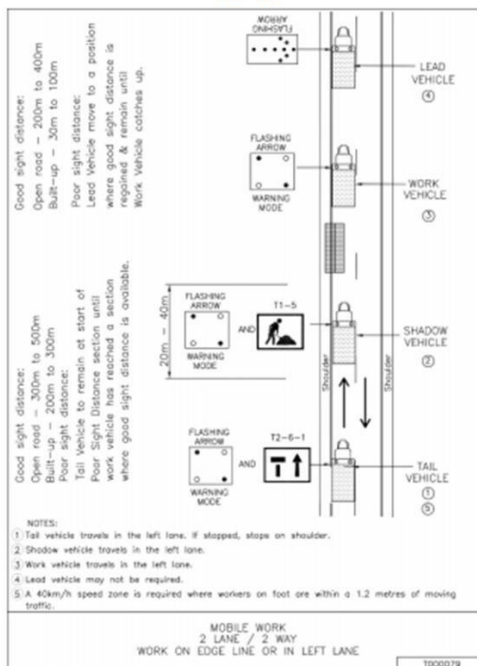
TCP 73



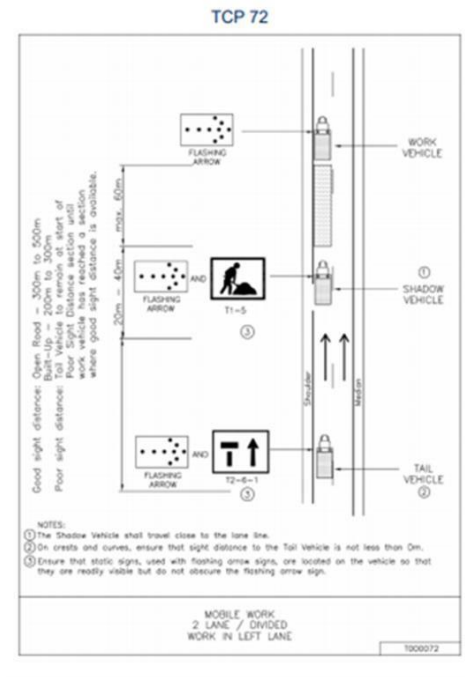
Work Convoy arrangements:

- Lead vehicle- required two-way roadways when working on the dividing line.
- It warns oncoming road users of the work
- Driver can alert following workers early to any impending danger oncoming traffic
- It can shield workers from approaching traffic

TCP 79



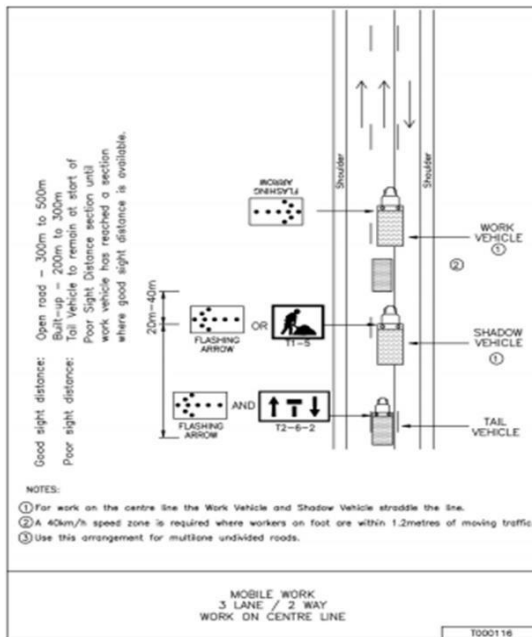
Work vehicle: The vehicle undertaking the work, e.g line marking machine or supports the workers on foot behind it.



Shadow vehicle

- Follows closely behind the work area as the work progresses
- Main purpose to shield vehicles from traffic those workers are not in vehicles but are working on foot behind the work vehicle
- Shall travel a clear distance of 20m to 40m behind the work vehicle

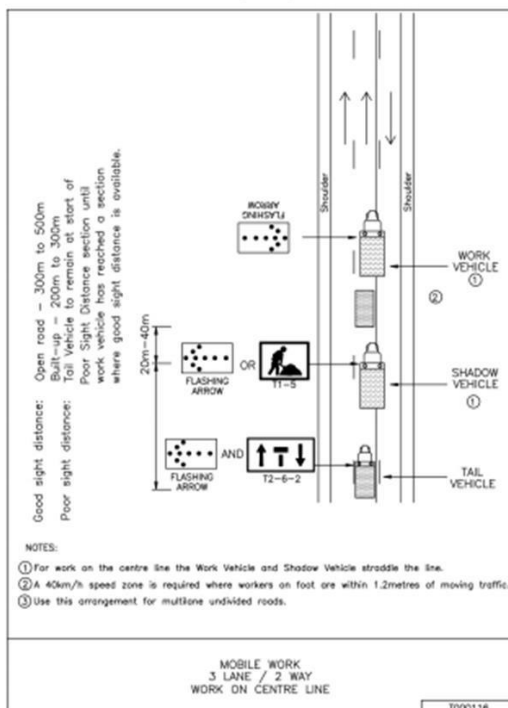
TCP 116



Tail vehicle:

- Follows some distance behind the work area.
- Main purpose
- Warn following road users of the work
- To divert traffic around the work area
- To enable the driver to alert workers of any impending danger

TCP 116



Advance Warning Vehicle: Positioned 1km behind the work convoy to give advance warning to following road users

Safe Clearances between workers and through traffic at static work sites (AS1742.3 Cl4.2)

2. Work area 3m to 6m clear of traffic (3.6.2)

Worker symbolic when workers or small item of plant are present

Vehicle mounted warning device

Speeds higher than 80km. A temporary speed limit of 80 km

(Minimum length of an 80km temporary speed zone should be 500m)

Safe clearance between workers and through traffic at static work sites. (1742.3 Cl4.2)

3. Work area closer than 3m to traffic

a) Protection by safety barrier system

No requirement for reduce the speed limit

Advance warning signs are required
Worker symbolic required

Ensure workers and plant remain behind barrier

Safe clearance between workers and through traffic at static work sites. (AS1742.3 Cl4.2)

b) Clearance to traffic between 1.2m and 3m

Worker symbolic

Delineation of the edge of the traffic lane by cones, bollards or similar means

Speed shall be reduced to 60km (shall be at least 150m long)

Use of appropriate traffic control devices such as signs, flash lights, traffic controllers and tapers

Imposing a temporary road work speed zone

Site risk assessment

Safe clearance between workers and through traffic at static work sites (AS1742.3 Cl4.2)

4. Work area closer than 1.2 m to traffic

- All conditions as above to 1.2m to 3m
- Except speed limit shall be reduced to 40km
- Site specific risk assessment

Authorization to make further modifications

- Prepare Work Zone Traffic Management Plan

Temporary traffic management arrangement

Traffic will move either around, past or through work areas

1. Around -work area with traffic on a detour, side- track or different carriageway
2. Past- A work area with traffic on the same carriageway as the work area, to the side of, and not directly over the area being worked on
3. Through-A work area with traffic over the area being worked on with or without a pilot vehicle and may intermingle with workers or plant

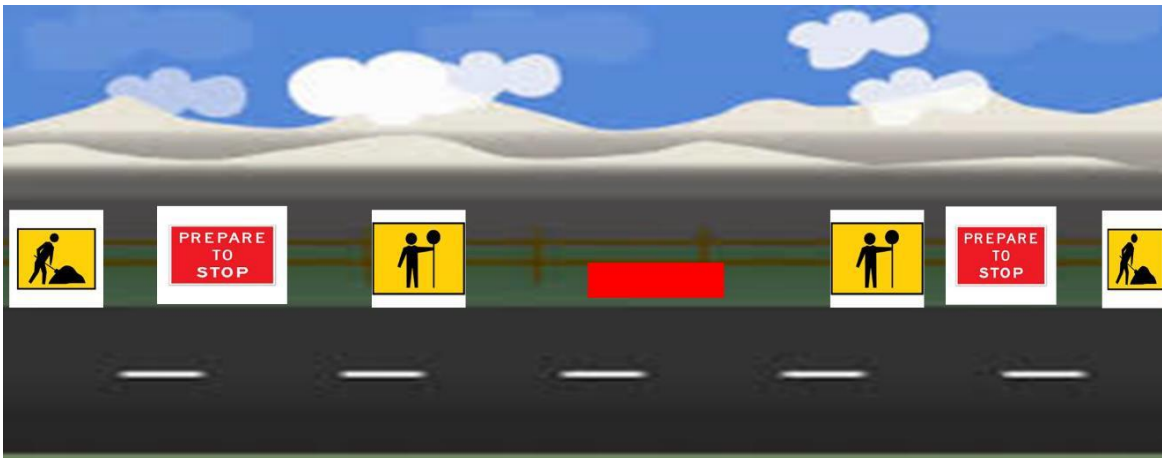
What is the safest?

Around the work area- this is the preferred safest method. It requires traffic to be guided around a work area using a detour on other existing roads or on other existing roads or on specially constructed side-track.

Pilot vehicle used through a workzone

- For any reason traffic fails to maintain safe speeds through the work
- Part of the length of the work site is out of view of the supervisor, work gang and the traffic controller
- The hazard to worker requires the traffic speed to be reduced to less than 40km/h
- Traffic speed is required to be kept low to minimize damage to the work i.e. a newly laid seal
- Traffic needs to follow a particular path through the site which may not be obvious without a pilot vehicle.

Sequencing signs



Safety Tips Implementing Signs

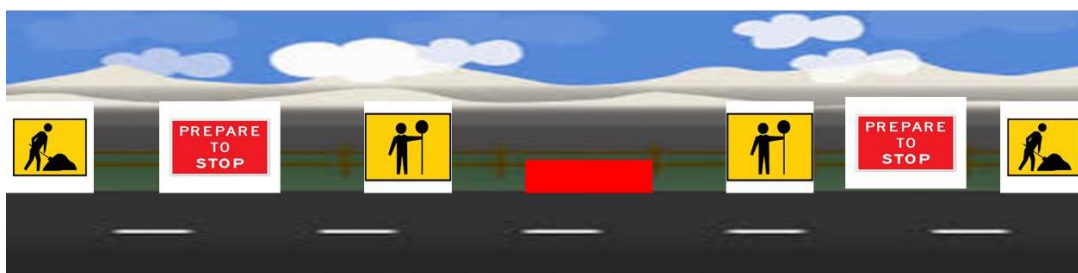
- Signs are securely mounted
- Signs are within the line of sight of the intended road user i.e. at approximately 90 degrees to the line of sight
- Signs should be placed on the side of the road where work is being undertaken, through situations might arise where signs can only be put on the opposite side of the road
- Signs and sign support structures should be kept away from the edge of the roadway
- Sign supports on the outside of curves and other vulnerable places should be avoided or the sign support should be protected

Unsuitable locations for erecting signs

- Culverts
- Guard rails
- Shade
- Crests
- Curves
- Next to the work vehicle























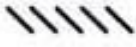
Removing signs

In reverse



Symbols on a TCP

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

	Arrow board		Shadow vehicle
	Arrow board support or trailer (shown facing down)		Sign (shown facing left)
	Changeable message sign or support trailer		Surveyor
	Channelizing device		Temporary barrier
	Crash cushion		Temporary barrier with warning light
	Direction of temporary traffic detour		Traffic or pedestrian signal
	Direction of traffic		Truck-mounted attenuator
	Flagger		Type 3 barricade
	High-level warning device (Flag tree)		Warning light
	Longitudinal channelizing device		Work space
	Luminaire		Work vehicle
	Pavement markings that should be removed for a long-term project		

Sign symbols



- Symbol tells you the sign must be a dual facing regulatory sign i.e. so it can be seen by traffic coming from both directions, for example in the middle of a work zone denoting the speed limit for all traffic travelling through.



- Single sided sign

Other types of compliance documentation include:

- Legislation
- Regulation
- Code of practice
- Standards
- Company policy and procedure
- Manufacturer's guidelines and specifications

COMMUNICATION EQUIPMENT AND SYSTEM COMPONENTS

Key pieces of communication equipment in workplaces include

- Telephones (mobile and landline)
- 2 Way radios
- Signage

And the systems that are used with the equipment may refer to;

- Policy and Procedures
- Codes and acronyms
- Standards and codes of practice
- Confidential messaging requirements

Other systems may include

- the systems overview
- operating directories
- communication equipment
- site specific procedures and constraints including:
 - call signs
 - area descriptions
 - voice procedure
 - protocols
- emergency procedures

COMMUNICATION WITH OTHERS

In the workplace, sometimes the communication channels do not always occur naturally or are not always obvious. As you become more familiar with the workplace and environment, the communication channels with others will become easier to identify and easier to maintain. A good manager/supervisor will ensure that you receive a thorough induction and training for the job, environment and the team. Once you have established these initial channels and networks ensure that you do what you can to maintain them. This can be done by:

- Keeping it 2 way
- Ensuring that you are consistent
- Maintain professional and courtesy
- Acknowledge the contribution of others
- Respect opinions and ideas
- And never take it personally

COMMUNICATION EQUIPMENT AND SYSTEMS SAFETY PROCEDURES

Before you can access any equipment, it is vital that you have the appropriate authority and you have received the correct training. Once you have received the correct training, you will be in apposition to be able to choose the correct equipment for the task that you are undertaking. When you have been provided the correct level of authority, you may be required to sign and draw out the equipment. Once you have signed for the equipment, you have a responsibility to ensure

- That it is use correctly and safely
- Read any instructions if applicable
- That it is maintained and kept clean
- That you secure it and ensure that it does not get removed
- And finally ensure that you returned the equipment is the condition that you acquired it

8. USING COMMUNICATION EQUIPMENT AND SYSTEMS

METHODS AND TYPES OF COMMUNICATION

There are a number of ways that we can communicate in the workplace, there are many methods, tools, procedures and devices, some of these may include:

- Meetings
- Telephones
- 2 Way radios
- Intercom systems
- Face to face
- Verbal and non-verbal
- Memos
- Polices and forms
- Signals
- Signage

Quality of communication between people is critical to workplace effectiveness.

NON-VERBAL COMMUNICATION

Non-verbal communication can be referred to communication without words, and it will include behaviors such as

- Facial expressions,
- Eyes
- Physical contact (touching)
- Posture
- Spatial distance
- Gestures and hand signals
- General body language

HAND SIGNALS

In order to communicate effectively with road users, giving clear and consistent signals are one of the most important functions of traffic control. The STOP/SLOW bat used by a traffic controller to control traffic at any temporary obstruction or hazard is a method of hand signal communication.

USE COMMUNICATION EQUIPMENT AND SYSTEMS

There are numerous types of communication equipment that you will come across, in the traffic management industry; the most common is communication via Radio (2-way Radio)

EFFECTIVE COMMUNICATION

We can effectively communicate using various methods, systems and processes to achieve the outcome we need, consider the following and how we communicate:

- Equipment and systems
- Forms and paperwork
- Body language and facial expressions (non-verbal)
- Type of language
- Tone and pitch
- Technical and non-technical
- SWMS
- Policies and procedures
- Signage

When speaking with colleagues and road users (face to face) we need to be polite, clear, effective and overall professional

2 WAY RADIOS

You will be required to use communication equipment such as '2 way radios' you need to consider the following

- Space
- Distance
- Noise
- Language
- Sight
- Technical Speak
- Jargon
- Acronyms

Traffic controllers need to know the features of the Two-way radio they are using and how to communicate instructions clearly. Common types of equipment used for communicating are 2 way UHF radios. 2 Way radios have closed off frequencies (trunk) and public frequencies. They are integral to the successful completion of your duties. When using two-way radios Traffic Controllers should:

- keep dialogue to a minimum
- speak clearly
- make accurate statements
- provide enough information for the other controller to understand the situation
- keep jargon to a minimum
- Never get involved in arguments or confrontations.
- Never swear or use abusive language.
- Don't engage in personal conversations.
- Don't make disparaging remarks about road users or members of the public or work colleagues.
- Stay focused on the job

When Two-Way Radios are required at a work site traffic controllers should become familiar with the radio equipment prior to the commencement of duties. Traffic controllers should be aware of the following features of Two-Way Radios:



Traffic Controllers and workers should give a clear description of the last vehicle through the control point, Vehicle colour, make and model and if possible full registration or the last 3 letters or numbers on the rear number plate and immediately turn your bat to STOP.

The use of a phonetic alphabet in communicating is common.

A	Alpha	H	Hotel	O	Oscar	V	Victor
B	Bravo	I	India	P	Papa	W	Whiskey
C	Charlie	J	Juliet	Q	Quebec	X	X-Ray
D	Delta	K	Kilo	R	Romeo	Y	Yankee
E	Echo	L	Lima	S	Sierra	Z	Zulu
F	Foxtrot	M	Mike	T	Tango		
G	Golf	N	November	U	Uniform		

TELEPHONE COMMUNICATION

Workplaces use telephones which can allow communication either internally within the workplace or to a wider network.

Examples of some rules that can apply are:

- Staff answer the phone in the same way
- Do not assume that you know who is on the other end of the line
- Remain calm and positive
- Your voice should reflect a professional image
- Do not eat, drink or chew gum whilst on the telephone
- Speak clearly at a moderate pace
- Allow for natural pauses in the conversation

When communicating on the phone you should take extra care to determine what is being said. Not being able to see the person while talking can affect the clarity of communication. It is a good practice to repeat or summarise what has been said to avoid any misunderstandings.

MOBILE PHONE/SMART PHONES

Please be mindful, that the use of personal mobile phone/smart devices for communication may be restricted in most cases. Ensure that you are aware of the policy and procedures for using personal communication devices whilst conducting traffic control duties and tasks

ACKNOWLEDGE AND RESPOND TO COMMUNICATION

Regardless of the equipment or system that you use, clarification and acknowledge of messages and communication process is very important. Not only it is courteous, it also established and maintains professionalism. You will gain confidence from your colleagues, when confirmed and clarified, that the task and job has been completed. Do not be afraid to ask questions when responding to check that you have been heard

TAKE, CONFIRM AND PASS ON MESSAGES PROMPTLY TO OTHERS

There are a number of ways that we can communicate and pass on information to colleagues, road users and management. Where possible we need to use an array of tools and techniques to pass on communication. On a road worksite your options will be limited due to a number of reasons;

- Location
- Time
- Physical nature of the work
- Limited tools and devices

In a number most circumstances you will be required to pass on messages to traffic controllers and other workers quickly and efficiently, and in most cases via a 2 way radio. When taking messages, confirming the information and passing it consider the following

- Listen intently
- Check for understanding

- Ask questions
- Where possible write it down
- Break the message in to small components or 'chunks'
- Use simple phrases and terminology if applicable
- Avoid mumbling and jargon
- Never assume that the receiver will know the entire contents, so be accurate

COMMUNICATIONS 7 C'S

To ensure a safe, efficient and productive workplace, you need to ensure that you have the capacity to communicate in a clear, accurate and timely manner. There are 7 Cs of communication are:

- 1. Clear**
 - Be clear about your goal or message, what is the purpose
- 2. Concise**
 - Stick to the point and keep it brief
- 3. Concrete**
 - Ensure the message is concrete and not vague, ensure you are focussed
- 4. Correct**
 - Of course accuracy is vital and the best communication is error free
- 5. Coherent**
 - When you are coherent, you are logical , all the dots are connected, there is a flow and context
- 6. Complete**
 - Do not leave anything out, ensure the message is complete for the receive to take action
- 7. Courteous**
 - Common courtesy can still be maintained with time restrictions and pressure situations

SAFETY PROCEDURES, REPORTS AND EMERGENCY PROCEDURES

Most accidents and emergencies in the workplace are preventable but some still occur despite the best efforts of everyone to stop them. When an emergency does occur, efficient and effective communication is vital that you know the procedures to follow in an emergency and be able to implement them.

INCIDENT REPORTS MAY CONTAIN THE FOLLOWING INFORMATION:

- time, date and location of incident;
- type of incident (for example, a motorist fails to stop; accident; abusive/insulting/threatening language; assault; breach of these Approved Procedures by another person);
- incident identification, including:
 - vehicle type and colour
 - registration number including registered state or territory
 - direction of travel
 - description of driver/other road user and occupants
- full and accurate description of the incident
- witness details.

In an emergency situation, Traffic Controllers must:

- never leave their post (unless their own safety is threatened or a competent person takes over the job of traffic controlling)
- never risk their personal safety when trying to get a vehicle to stop
- secure traffic behind the incident to prevent additional collisions
- always warn co-workers, other Traffic Controllers and supervisor (if time permits) of the situation

FAULTS IN COMMUNICATION EQUIPMENT

In addition to the traffic signs and devices, various tools and equipment will need to be obtained to carry out tasks that are consistent with the requirements of the job.

Two-way radios are required at worksites where communication is required over long work distances or sight distances are limited, particularly for traffic controllers. Characteristics, technical capabilities, uses and limitations of the regulatory equipment listed above can be found in AS1742.3-2009 and the relevant state or territory Code of Practice. Any defective equipment needs to be dealt with in accordance with site procedures. Commonly this would include isolating or tagging out the equipment and reporting the fault to a supervisor for corrective action, replacement or repair.

9. CARRY OUT FACE TO FACE ROUTINE COMMUNICATION

Face to face communication is one of the most effective and time saving ways of communicating. With face to face communicating, it is real time and you will get a strong sense of the overall context of the message and intent. When communicating face to face, you need to consider a range of conditions and circumstances

SPEAK CLEARLY AND LISTEN CAREFULLY

Do not complicate the issue and at times it is best to keep the messages simple and to the point. If the message is too complicated or technical, the receiver may 'tune out' or may not understand the level of the message, keep to the 7 Cs. Alternatively, when listening to a message when face to face, you need to pay attention and listen carefully

- Give your undivided attention
- Do not get distracted
- Stay focussed
- Have open body language
- Make eye contact where culturally acceptable
- Nod where you can

ASK QUESTIONS OF THE AUDIENCE AND CONFIRM THE MEANING

Asking questions can be an art form, asking questions is a real opportunity to check your understanding, but also gives the person you are talking to a sense of confidence that you are paying attention. Effective questioning will help you

- Better and more fully understand the problem
- Work with staff more effectively
- Help your staff take responsibility for their actions and solve problems within the workplace more easily
- Gather better information
- Reduce mistakes and duplication
- Get cooperation
- Persuade people

Generally there are 2 types of questions; Closed ended and open ended.

A closed question can be answered with either single word or a short phrase, most of the time Yes or No. Closed questions have the following characteristics

- They give you facts
- They are generally easy to answer
- They are quick to answer
- They can keep control of the conversation with the questioner

An open ended question is likely to receive a long answer and is more descriptive. Open ended questions have the following characteristics

- They ask the respondent to think and reflect
- They will give you opinions and feelings
- They hand control of the conversation to the respondent
- They normally start with what, why, how, describe

COMMUNICATION PROCESS TO ASSIST FLOW OF WORK ACTIVITIES

The communication process needs to be 2 way and it needs to be consistent and constant. Never assume that the message is continuing or if the communication channels are still open. Some tips to ensure that the communication process continues to flow

- Have scheduled tool box talks and briefings
- Ensure that you stay on topic and agendas within meetings
- Ensure that the same message does not come across the same way, this can cause the information to become stale and therefore people can switch off. Therefore do not be afraid to mix it up, vary the style and method of the message
- Distribute minutes and get staff to sign off on the minutes and instructions

PRE-START TOOL - BOX MEETING

- Briefing of traffic controllers role and responsibilities
- Details of the relevant TCP, including traffic controllers positioning and escape path
- Contact numbers and details of relevant people (Site Manager, Supervisor, Safework NSW)
- Rest breaks and welfare amenities
- Traffic Flow and monitoring instructions
- Details of the works being undertaken (plan crossing)
- Location where workers are on foot
- Site specifics (SWMS)
- PPE Hi visibility wands
- Incident management and reporting procedures

SITE APPROVED SIGNALLING METHODS TO CONVEY INFORMATION

In the traffic control industry, you are provided a number of devices and signs to assist with the communication process. In addition to these devices, you may be required to use a number of approved signalling methods to convey the information to colleagues and road users.

OBTAIN INFORMATION AND CLARIFY MEANING

As noted earlier, the communication process within the workplace is 2-way and therefore all parties need to participate and contribute effectively. We need to ensure that all parties have the capacity and environment to part of the overall communication process. By involving others or involving the team, there are no surprises, so the more involvement and coverage, the better the message will be, and there will be less chance of ambiguity, you will have a better chance to ensure that the message is clear.

You may have heard the following expressions 'I am not sure how to explain this.' as a way of clarifying the message or information. Some techniques that may assist in clarifying meaning:

- Use a practical example
- Share a personal experience
- Provide a definition or a key term
- Make an analogy to some other concept that the receiver may already know
- Offer a comparison and or a contrast, you can compare to a similar term or opposing term
- Link to previous situation
- Provide visual means if possible

COOPERATIVE AND EFFECTIVE COMMUNICATION

Cooperation in the workplace is the key to success, and this can be achieved by ensuring that we communicate in a cooperative and effective manner. We must always maintain a professional approach to the way we work, communicate and behave. A professional approach to communication will ensure its validity, confidentiality and urgency. The difficulty that workers and workplaces can

face regarding cooperation can be complex; communication can be affected by;

- Complexity in messages and systems
- Pressure to perform
- Feelings of hostility
- Operational issues
- Personal conflict
- Negativity in the workplace

Cooperative communication can deliver positive and effective results for all workers and management alike.

10. COMPLETE WRITTEN DOCUMENTATION

WRITTEN COMMUNICATION

Written communication is the ability to use terms and references in a variety of modes in an effort to transfer information to a range of audiences, such as workers, management, and road user. Regardless of your role or the tasks you perform, you will be required to complete forms of written communication on a regular basis. There are a range of different situations that require written communication, including:

- Incident reports
- Safe Work Methods Statements
- Logbooks and timesheets
- Sign off on TMP/TCGS/TCP where applicable to you role
- Shift reporting,
- Giving instructions

ADVANTAGES OF WRITTEN COMMUNICATION

- No need for personal contact
- Saves money
- Written proof
- Fairly universal

DISADVANTAGES OF WRITTEN COMMUNICATION

- May delay in communicating
- Lack of confidentiality dependent on the environment
- Can be costly

COMPLETING WRITTEN DOCUMENTATION

Just like anything you write, there are things you should be mindful of. These include checking that:

- your details are correct
- spelling is correct – especially names
- the information is accurate
- the form is fully completed
- if handwritten, the handwriting is legible
- the form is sent/taken to the appropriate person or place

APPROVED DOCUMENTS

There will be a number of approved documents for communicating effectively in your workplace. In the Traffic control/management industry, there are number of approved and documents, depending on your level, you may not be required to use them all. Below is a list of the types of documents you may come across

- Incident forms
- Safe Work Method Statements
- Job Safety Analysis
- Safety Data sheets

- Traffic control Plans/Traffic Control Guidance Schemes
- Traffic Management Plans
- Environment Management plans
- Safety inspection sheets
- Risk Audits

PASSING ON WRITTEN INFORMATION

In passing on information to others, the following must be considered:

- You need to consider the urgency of the information you are passing on
- Consider the confidential nature of the information and who can view it
- What methods will you use to pass the information on, will you use technology?, will it be face to face?
- How do you confirm that the message was received, are you required to gain a signature or a date stamp.?

11. TRAFFIC CONTROL ON WORKSITES

Traffic control at worksites is provided to ensure a safe workplace for workers and to safely guide road users, through and around worksites. Work needs to be arranged so that workers are able to work safely and are separated from the road users where possible.

Traffic control at worksites shall only be undertaken by persons who are qualified, authorised and have passed approved training courses.

Controlling traffic can be achieved by ensuring that the correct arrangements are in place, such as the selection or design of Traffic Control Plans (TCP)/Traffic Control Guidance Schemes (TCGS) that devices and signage are installed correctly and significant measures are in place to minimise risk. TCP/TCGS are part of an overarching Traffic Management Plan (TMP) although form the main component of the TMP. Other documentation that may be included in a TMP may include:

- Legislative requirements
- Regulations
- Codes of practice
- Industry standards
- Company policy and procedures
- Manufacturer's guidelines and specifications

Preparation of a detail Traffic Management Plan and proper implementation of measures identified in the approved plan is essential to ensure the safety of all road users as well as the workers at site. It would also assure the smooth operation of the road network as well as the worksite.

Traffic Controller responsibilities include

- Your own safety (ensure you carry your TCWT card at all times)
- Ensure other crew members safety from traffic
- Follow policies and procedures you have been advised of communicate effectively to ensure the safety of motorists and road users (including pedestrians and cyclists) at a workzones
- Enabling works at the site to be conducted safely by minimising the risk associated with traffic movement
- Isolate, tag and report any faulty equipment
- Installing and removing the two signs required for traffic controllers
- (PTS) (Flagman)
- Remaining at your station unless directed to leave by the supervisor or relieved by another traffic controller
- Monitoring and reporting on delays to traffic flows
- Monitoring queue lengths for compliance with instructions (giving priority to peak ends). Remember, it is the responsibility of the traffic controller displaying "slow" to change the

direction of traffic

- Dealing with motorists and other road users professionally and courteously.
- Responding to instructions for traffic control in emergencies
- Reporting all incident, including near misses

12. PLAN AND PREPARE FOR TRAFFIC CONTROL

SITE TRAFFIC PLAN PROCEDURES AND WORK ACTIVITY COMPLIANCE

A Traffic Management Plan (TMP) is a plan detailing work to be undertaken and describing its impact on the general area, especially its impact on public transport and passengers, cyclists, pedestrians, motorists and commercial operations. It also describes how these impacts are being addressed. It will also include details on Traffic Control Guidance Schemes (TCGS), and vehicle movement plans. TCGS also known as Traffic Control Plans are a major component of a TMP.

Traffic management plans are designed to make sure that work-zone traffic control is carried out in accordance with the relevant standards for traffic control for the jurisdiction in which the work is to be carried out. The work of setting up a traffic control work area starts with, and is determined by a TMP.

A Traffic Management Plan provides the details of proposals to safely manage traffic during the conduct of works on roads and normally includes:

- A traffic control guidance scheme (diagrams) which are an arrangement of temporary signs and devices to warn traffic and guide it through or past a work area or temporary hazard.
- Worksite hazard assessment, such as a Safe Work Method Statement
- Details of the location, nature and duration of the works
- The Traffic Management Plan aims to:
 - Protect workers, road users and pedestrians.
 - Adequately instruct and guide road users safely through, around or past the worksite.
 - Provide appropriate warnings of changes in the road surface, driving conditions and of personnel/workers and plant engaged in work on or adjacent to the road.
 - Minimise the impact of the works on traffic and adjacent landowners/occupiers.
 - Minimise disruptions to public transport.
 - Communicate the arrangements for and impacts of, any activities affecting traffic.

A Traffic Control Plan (TCP) should be available & followed on all sites.

The traffic controller shall direct traffic at and/or through a work site or other event in a manner specified in the approved operating procedure for the safety of all road users and road workers.

TRAFFIC CONTROLLERS

Depending on the complexity of your work site and the hazards you have identified, you may need to engage contract traffic controllers to manage the traffic flow through or around your worksite. It is important to remember that when you engage a traffic control company, you remain responsible for the safety at the worksite as required under Clause 1.5 in AS1742.3. This responsibility is for all workers under your control including traffic controllers.

It is essential that you use only accredited traffic controllers to perform traffic control duties (see next section of Traffic Controller Accreditation). When you engage traffic controllers, you must not ask a traffic controller to do anything that may cause the person to:

- breach the statutory conditions of their appointment/accreditation
- breach the conditions of appointment stated in the person's instrument of appointment

- breach the terms and conditions of the approved procedures/guidelines
- breach the requirements of any code of practice, and
- operate in unsafe conditions.

You should ensure that workers not only have the required accreditation to perform traffic control duties, but they also have sufficient experience to operate safely and efficiently in the traffic control area in which they are allocated.

At all times, you should take all necessary steps to ensure that:

- traffic controllers are receiving appropriate supervision and are complying regulatory requirement as set down in the relevant standards, procedures, guidelines and codes of practice.
- traffic controllers allocated to a worksite possess a current general safety induction card
- all reasonable steps are taken to effect safe traffic control
- the placement of speed restriction signage and protective barriers are erected in accordance with the regulatory requirements (eg. AS1742.3)
- traffic controllers are included in the site inductions
- traffic controllers are given periodic breaks as required by the organisational procedures and regulatory requirements (a break of at least 15 minutes every two hours).
- traffic controllers wear personal protective clothing and are fully complying with the regulatory dress code requirements.

Before any work commences, you must ensure that:

- a compliant traffic guidance scheme has been developed
- the scheme has received the appropriate approvals and is kept with relevant documents (such as the construction safety plan and work method statement).
- traffic controllers should have access to a valid copy of the approved traffic guidance scheme
- all road workers under the worksite supervisor's control who are likely to be affected by health and safety risks posed by work on, near or adjacent to roads, are to be appropriately trained in and understand work method statements.
- these statements are stored with the construction safety plan. Worksite staff should be trained in the Code of Practice.

As a supervisor, you are also responsible to ensure that prior to commencing work on a site, all traffic controllers have the correct equipment and clothing which includes:

- A STOP/SLOW bat measuring at least 1.8 metres from the ground to the bottom of the STOP/SLOW sign
- A Traffic Controller Ahead/PREPARE TO STOP sign that is set up correctly
- Appropriate working portable communications equipment to be used to communicate over distances when there is limited clear/unobstructed vision.

The following routine should be undertaken by the worksite supervisor before traffic operations start each day:

- Check that the maximum speed limit through a worksite is 60 Km/hr or less, depending on the traffic guidance scheme
- Check with the traffic controllers that they have correctly erected their Traffic Controller Ahead/PREPARE TO STOP sign
- Ensure adequate amenities have been provided including cool water
- Inspect all traffic signs and devices and make a note of signs out of place or damaged during the night, for immediate rectification

- Inspect all water-ballasted safety barrier or containment fence modules and make a note of any out of position modules, low water levels and damaged modules, for immediate rectification
- Check that portable communications equipment (if to be used by traffic controllers) is fully operational
- Ensure an adequate number of accredited and experienced traffic controllers have been engaged or will be available at the worksite to allow for replacements during recess or toilet breaks
- Ensure that all traffic controllers possess a current TMR accreditation authority/identity card which is then to be available for inspection while the traffic controller performs traffic control duties on worksite
- Check that all traffic controllers are fit for work and not affected by prescription or other drugs or any medical or other condition which could adversely affect concentration, mobility or performance of the role. Relevant questions/checks should be conducted.

Responsibilities of a Traffic Controller

Traffic controllers have the **safety** of their workmates and the travelling public resting on their ability to control the flow of traffic through the site.

Traffic controllers can improve the **efficiency** of the group's work by reducing traffic interference. Traffic Controllers are to be used when signs and devices for roadworks are considered insufficient, to provide traffic control for personal safety, public convenience and efficient job control and management.

In addition to these responsibilities, the Traffic Controller is also a front line representative of your organisation and has an important public relations role.

A Traffic Controller is responsible for directing traffic in accordance to state specific procedures and guidelines. There are seven core requirements to achieving this:

1. BE PROPERLY DRESSED AND PREPARED
2. UNDERSTAND THEIR AUTHORITY
3. KNOW CORRECT PROCEDURES
4. BE PROPERLY LOCATED
5. COMMUNICATE EFFECTIVELY
6. ASSESS CHANGES IN TRAFFIC PATTERNS
7. KNOW EMERGENCY PROCEDURES

Standards for traffic controllers according to the Traffic Controller at worksite manual (TCAW)

- Positioning of the Stop/Slow bat
- What hand signals to use
- Where to position yourself in relation to moving traffic
- How many Traffic Controllers are needed?
- Safety signs for use on NSW roads

Documents other than the TCAW manual for information

- Job description
- Work instructions and specification
- Policies and procedures
- Safe work Method statement (SWMS)
- Job safely analysis (JSA)
- Safety Data Sheet (SDS)
- Safe operating procedures (SOPs)
- Emergency evacuation procedures
- Hazards and Incident reports
- Emails and memos

Work permits required for Traffic Management

- Road Occupancy Licences (ROL)
- Council 138 Roads Act approvals

WORK INSTRUCTIONS

The Traffic Management Plan will provide specification about which signs and devices will be required and where they will need to be placed on the worksite (usually in the Traffic Control Plan/Diagram), information about the impact of the works on all road users, including public transport, pedestrians, cyclists and local residents/businesses.

It should also include information about traffic flow requirements and information about the environmental requirements for works at the site. In short, it should provide all of the information that you need to set up a work area for the management of traffic and to protect workers in the work area. Work instructions can take many other forms, either verbally or in writing, including, but not limited to:

- Verbal or written and graphical instructions
- Signage
- Work schedules/plans/specifications
- Work bulletins
- Charts and hand drawings
- Memos
- Maps
- Safety Data Sheets
- Diagrams or sketches
- Safe work method statements (SWMS)
- Site checklists

Being able to access, interpret and apply the requirements of the documents is vital to carrying out your responsibilities for controlling traffic. Understanding compliance documentation will help you make the right decisions for each situation or task. The documents will tell you what is required and how you are expected to perform the tasks.

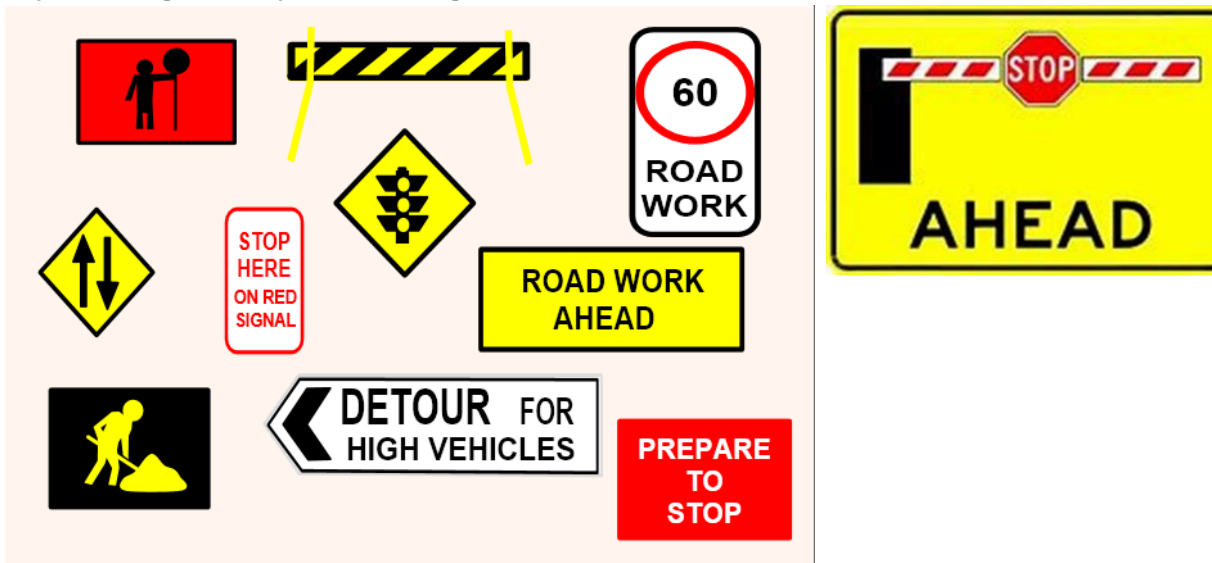
When reading documents it is vital that you understand the difference between words such as **SHOULD**, **CONSIDER**, **MUST**.

- **SHOULD** – *Should* indicates a preferred course of action. If you take a different course of action you will need to be able to justify this in the event of an accident or incident.
- **CONSIDER** – *Consider* means that you have a choice of actions and need to select the action that will give the best and safest result for the particular circumstances.
- **MUST, REQUIRES, MANDATORY, SHALL** – *Must, Requires, Mandatory* and *Shall* all mean that the action is a legal requirement and **MUST** be complied with.

A Traffic Control Plan (TCP) or Traffic Control Guidance Scheme (TCGS) will contain information about where traffic controllers should be positioned in relation to the work site and about how they are expected to control traffic. The site supervisor, in most instances, will direct you where you need to position yourself to control traffic. Should a supervisor not be available, you will need to be able to access the TMP and interpret where you need to be positioned. TCP's have a number of pieces of information

- Such as the types of signs needed
- Distances between these signs
- Flow of traffic
- Position of traffic controllers
- Work site areas
- Positions of traffic cones, just to name a few

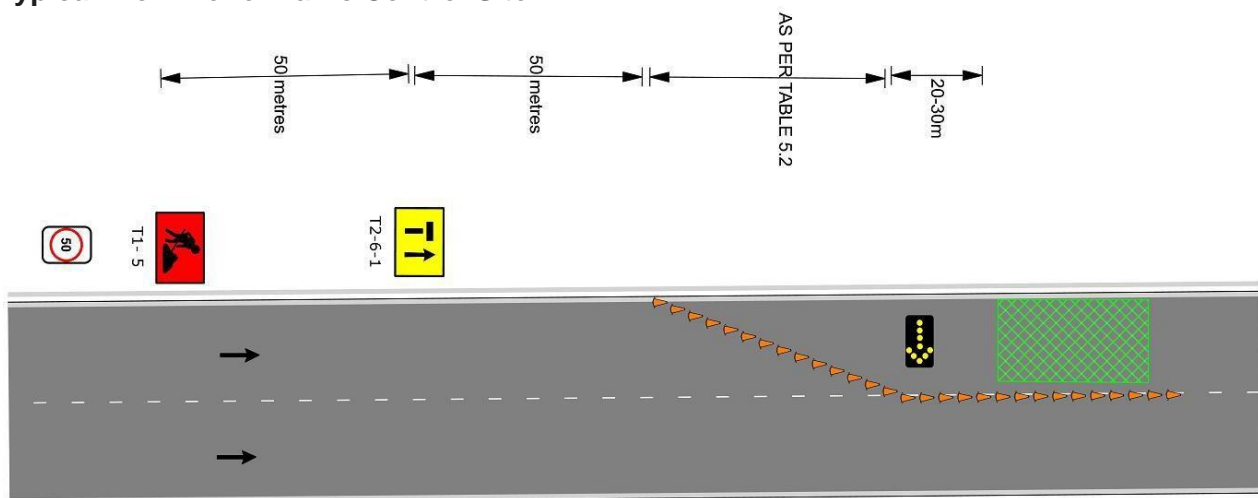
Do you recognise any of these signs and devices?



A traffic controller must:

- ensure personal safety from traffic
- ensure other crew members safety from traffic
- ensure (Symbolic) Traffic Controller and Prepare to Stop signs are displayed before starting
- guide traffic through or past the work area
- assist in the prevention of accidents
- help to increase job output
- minimise delays to traffic
- be polite and helpful to motorists, pedestrians and other road users
- not perform traffic control functions while adversely affected by a drug or other medication causing functional impairment
- not direct traffic through a worksite unless the worksite has an approach speed of 60km/h or less as required.
- only use equipment specified in the —AS1742.3 Manual of Uniform Traffic Control Devices, Part 3 Works on Road (Australia)”, to direct or divert traffic through a designated worksite
- ensure that the Traffic Controller Ahead/Prepare to Stop sign is removed/covered when work is suspended throughout a shift or completed for the day.

Typical Work Zone Traffic Control Site

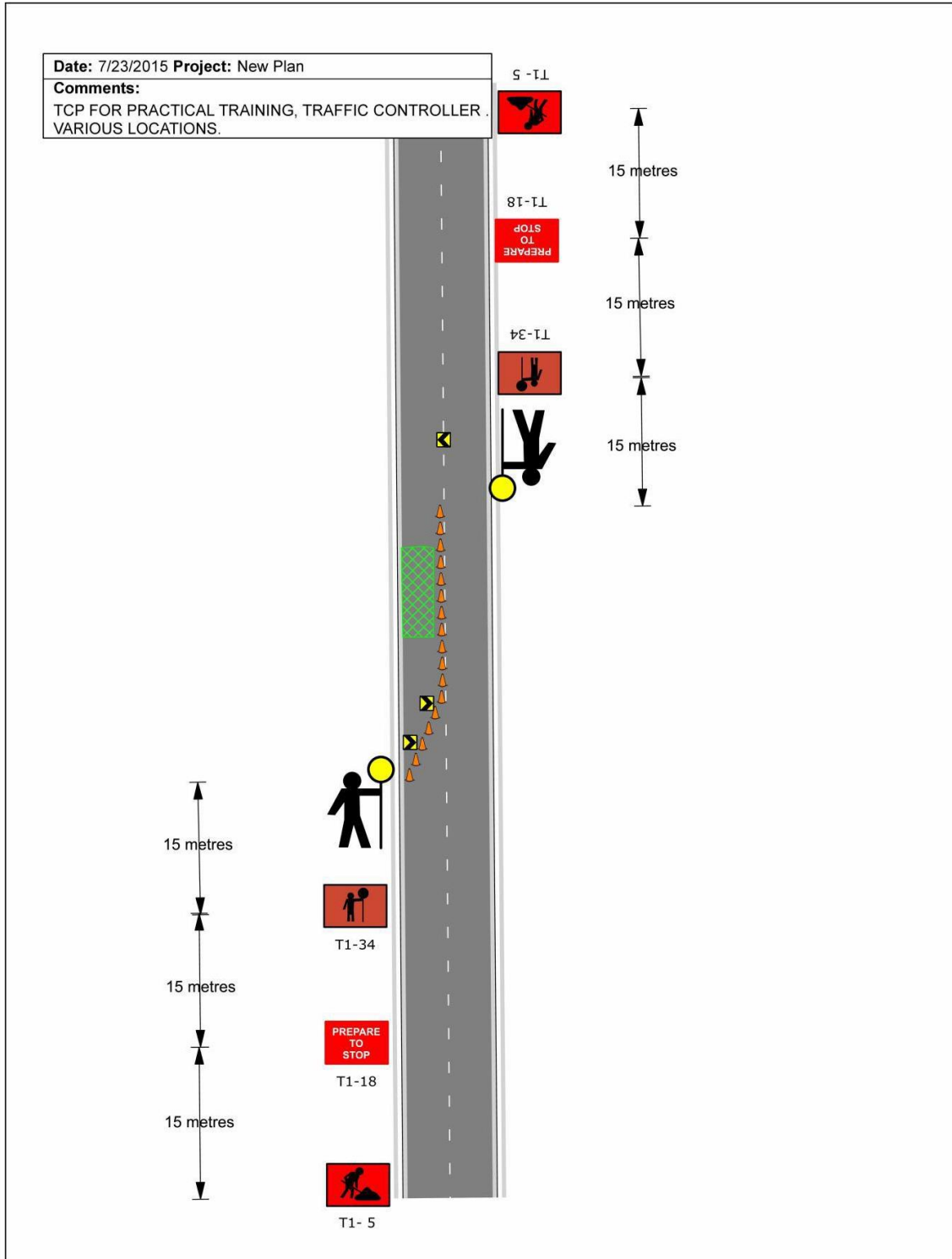


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- **Advance Warning Area:** The area before the work zone where signs and devices should be placed to warn road users that work is taking place and that there will be workers on or near the roadway.
 - **Taper Area:** If a section of the road has been closed for works, the taper area is where the road is delineated and where traffic is diverted.
 - **Safety buffer:** Safety buffers are only required (but may be presented in other situations) for work zones where the approach speed is greater than 60km/h – instances where traffic controllers are not to be used.
 - **Work area:** The area where the actual physical works are being carried out
 - **Termination area:** Where the work zone ends and road users are transitioned back to normal traffic conditions.

Traffic Controllers have the authority to:

- Legally stop/slow traffic
- Use a stop/slow bat and hand signals to control traffic
- Report motorists who fail to follow reasonable directions to your supervisor or the police
- Controllers know what to do and when to do it

Example of a Traffic Control Diagram






IDENTIFY, OBTAIN AND IMPLEMENT SIGNAGE AND DEVICES

As a traffic controller, you are not permitted to implement a Traffic Control Plan/Traffic Guidance Scheme by setting out signs and devices, unless you are qualified to do so. It will be useful however for you to develop a basic understanding of how signs and devices should be implemented and of the signs and devices that relate specifically to manual traffic control. Traffic control signs and devices are used to warn and inform road users, and guide them safely around, past or through *Work Areas*. Signs and devices must be:

- In place before work begins
- Clearly visible to road users and not obscured by vegetation, parked vehicles, plant or other signs and devices
- Displayed in the correct sequence
- Removed on completion of the work

Sample Signs

Sign/Device	Definition and Usage
	The PREPARE TO STOP sign shall be used to give advance warning where traffic may be required to stop in compliance with the directions of a traffic controller. The sign shall be used in conjunction with the Traffic Controller (symbolic) (T1-34) in this application.
	The TRAFFIC CONTROLLER (SYMBOLIC) sign shall be used to give advanced warning of the presence of a traffic controller. The PREPARE TO STOP sign shall be used in conjunction with this sign if traffic may be required to stop at the traffic controller position. The sign shall comprise a black symbol and border on a retro reflective fluorescent orange background.
	The STOP/SLOW BAT shall be used by a traffic controller to control traffic at any temporary obstruction or hazard. The bat should have a handle approximately 1.8m long to the underside of the sign. For night time operations, an illuminated wand may be used in conjunction with the bat

Existing signs and traffic control devices which are inappropriate for, or conflict with the temporary work site situation shall be covered, obliterated or removed.

The MUTCD – Part 3 provides technical specifications and guidance for the setting out of temporary traffic control signs and devices used at road works. It also provides standard diagrams for traffic guidance schemes across a range of work activities and worksites. Each state and territory has established a Manual or Code of Practice for traffic management based on and incorporating AS1742.3 – 2009

Portable Traffic Control Devices

Portable traffic control devices include:

- Portable traffic lights
- Mobile boom gates
- Barriers
- Variable Message signs

PTS is a portable traffic control device designed to support elimination of risk to traffic control personnel with hand- held stop/slow bats. For example: Type 1 PTS light weight and compact portable system that is manually controlled by a traffic controller via Hand remote controller (HRC) helps eliminate the risk of traffic controllers in live lanes.

Equipment Installation

All equipment must be in good working order and:

- Installed to accordance with the manufacturer's operation manual and guidelines
- Installed in a location where there is a sight distance on the approach to PTSU of at least 150m
- Be in a location where all lanterns are clearly visible and unobscured at all times
- Be securely erected and anchored
- Be located to ensure visibility
- Erected in height not less than 2.5m and not more than 4
- Target boards and visors fitted in place during day and night

Benefits of Portable Traffic Control Devices

- Traffic controllers can be positioned to operated device from a safe distance
- Traffic controller can position themselves out of harms way (Traffic lane)
- Can be used anywhere a stop/slow baton is normally used
- Allows the traffic controller to be in the shade
- Lower cost (only requires 1 rather than 2 Traffic Controllers)
- Easy installation and operation
- Operate by remote control

Considerations for position of the Traffic Controller

- Clear of the travel path
- Predetermined escape route
- Reasonable sight distance of approaching traffic
- Utilizing an elevated location
- Far enough away to ensure motorists focus on the PTCD
- Close enough to allow the T/C to commence STOP/SLOW bat duties in the event of a critical fault
- Clear visibility (front face or rear indicator) and traffic queue
- Weather conditions
- Radio signal range

Typical Pre-set times for Portable traffic Signal (PTS)

- Yellow time – Pre-select 4 seconds or 5 seconds
- All red minimum preset at 30 seconds.
- Green minimum 15 seconds.

Conditions to operate Type 1 PTSU in NSW

1. Under the direct control of an authorized traffic controller and competent in the operation of the specific proprietary product (must not be left unattended).
2. Where traffic speed at the work site <60km/h.
3. In a single lane operation where either shuttle flow or plant crossing is required

Critical faults that may occur

- All displays will go to red (if in Green sequence at time of fault, display will go yellow for 4 seconds then to red)

- Fault alarm will display on Hand-held remote unit and audible alarm will go off

Follow the procedures and processes in your workplace to report any issues with portable traffic control devices.

Removing signs

1. The signs and devices should be removed in the reverse of the positioning sequence as follows:
2. Other warning signs or regulatory signs including termination and end of temporary speed zone signs.
3. Delineation past the Work Area or into a sidetrack.
4. All delineating devices required to form a Taper, including flashing arrow signs and temporary hazard markers.
5. All intermediate advance warning and regulatory signs and devices required in advance of the taper or start of the work area.
6. Advance warning and regulatory signs

Safety requirement removing signs and devices

- Always wear high-visibility clothing
- Do not cross the road to pack up signs
- Don't walk out onto the roadway without the truck to act as a protective barrier
- Ensure you always have an Escape route in case of emergency
- Always travel in the direction on normal traffic flow
- Work from the nearside of the truck to avoid exposure to traffic on the road

TOOLS AND EQUIPMENT, SERVICEABILITY AND RECTIFY OR REPORT FAULTS

In addition to the traffic signs and devices, various tools and equipment will need to be obtained to carry out tasks that are consistent with the requirements of the job.

Tools and equipment can include:

- High visibility vests.
- Radios.
- Notebooks and pens.
- Traffic Cones.
- Stop-slow bats.
- Signage.
- Barricades and barriers.
- Bollards.
- Warning lights and beacons.

A notebook and pen should be carried by yourself and all traffic controllers to record details of situations and observations such as:

- Traffic flow problems.
- Offending motorists.
- Suggestions for alteration/removal of signs and devices.
- Incidents and accidents.

CONDITION OF DEVICES

Individual signs and devices should be examined before installation to ensure that they are in good condition and are effective. Signs and devices should not present any additional hazard to a road user by being present, and must not cause undue harm or damage to road users in the event that they are struck. Signs that do not meet the following standards should be cleaned, repaired or replaced:

- Mechanical condition: don't use items that are bent, broken or have surface damage. Cleanliness: free from dirt, road grime or contamination.
- Colour of fluorescent signs should not be faded or have lost their daylight impact.

MACHINERY SHUTDOWN PROCEDURE

Each piece of equipment or machinery must be shutdown according to written energy control procedures.

1. Shut the machine down
2. Identify all energy sources and other hazards
3. Identify all isolation points
4. Isolate all energy sources
5. De-energise all stored energies
6. Locking out all isolation points
7. Tagging
8. Testing isolation procedure (to ensure de-energized)

13. CONTROL TRAFFIC

POSITION OR CONFIRM TEMPORARY TRAFFIC SIGNS AND BARRIERS

As a Traffic Controller, you are not authorised to erect signs and devices on a work zone traffic control site unless you have completed the appropriate nationally-recognised training. It is useful however for you to understand how they should be positioned, especially since they are there to keep you safe. Signs and devices should be positioned and erected so that:

- They are properly displayed and securely mounted,
- They are within the line of sight of the intended road user,
- They cannot be obscured from view by vegetation or parked vehicles,
- They do not obscure other devices from the intended road user,
- They are not a hazard to workers, pedestrians or vehicles,
- They do not direct traffic into an undesirable path,
- They do not restrict sight distance for drivers entering from side roads or streets, or private driveways
- They are not installed using supports that could be a hazard if struck by a vehicle.

As a traffic controller, you will most likely use 2 types of signs ‘Stop/Slow’ and ‘Slow/Slow’ these are hand held signs and is your primary piece of equipment to manage and control traffic.

SEQUENCE OF ERECTION

Before work commences, signs and devices at approaches to the work site shall be erected in accordance with the adopted Traffic Control Guidance Scheme, in the following order:

1. advance warning and regulatory signs
2. all intermediate advance warning and regulatory signs and devices required in advance of the taper or start of the work area
3. all delineating devices required to form a taper including flashing arrow signs or temporary hazard markers where required
4. delineation past the work area or into a side track
5. all other warning signs or regulatory signs including termination and end of temporary speed zone signs.

Delineation devices such as cones and bollards shall be placed in the same sequence i.e. those furthest in advance of the work place first, when erecting signs and devices

- Always travel in the direction of normal traffic flow
- A work vehicle with flashing arrow or rotating or flashing lights shall be positioned between the workers and approaching traffic during the placement of traffic control devices
- Worker shall not cross roads or carriageways on foot when erecting or removing signs

Signs and devices should be positioned and erected so that:

- They are placed in the specified position on the Traffic Guidance Scheme;
- They are properly displayed and securely mounted;
- They are within line of sight of the intended road user;
- They cannot be obscured from view (e.g. by vegetation or parked cars);
- They do not obscure other devices from the line of sight of the intended road user;
- They do not become a possible hazard to workers, pedestrians or vehicles;
- They do not deflect traffic into an undesirable path;
- They do not restrict sight distance for drivers entering from side roads or streets, or private driveways; and
- They are not installed using supports that could be a hazard if struck by a vehicle

Common signs that you may come across



DIRECT TRAFFIC CORRECTLY GUIDELINES

FOR TRAFFIC CONTROLLERS

Traffic Controllers must consider what needs to be done to control traffic during:

- single lane operations
- stopping traffic for the duration of the job
- stopping traffic for a short time to allow machinery/trucks to move onto or acrossroads
- to warn and slow down traffic
- night controlling
- controlling traffic beyond the controller's line of vision

Traffic Controllers must follow established procedures, as it is the only way that everyone's safety on the site can be ensured in relation to traffic movement. It is through established procedures that Traffic Controllers know what to do and when to do it. You wear the approved high visibility external clothing at all times. Ensure that Prepare to stop and traffic controller symbolic signs are in place and located in accordance with the TCP.

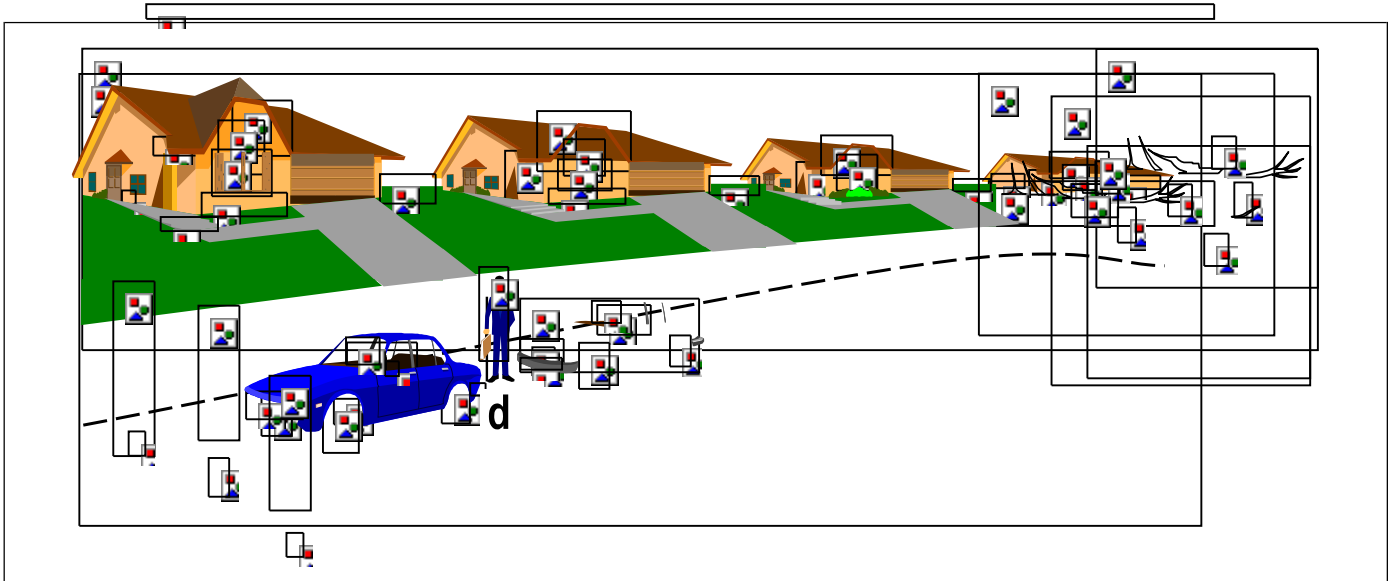
The Traffic Controller must consider the following factors when selecting a suitable location from which to control traffic. They include:

- distance it takes for a vehicle to stop
- being able to face the on-coming traffic outside the path of the vehicles
- ensuring an escape route is available
- oncoming traffic being able to see the traffic controller from at least 90 metres away, when approach speed is 60km/h, or 60 metres, when approach speed is 40km/h.
- the position of the work area
- obstruction of the motorists vision by morning or evening sun
- restricted motorist's vision due to shadows on sunny days
- obstruction of motorist's view of any signs or other safety devices used in traffic control
- In order to maintain clear visibility with more traffic as it arrives, the traffic controller may have to change their location after stopping traffic. If required to do so they must:
- keep clear of traffic from the opposite direction, if required to move onto the roadway
- remain alone at the head of the traffic queue
- retain your escape route
- move to the edge of the travel lane or off the road before changing from 'STOP' to 'SLOW'
- All radios shall be confirmed to be in working order before going to the work site. Radios shall not be used at blasting works.
- Once the first vehicle has stopped, change position if necessary, in order to be clearly visible to following traffic. The traffic controller shall stay at the head of the traffic queue and stand alone, never permitting people to group around.
- Stand clear of traffic when allowing it to proceed.
- Not leave their post until directed by the Works Supervisor or Team Leader, or relieved by another Traffic Controller.
- Be courteous at all times in dealing with the public. If requested, inform the driver of the reason for, and possible length of the delay, but be brief. If provoked by unreasonable behaviour, exercise restraint.

A few tips on communications for Traffic Controllers:

- Never get involved in arguments and avoid confrontations
- Never swear or use abusive language
- Try to anticipate situations before they occur
- Don't let your mind wander off the job
- Traffic controllers are a front line representative for organisations and should act professionally at all times when dealing with the public.
- Report irresponsible motorists immediately.

WHAT IS A SUITABLE LOCATION?



BRAKING DISTANCES

Traffic Controllers should always consider braking and stopping distances to allow motorists enough room to stop their vehicle. Total stopping distances is made up by **ADDING** reaction distance and braking distances. Reaction distance equates to the time taken when an object comes into view until braking commences. It includes the time taken to recognise the object plus the movement of the foot from the accelerator to the brake pedal.

Stopping distances will vary according to the situation. It increases significantly with a greater speed and stopping distances increase on downhill slopes, on wet roads and heavy vehicles. Traffic Controllers shall:

- Have a minimum visible distance of 90m between them and oncoming traffic, when approach speed is 60km/h, or 60m, when approach speed is 40km/h.
- Ensure that the last vehicle in a queue is more than 150m from a crest or blind corner on roads

SLOWING TRAFFIC

Traffic Controllers are required to slow down traffic when the motorists need to be warned:

- about dangerous situations ahead
- that they are about to travel through or past a work area
- when travelling through a work area too fast
- about approaching the end of a queue that has built up around a bend or over the crest of a hill
- The Traffic Controller may also be required to stop traffic using the Stop/Slow bat. If this is required the correct procedure must be followed for stopping the trafficflow.

STOPPING TRAFFIC

The Traffic Controller must ensure that:

- wait for a suitable gap in the approaching traffic flow
- unless it is absolutely necessary, they must not attempt to stop large commercial or emergency vehicles (semi-trailers, buses, trucks, fire trucks or ambulances)
- select the vehicle that will be the last to proceed
- select the vehicle that will be the first to stop
- they wait for the last vehicle to pass then turn the bat to **'STOP'** and using a positive hand signal, clearly indicate to the vehicle chosen that this vehicle is to stop
- the lead car can clearly see it is expected to stop and does not have to break suddenly before reaching the controller
- once the leading vehicle has stopped, that they adjust their position (if necessary) so that approaching vehicles can also see the controller's bat

- they remain in front of the queue to prevent the lead vehicle from moving off prematurely
- if required to move onto the roadway, that the controller must be continually aware of (and keep clear of) traffic approaching from the opposite direction

STARTING TRAFFIC PROCEDURE

The Traffic Controller must ensure that they:

- check that the other controller's bat is showing 'STOP' to their traffic
- check that the last vehicle coming through from the opposite direction has passed them
- check there is no machinery in the vehicle travel path or waiting to make a turn
- recheck that the other traffic controller's bat still shows 'STOP'
- move off the road to a safe position
- turn bat to slow and signal by hand for the traffic to proceed
- signal Slow hand signals to motorists (as required)

INTERMEDIATE TRAFFIC CONTROLLERS

The immediate work supervisor (leading hand) must make the decision if an intermediate traffic controller is required on the job. (In most cases this may also be known as a third traffic controller) for obstructed vision. An intermediate traffic controller is required if:

- the primary Traffic Controllers cannot see each other for long periods
- two-way radio signal is distorted or broken
- two-way radios are not available
- the job runs over the crest of a hill or around a curve in the road

The intermediate traffic controller is positioned so that they are able to see the controllers at each end of the work area. The intermediate traffic controller is positioned there simply to relay the messages from one controller to the other. The two end controllers still retain control over the flow of traffic when length of queue obstructs motorist's vision or traffic is approaching too fast. An end-of-queue traffic controller is required if:

- queue approaches blind corners
- queue approaches crest of a hill or curves around a bend
- the length of queue causes sight distance problems for approaching vehicles
- there are delays in the job
- when accidents have occurred
- during peak traffic times
- traffic is approaching the end of queue too fast

The intermediate controller operates from the end of the queue showing 'STOP' to approaching vehicles when the queue is not moving. When the queue begins to move, the third controller changes their stop/slow bat to 'SLOW'.

The intermediate controller in some of these situations will signal a 'SLOW' hand sign to approaching vehicles. The two end controllers still retain control over the flow of traffic when there is a side street between the two Traffic Controllers

The intermediate controller is used in this situation simply to control the traffic movement in/out of the street. It is essential that in this situation all the controllers be in two-way communication so that traffic movement can be safely coordinated.

Important: It is necessary to place additional Traffic Controller (symbolic) and Prepare to Stop signs in advance of the 'Third Controller', if he/she is to stop traffic.

CONTROL VEHICLES AND PEDESTRIAN TRAFFIC AND ENSURE SAFETY

AND CONVENIENCE OF ROAD USERS

In addition to providing adequate traffic control and guidance at a static work site the safety of road users will be enhanced by ensuring that the work site is managed in such a way as to cause the minimum amount of inconvenience to traffic movement. Works should be arranged to minimise:

- disruption of established traffic movements and patterns;
- interference with traffic at peak movement periods;
- interference with public transport services; and
- the amount of road closed to traffic at any one time.

PROVISION FOR PEDESTRIANS AND BICYCLES

Where pedestrians, including people with disabilities or visual impairment, have to move through, past or around a work site or to cross the road within a work site, they shall be provided with and directed to suitably constructed and protected temporary footpaths and crossing points, or formal pedestrian crossings, or refuges if warranted.

Pedestrian and bicycle paths should be provided on the same scale and to the same width as any facilities for pedestrian or bicycle traffic that were existing prior to the works.

MONITOR, ADJUST FOR CHANGING CONDITIONS, POSITION VEHICLES FOR SMOOTH TRAFFIC FLOW

Traffic Controller must monitor the work area, traffic flow & the weather conditions constantly throughout their duty period and make changes to the traffic flow when needed. If Traffic Controllers believe that anything may increase the risk of an incident occurring they should alert their supervisor of the situation so that corrective action can be taken before an accident occurs.

- Traffic is approaching too fast
- Angle of the sun obstructs motorist's vision
- Peak hour traffic affects queue length
- When signs are poorly positioned, blown over, vandalised or too dirty or old
- Emergency vehicles are approaching under lights and siren

Weather Conditions:

- Sun:
 - The changing angle of the sun can shade the traffic control station
 - Can make signs difficult to read
 - May dazzle or blind drivers
- Haze/dust:
 - Can make signs difficult to read
 - May reduce the safe braking distance for traffic
 - Drivers concentrating on the car ahead may not see the traffic control's signals.
- Signs:
 - May be unreadable due to the changing angle of the sun/shade
 - Blown over by wind or passing traffic
 - Run over by work vehicles or traffic
 - Vandalised, damaged or stolen
 - Dirty
- Traffic Volumes
 - Peak periods affect the length of queues
 - Proximity of other controlling devices such as traffic lights or level crossings will affect the flow of traffic through the work area.

TRAFFIC CONTROLLING AT NIGHT

Traffic Controllers may be required to control traffic at night when:

- traffic flow on the road during the day is too great
- an accident occurs late in the shift and the emergency services require assistance

Traffic Controllers must ensure that:

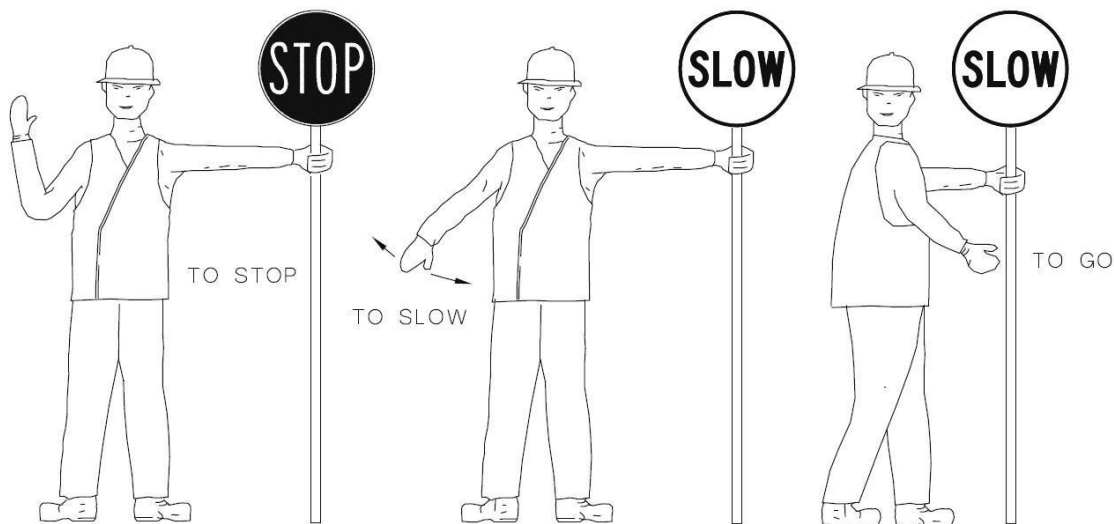
- appropriate night signs (with reflectors) are erected
- wands are used to signal motorists (if available)
- use a reflective stop/slow bat
- wear personal protective equipment

If you are required to work at night, what would you use to illuminate your control position?

- street lights
- portable lighting

STOP-SLOW BAT, HAND SIGNALS USE AND UNOBSTRUCTED VIEW

In order to communicate effectively with road users, giving clear and consistent signals are one of the most important functions of traffic control. The STOP/SLOW bat shall be used by a traffic controller to control traffic at any temporary obstruction or hazard. Retro reflective material used on the STOP/SLOW bat shall be Class 1W material. The bat shall have a handle a minimum of 1.8 m long to the underside of the sign. For night-time operations, an illuminated wand should be used in conjunction with the bat.



- **Stop traffic** – turn the **STOP/SLOW** bat to **STOP** and raise the free arm into the stop signal position with the palm of the hand towards the traffic
- **Allow traffic to proceed** – check that all traffic from the other end of the work site has passed, then turn the **STOP/SLOW** bat to **SLOW** and with the other hand give the **GO** signal
- **Slow traffic** – show the **SLOW** side of the **STOP/SLOW** bat, extend the free arm and wave arm up and down.

REPORT TRAFFIC OFFENDERS

INCIDENTS AT WORKSITES OR ROAD WORKS

A traffic controller shall report incidents occurring at or within a worksite or road works to which they are stationed immediately to their supervisor. Written reports shall be completed and submitted to their site supervisor at the conclusion of their shift or at the resumption of duty on the following day.

An incident is an occurrence that in the opinion of the traffic controller affects the safety and/or effectiveness of any persons at a worksite or at road works and may include:

- Road users disobeying a direction or signal given by a traffic controller when approaching a designated worksite.
- Drivers who fail to stop at a hand held stop sign.
- Accidents occurring within the designated worksite or road works.
- Dangerous practices of other road users within a worksite or at road works.
- Suggested improvements to operational procedures during adverse weather conditions.
- Difficulties experienced with stopping certain vehicle types.

A traffic controller may report to their supervisor, incidences of road users disobeying a direction or signal given by a traffic controller when approaching a designated worksite. Incident reports may contain the following information:

- time, date and location of incident;
- type of incident (for example, a motorist fails to stop; accident; abusive/insulting/threatening language; assault; breach of these Approved Procedures by another person);
- incident identification, including:
 - vehicle type and colour
 - registration number including registered state or territory
 - direction of travel
 - description of driver/other road user and occupants
- full and accurate description of the incident
- witness details.

In an emergency situation, Traffic Controllers must:

- never leave their post (unless their own safety is threatened or a competent person takes over the job of traffic controlling)
- never risk their personal safety when trying to get a vehicle to stop
- secure traffic behind the incident to prevent additional collisions
- always warn co-workers, other Traffic Controllers and supervisor (if time permits) of the situation

14. ADDITIONAL INFORMATION

LOG BOOKS

Traffic Controllers and those associated with traffic management should use logbooks as a way of tracking duties and may assist with achieving further qualifications, logbooks provide:

- Evidence that you are following a safe system of work and has received the appropriate level of training for the work task.
- Checklist for workers on a new site Risk Assessment for SWMS
- Record of worker hours on duty
- Portability of experience for the worker when travelling interstate

The completed logbook can be used as evidence of industry experience when attending training for other Traffic Control qualifications

FATIGUE MANAGEMENT

It is important that you manage fatigue effectively

You may be out in the elements for long periods, in differing conditions

You will be required to be on your feet standing for long periods

- Carry water and food
- Wear comfortable footwear and appropriate clothing
- Always take breaks and adhere to task rotation

ROTATION OF DUTIES

An industry practice is to rotate assignments during the day, as:

- This assists with fatigue management
- Dealing with the elements
- It assists in ensuring that staff take essential breaks

PCBUs need to ensure that the physical welfare and safety of staff is managed. Always check your SWMS and policy and procedures

MANUAL HANDLING

At all times ensure that you follow appropriate manual handling practices and procedures when handling equipment and signage. Refer to your workplace WHS procedures and guidelines

Consider warming up and stretching prior to conducting any activity on the worksite.

Manual handling includes:

- Lifting
- Lowering
- Pushing
- Pulling
- Carrying or moving

Manual handling for lifting



Manual handling injuries

Manual handling injuries are often the causes of musculoskeletal disorders resulting from strained muscles, ligaments and tendons.



SUMMARY

Working near traffic has been identified as high-risk construction work. In order to ensure the safety of yourself, workers, pedestrians and the motorists it is important that you:

- Be properly dressed
- Understand your authority
- Recognise the importance of correct procedures
- Be properly located
- Communicate effectively
- Assess changes in traffic patterns
- Know what to do in an emergency

It is only when all these requirements are followed that risks associated with the hazard of traffic controlling can be effectively controlled/managed:

- How to communicate information about traffic flow to traffic controllers
- The correct order that signs and devices should be installed
- The standards for the correct positioning of signs and devices
- How to ensure that traffic is controlled to protect the work crew
- How to determine work schedules, maximum traffic delays, signals and methods of communication on site, and how to make sure that these are followed on site
- How to, if necessary, select traffic guidance schemes to suit particular site conditions
- How to ensure that workers are protected as they remove signs and devices
- The correct order and procedures for removing signs and devices
- How to correctly report site information at the end of a shift/end of the works
- How and when to report incidents and near-misses at the site
- Some strategies for making sure the site is cleared at the end of a shift or at the end of a works project
- The activities that you should conduct at the end of each shift to ensure that your tools and equipment are maintained

Hazard/incident report form

Use this form in your workplace to report health and safety hazards and incidents. To notify SafeWork NSW of an incident, call 13 10 50.

Hazard/Incident

Brief description of hazard/incident: (Describe the task, equipment, tools and people involved. Use sketches, if necessary. Include any action taken to ensure the safety of those who may be affected.)

Where is the hazard located in the workplace?

When was the hazard identified? Date: ____/____/____ Time: _____am/pm

Recommended action to fix hazard/incident: (List any suggestions you may have for reducing or eliminating the problem – for example re-design mechanical devices, update procedures, improve training, maintenance work)

Date submitted to manager: Date: ____/____/____ Time: _____am/pm

Action taken

Has the hazard/incident been acknowledged by management? Yes/ No

Describe what has been done to resolve the hazard/incident:

Do you consider the hazard/incident fixed? Yes/ No

Name: _____ Position: _____

Signature: _____

Date: ____/____/____









SAFE WORK METHOD STATEMENT

Task / Activity		Project	
Location/Address		Date	
Permits			
Legislation, Codes,			
Plant & Equipment	•	Competency / Licence	•

HAZARDOUS SUBSTANCES PRESENT ON SITE

Product	SD	Product	SDS

PERSONAL PROTECTIVE EQUIPMENT – REQUIRED

Uniform	Footwear	High	Helm	Eyewear	Fall	Gloves	Hearing	Dust	Respirator	Other PPE
										Reflective Stripes White Overalls (Night Work)

RISK MATRIX (Likelihood x Consequence = Risk)

CONSEQUENCE				LIKELIHOOD		Likelihood	Consequence				
Catastrophic 5	Fatality or permanent disability or illness	Almost Certain	The event is expected to occur in most circumstances	Likely 4	The event will probably occur in most circumstances		1	2	3	4	5
Major 4	Long term illness or multiple serious	Moderate 3	The event might occur at some	Unlikely 2	The event could occur at some	5	Medium 5	High	Very High	Extreme	Extreme 25
Moderate 3	Possible hospitalisation and numerous days lost.	Unlikely 2	The event might occur at some	Rare 1	The event may occur only in exceptional circumstances	4	Medium 4	High 8	Very High	Very High	Extreme 20
Minor 2	Medical treatment and some days lost.	Rare 1	The event might occur at some			3	Low 3	Medium 6	High 9	Very High	Very High
Insignificant 1	First Aid needed but no days lost.		The event might occur at some			2	Low 2	Medium 4	Medium 6	High 8	High
			The event might occur at some			1	Low 1	Low 2	Low 3	Medium 4	Medium 5

ACTION REQUIREMENT FOR RESIDUAL RISK

Low	Work continues (no further controls on risk are required)
Medium	Requires periodic monitoring by site supervisors.
High	Requires supervision by an appropriately qualified or competent person
Very High	Stop work immediately and reconfirm hazard controls with supervisor
Extreme	Stop work immediately. Contact management



Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
1.		•		•		
		•		•		
		•		•		
		•		•		

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				•		
2.	•	•		•		
		•		•		
		•		•		
3.		•		•		
		•		•		

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				•		
		•		•		
4.		•		•		
		•		•		
5.		•		•		
6.		•		•		
		•		•		
7.				•		

Step No.	Job Sequence	Potential Hazards	Risk Score	Control Measure	Res Risk Score	Responsibility
				•		
8.		•		•		
		•		•		

I confirm that I have been involved in and/or been able to add value to this SWMS. I have read, understand and will comply with it and I am aware that all persons engaged in this work are to provide and maintain a safe work environment. I will not undertake to perform any work for which I do not have the appropriate qualification and competency or for which I am equipped to undertake and will seek instruction from my Supervisor should I be required to perform work which I believe may cause injury to myself, other workers or the general public. I have been provided me with the awareness training in the hazards & control associated with the chemicals listed in the hazardous substance register attached.

Print Name	Signature	Date