



**AUSTRALIA
PACIFIC
AIRPORTS
CORPORATION**

Works Safety Officer Reference Manual

Manual

AFO-AT-MAN-07-0001

Version 4

Effective 21 October 2025

Document Number	AFO-AT-MAN-07-0001		
Version Number	Version 4		
Originator	Airfield Operations Lead, APAM	Date	21 October 2025
Approver	Airfield Operations Manager , APAM	Date	21 October 2025

Foreword

This Manual has been prepared by Melbourne Airport to meet the applicable requirements of the Melbourne Airport Manual, the APAC Safety Management Standard and also the Part 139 (Aerodromes) Manual of Standards 2019, made under division 139.C.4 of the Civil Aviation Safety Regulations (CASR) 1998.

Any external references made to regulations, standards and documents should be read in conjunction with this document. As these external references are in force from time to time and may be subject to change, the latest issues/amendments should be checked prior to using this document.

APAM will review this document regularly to ensure as far as possible that the information contained within is current, accurate and suitable for the intended purpose. Should any changes be found necessary, or where compliance with this Manual becomes impractical or impossible, the Head of Airfield is to be advised immediately.

Head of Airfield
Aviation
Australian Pacific Airports Melbourne

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Definitions

Please refer to the Aeronautical Information Package and the CASA Website for commonly used Aviation terms and abbreviations.

For additional definitions specific to this manual please see below.

Term	Definition
Airport	A defined area of land (including any buildings, installations and equipment), intended to be used either wholly or in part for the arrival, departure and movement of aircraft.
Airport Operator	The airport operator company - Melbourne Airport.
Airside	The movement area of an airport, adjacent terrain and buildings or portions thereof, access to which is controlled. In short, everywhere on the inside of the security fence line.
Airside Road / Freight Service Road	Airside Road runs along the front of the terminal and underneath and adjacent to the terminal concourses, Freight Service Road is the roadway in front of the cargo buildings on the southern apron and it continues around to the Dnata Freight Facility.
Air Traffic Control (ATC)	A service provided by Airservices Australia to control air traffic including the Manoeuvring Area of the airport.
Apron	Portion of the Airport to be used for the purpose of enabling passengers to board or disembark from aircraft, loading or unloading cargo from an aircraft, refuelling, parking or aircraft maintenance.
ASO	Airside Safety Officer
Authorised Training Officer	A training officer of an Approved Issuing Authority or an officer of the Airport Operator, approved by the Airport Operator to train and test applicants for an Authority to Drive Airside.
Airside Driver Authority (ADA)	An authority issued by the Airport Operator or Approved Issuing Authority to a driver for the purpose of driving in certain areas on the Airside. Also known as an Airside Driver Authority.
Authority to Use Airside (AUA)	An authority to be affixed to a vehicle approved to access the Airside, issued by the Airport Operator. Otherwise known as a vehicle permit.
Aviation Security Identification Card (ASIC)	A card issued to an individual under authority of the Department of Infrastructure, Transport, Regional Development and Communications that allows access of persons on duty to the Security Restricted Area of the Airport.
CASA	Civil Aviation Safety Authority
Concourse	The concourse are the parts of the terminal building that extend from the main terminal onto the apron areas. A concourse is sometimes called a pier or a finger.
GSE	Ground Servicing Equipment
Escort	The supervision of a vehicle and its occupant's airside by a person whereby that person takes responsibility for and provides guidance to the driver.
Escort Officer	A person authorised by the Airport Operator to perform the act of escorting another vehicle on the Airside of the Airport.
FIDS	Flight Information Display System

Term	Definition
Landside	Portion of an Airport not designated as Airside to which the general public normally has unrestricted access.
Melbourne Ground	A service provided by Airservices Australia to control surface movement on frequency 121.7 MHz.
Manoeuvring Area	That part of an Airport to be used for the taxiing, take-off and landing of aircraft (i.e. Taxiways and Runways).
Movement Area	That part of an Airport to be used for the surface movement of aircraft, including Manoeuvring Areas and Aprons.
Obstacle Limitation Surface	A series of surfaces that set the height limits of objects or around an aerodrome. They are imaginary surfaces associated with a runway and they form part of the prescribed airspace around an airport.
Operational Radio	Radio used for communicating with Air Traffic Control on Melbourne Ground frequency 121.7 MHz.
Non-operational Radio	Radio used for communicating with internal staff at Melbourne Airport.
Perimeter Road	The road that extends from Dnata Catering to Gate 12 which facilitates the travel of approved vehicles to various controlled areas, provided they have clearance and authority.
Radio Procedures	The standard procedures adopted for communication between Air Traffic Control, aircraft and vehicles.
Runway	A defined area for the take-off and landing of aircraft.
Runway Strip	An area surrounding the runway designed to reduce the risk of damage to aircraft that overshoot, overfly or run off the runway.
Security Restricted Area (SRA)	Any part of the airport to which access is restricted to persons holding an authorised identification card valid for that part of the airport.
Senior Airside Safety Officer (Car 2)	The appointed officer who is responsible for the safety of airfield operations day to day. Car 2 is also the appointed Senior Works Safety Officer.
Standard Blanket Clearance	An agreement with Air Traffic Control, which permits Melbourne Airport vehicles and the Aviation Rescue Fire Fighters the ability to move on and off the taxiway system under their own listening and visual watch.
Taxiway	A defined path for the safe surface movement of aircraft from runways to aprons.
Taxilane	Portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
WSO	Works Safety Officer
WSORM	Works Safety Officer Reference Manual

Important Contacts

Title	Contact phone number
Airfield Standards Manager	airfieldsupport@melair.com.au
Airside Safety	airsidesafety@melair.com.au
Roster Queries (i.e., unavailability/sick)	WSO Supervisor: 0459 899 893 After hours: 0402 397 189 (ISS Duty Security Manager)
ISS Enquiries (i.e., work supplies/uniform)	wso.melbourne@au.issworld.com
Airfield Emergency (i.e., medical emergency/serious airfield incident)	Integrated Operations Centre: 9297 1601 Senior Airside Safety Officer (Car 2) – 0418 335 985
Environment (APAM Environment team)	environment@melair.com.au
Excavation Permits	airsidepermits@melair.com.au

Change Summary

Version	Date	Change Description
2	30 September 2020	Complete re-structure of manual. Recommend familiarisation to understand new content.
3	06 November 2023	- Editorial amendments - Updated maps - Alignment to Airfield Operational Policies
4	21 October 2025	- Aligned escorting - Alignment with expectations - More specific briefing requirements - Minor administrative changes

1. Introduction

The purpose of this Works Safety Officer Reference Manual (WSORM) is to provide all Works Safety Officers (WSOs) with the required reference material to conduct their duties. The WSORM is based on the Melbourne Airport policies and procedures which are located on the Melbourne Airport website.

This manual is a valuable resource and is designed to provide you with baseline technical knowledge that you can use on a regular basis. The manual is made available through the Melbourne Airport website, and it is the responsibility of ISS to ensure that all WSOs have access to this document.

2. Scope

The **Manual** titled **Works Safety Officer Reference Manual AFO-AT-MAN-07-0001** applies to all WSOs that are employed on behalf of Melbourne Airport.

3. Units of Measurement

The following Units of Measurement are those used in connection with the aviation industry.

Term	Unit of Measurement
Accelerate Stop Distance Available	Metres
Aerodrome Reference Temperature	Degrees Celsius
Airport Elevation	Feet above Sea Level
Altimeter Setting	Hectopascals
Altitude	Feet
Cloud Height	Feet
Depth of Snow and Slush	Centimetres
Distances used in Navigation	Nautical Miles & Fractions (spoken as "miles")
Elevations	Feet
Flight Levels	Hundreds of Feet (e.g. FL 100 is 10,000FT)
Fuel	Litres
Horizontal Speed	Knots (NM/Hour)
Landing Distance Available	Metres
Light Intensity	Candelas
Maximum Take-off Weight (MTOW) of an Aircraft	Kilograms
Pressure	Megapascal
Rainfall	Millimetre
Runway Declared Distances etc.	Metres
Runway Visual Range	Metres

Term	Unit of Measurement
Supplementary Take-off Distance Available	Metres
Take-off Distance Available	Metres
Take-off Run Available	Metres
Temperature	Degrees Celsius
Time	24 Hour Clock UTC
Vertical Speed	Feet per minute
Visibility (along the runway)	Metres
Weight	Metric Tonnes or Kilograms
Wind Direction for Landing and Take-off	Degrees Magnetic
Wind Speed	Knots

3.1. Useful Conversions

The following table illustrates some useful conversions:

		Conversion To	Conversion From
Reference Unit	After Conversion	(multiply by)	(divide by)
Length and Distance (rounded)			
1 Foot	0.305 Metre	0.30448	3.280839
1 Metre	3.28 Feet	3.280839	0.3048
1 Kilometre	0.54 Nautical Mile	0.539956	1.852003
1 Nautical Mile	1.85 Kilometres	1.852003	0.539956
Weight and Mass			
1 Pound	0.45 Kilograms	0.45372	2.204
1 Kilogram	2.204 Pounds	2.204	0.45372
Velocity and Speed			
1 Knot	1.85 KM/H	1.852003	0.539956
1 KM/H	0.54 Knot	0.539956	1.852003
1 Metre/Sec	3.6 KM/H	3.6	0.27777
Pressure			
1 Hectopascal	0.0145 PSI	0.0145	68.9655
1 PSI	68.95 Hectopascal	68.9655	0.0145

3.1.1. How to Use this Table

1. Find the known quantity in the 'Reference Unit' column
2. Check that the value you wish to convert to is on the same line in the 'After Conversion' column. If not, check the row below or above
3. On the correct line, locate the conversion value in the 'Conversion To' column
4. Multiply the known quantity by this value
5. To work backward again, divide by the value in the 'Conversion From' column to return to your original value

Example 1 - A Melbourne Airport NOTAM states that the crane is operating at a distance of 0.78 Nautical Miles (NM) from the Aerodrome Reference Point.

How many kilometres is this?

Working

Known value = 0.78 NM

The correct line to use is:

1 NM =	1.85 KM	1.852003	0.539956
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Multiply 0.78 NM by 1.852003

0.78 x 1.852003 = 1.4446 Kilometre

Answer

The crane is **1.44** km (rounded to 2 decimal places) from the Aerodrome Reference Point

Example 2 - The Bureau of Meteorology has reported that the forecast winds are South Westerly and blowing at 70 KM/HR

In knots what is the forecast wind strength in knots?

Working

Known value = 70 KM/HR

The correct line to use is:

1 KM/H =	0.54 KT	0.539956	1.852003
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Multiply 70 KM/HR by 0.539956

70 x 0.539956 = 37.7969 Knots

Answer

The wind is blowing at **38 Knots** from the South West

4. The Role of the Works Safety Officer

There are a range of tasks of varying complexity, which a WSO must perform daily. In order to perform these tasks successfully the WSO must have:

- The right skills
- The right knowledge
- Relevant experience
- The correct attitude

The purpose of your WSORM is to provide you with the knowledge that you need in order to do your job well and continue to show leadership as a Safety Professional.

All Melbourne Airport staff have a duty of care to those who visit the airport however it is ultimately the Airside Safety Officers (ASO) and WSOs responsibility for the safety of everyone on airside.

4.1. The Senior Works Safety Officer

The Senior Works Safety Officer (SWSO) for airfield works is the Senior Airside Safety Officer (SASO) or Car 2. The SWSO is responsible for oversight of all works airside and has the authority to issue a stop works should breaches to airfield operational policy occur.

4.2. Responsibilities of a Works Safety Officer

The WSO is responsible for the effective implementation of works safety policies and procedures to ensure all airfield works are conducted safely and that the works do not compromise overall airfield safety or environmental controls. This role is primarily associated with project works and involves ensuring safe passage to and from the airfield access gate to the works site and the protection of the operational area.

Specific responsibilities include:

- Facilitate contractor access to the airfield in accordance with appropriate safety and security procedures.
- Ensure vehicles and plant are correctly marked and lit.
- Ensure correct access routes are used and airside escort procedures are adhered to.
- Ensure airside driver rules are adhered to.
- Monitor the issue of Visitors Identification Card (VIC) to ensure a maximum ratio of 1 Aviation Security Identification Card (ASIC) per 5 VIC.
- Monitor works at the work site ensuring Method of Working Plans (MOWP) and Airside Operations Advice requirements and/or Standard Safety and Security Procedures are adhered to, including that the work site is appropriately marked.
- Report any incident, accident or damage to facilities to the WSO Team Leader and the ASO.
- Monitor/inspect the environmental controls in place during the works and report any environmental issues or incidents to the WSO Team Leader and the ASO.
- At the completion of works, assist in ensuring normal safety standards have been restored.
- Other duties as required.

4.3. CASA Standards

The CASA Manual of Standards (MOS) Part 139, Section 13.04 defines the responsibilities of a WSO. A copy of the Part 139 MOS can be found on the [CASA website](#).



4.4. The Safety Professional

We use the term 'Safety Professional' as a way of describing the ideal type of person for airport safety work. There are a number of qualities a person needs to have to be considered a Safety Professional, and these include:

- Caring about what they do.
- Being a team player.
- Being flexible in their approach.
- Having a strong customer service orientation.
- Being able to plan ahead.
- Being able to communicate the safety message.
- Being able to follow rules and procedures.
- Practicing safe behaviour.
- Recognising and reporting hazardous situations.

4.4.1. Caring About What They Do

A person with the right attitude cares about their work. It also means that they are always thinking about ways of improving work processes and will seek to improve the ways of doing things.

4.4.2. Being a Team Player

The true Safety Professional is a team player and being a team player means:

- They cooperate with others.
- They work together to achieve a common goal.
- They pull together rather than pull in opposite directions.
- They participate willingly in all aspects of the job function.
- They do their fair share of work and not leave tasks to others.
- They share information with others.
- Keep others informed and up-to-date with what is happening.
- **They do not blame or make accusations**

4.4.3. Having a Strong Customer Service Orientation

A person with the right customer service orientation is willing to put the customer first wherever possible. One way you can do this is by putting yourself in the position of the contractor under escort. This technique will help you appreciate the position that the contractor is in, needing to achieve on time performance.



Good customer service is:

- Looking after the situation efficiently and courteously.
- Taking personal responsibility for the situation.
- Seeing it through to the end and communicating the outcome where appropriate.

4.4.4. Being Able to Plan Ahead

A Safety Professional is having the ability to plan ahead.

Planning ahead means:

- Making time to do all the things that you have been asked to do.
- Preparing for the activities.
- Knowing what has to be done for the rest of the day.

4.4.5. Being Able to Communicate the Safety Message

The Safety Professional must be an active communicator of the safety message to others on the airside.

This means taking the time to explain things to people. Taking the time to explain to someone what they are doing wrong is a much more positive way of getting the safety message across, than just telling them that they are doing something wrong. Explaining the possible consequences of their actions gives people a positive safety message.

4.4.6. Being Able to Follow Rules and Procedures

Part of your role as a Safety Professional is to lead by example. This means rigorously following the rules that are set for others.

Important: *Be mindful that you work in a very public space and people are watching what you do. Airline employees view the Melbourne Airport vehicles as providing safety leadership on the airside and if they see you cut corner, this sends a message that everyone can do the same.*

4.4.7. Practicing Safe Behaviour

Even the most skilled and experienced staff need to keep practicing safe behaviour. By practicing, you will not only get better at what you do, you will eventually form habits that become second nature.

Sometimes you may get so caught up in doing jobs in a certain way that you may not recognise the shortcuts you take. It takes a lot of practice to be able to stop and critically think about what you are doing.

By actively practicing safety, you show leadership in the area of airside safety.

4.4.8. Recognising and Reporting Hazardous Situations

It is important to understand the need to report accidents and incidents, but what is not so obvious is the need to report near misses and other hazards (see [Airfield Reporting](#)).

As a WSO, you are in a unique position to be able to see and report accidents, incidents and near misses. Even if it is only a single line on an incident report, these matters can be far too important to leave to someone else.

Without a rigorous reporting system, senior management at Melbourne Airport will be left with the impression that there is nothing concerning on the apron and everybody behaves in a safe manner. The airfield team needs to make sure that our senior managers have an accurate and consistent picture of what is happening on the airside.

As 'Safety Professionals' it's your role to report all accidents, incidents and near misses.

4.5. Understanding Human Factors

Human Factors, simply put, involves all aspects of human performance and fallibility. It relates to human interactions with their environment.

To understand human factors is to recognise both human strengths and weaknesses. From this knowledge you can develop ways of maximising your performance whilst minimising the impact of your mistakes. Human factors related to your job role as WSOs can be divided into two main areas – fatigue and situational awareness.

4.5.1. Fatigue

Fatigue is defined as ‘a condition characterised by a lessened capacity for work and reduced efficiency of accomplishment. Fatigue is usually accompanied by a feeling of weariness and tiredness.’

As a WSO, fatigue is an important factor to monitor, both in yourself and within your team. Should you or someone in your team be experiencing fatigue, this could affect the safety of your shift group and the airport as a whole.

Important: *If you are feeling fatigued in any way, you must tell either your Team Leader or your employer straight away. Be sure you rest sufficiently before your shift and confirm you're fit for duty.*

4.5.1.1. Causes of Fatigue

The following are some causes of fatigue that may or may not apply to your body and/or lifestyle:

- Sleep disturbances – not enough sleep, too much sleep, shift work (changing shifts, night shifts) etc.
- Diseases – heart and lung disease, cancer.
- Nutritional disorders – malnutrition, obesity, vitamin deficiency.
- Exercise disturbances – lack of exercise, too much exercise, excessive workload.
- Psychological – depression, anxiety, grief, stress.
- Drugs and Alcohol – alcohol is a neurological depressant which can cause drowsiness. Many pain relief medications (such as codeine) are opiate derived and may also cause drowsiness.

4.5.1.2. Acute Fatigue and Chronic Fatigue

You may have heard the term ‘chronic fatigue’ although this condition is less common among the many different forms of fatigue.

At some stage of your life, you may go through a period of acute or short-term fatigue. Acute fatigue is normally caused by a recent life stressor, illness or a change to sleep patterns (i.e. having a newborn child or the change from a day to a night shift cycle).

Normally this form of fatigue will disappear after a couple of rostered days off work, a reduction in life stress or maybe after one night's worth of good sleep.

A feeling of fatigue that is constant and lasts for more than a couple of weeks could be indicative of a more serious condition known as chronic fatigue. The symptoms of chronic fatigue are generally the same as acute fatigue except they do not disappear even after a prolonged period of time. Under this situation it is recommended that you go and see a doctor for a check-up.

In both cases, if you are suffering from acute fatigue or are diagnosed with chronic fatigue, it is worth talking to your manager or supervisor to discuss a recovery strategy to allow you to return to feeling normal.

4.5.1.3. Fatigue and Shiftwork

The nature of your role as a WSO requires you to work shifts.

Research has shown that the hardest demand placed on the human body from shift work is the change from night shift to day shift or vice versa.

The reason for this is in the body's natural processes. The human body functions on a series of repeating cycles in order to function. Some are quite frequent such as breathing and others occur normally once each day like sleeping.

A circadian rhythm or circadian cycle is a repeating cycle which occurs over a 24-hour period. Within a circadian rhythm, digestion, body temperature and sleep patterns are all linked together. The body gets used to these things happening at around the same time each day for a person with a normal day/night cycle such as office workers.

Shift Workers do not exist within a constant routine hence their circadian rhythms are continuously changing. It is these changes that can cause fatigue.

You have probably noticed that the day following each shift block is spent resting. This is the bodies way of readjusting to a normal day night cycle.

If for whatever reason you work a day shift the next day after coming off night shift (overtime), you should be especially mindful of how your body is performing.

Each body is different and hence will behave differently. Some people are naturally suited to shift work whilst others will struggle. It is also quite common for an older body to not cope as well as a younger body to the constant demands of shift work.

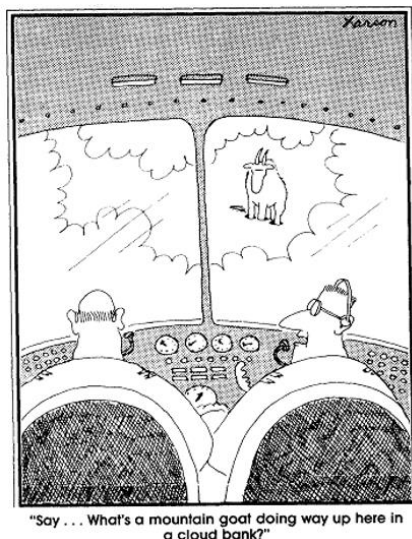
4.5.2. Situational Awareness

Various studies into Situational Awareness have been a direct result of the investigation into a series of aircraft accidents that seemed to have had no apparent cause. Through the studies, a lot of valuable insight has been gained into how pilots understand and process information. Even though the research was developed by aviation psychologists for pilots and crew, it is applicable to everyone else in the aviation industry.

The term Situational Awareness is used to describe a person's ability to understand what is going on around them.

The formal definition of Situational Awareness is 'a person's perception of the environment at a particular time and place'.

Put simply, Situational Awareness is 'being alert to all that is happening around you'.



Situational awareness involves three sequential steps:

1. Perceiving the status of the environment
Seeing the aircraft in the distance getting larger.
2. Understanding of the significance of these elements
Knowing that the aircraft is coming towards you.
3. Projecting the consequences of the actions into your environment
The aircraft is going to crash into you if you don't get out of the way.

For you as a WSO, Situational Awareness starts with having a good understanding of your surroundings which is enhanced by your knowledge and experience.

From detailed research, there are four things that can influence good situational awareness and if you experience any one of these, you should contact your employer straight away:

- Stress.
- Fatigue.
- Work Overload.
- Work Underload.

Each of these will be covered in more detail below.

4.5.2.1. Stress

Stress is something you probably hear about nearly every day. There are many different types of stress that may affect situational awareness.

These stresses can be either physical or psychological. Physical stresses would include noise, weather, lighting in your vehicle, the comfort of the workplace and even the shift roster.

Psychological stresses include anxiety, uncertainty, mental workload and time pressures.

No matter if they are physical or psychological – all of these stresses have a number of effects including narrowing and distracting attention, reducing short term memory and affecting judgement.

Whilst too much stress can be detrimental to performance, a certain level of stress is necessary for good performance.

If you feel stressed at work and you cannot cope, you should contact your employer straight away.

4.5.2.2. Work Overload

High workload is of particular importance to you because of its negative effects on situational awareness.

High workload is detrimental if the volume of information is too great for a person to process; it is likely that only a limited amount of information is being taken in. This is a problem if important pieces of information are not processed, which may lead to a person having an incomplete understanding of the situation.

Teamwork is one effective antidote to overload because the work and the information can be shared around.

Personal discipline is also effective. Recognising when you feel overloaded is important as you can slow down, seek clarification and regain any situational awareness that has been lost.

Remember Situational Awareness can always be regained by taking the time to reassess what is going on around you.

4.5.2.3. Work Underload

Poor situational awareness can also result from a low workload.

The reason for this is that lack of work usually leads to boredom which then leads to inattention (i.e. there is not enough to do so it's safe to switch off).

The remedy for this is to ensure that you keep busy. If this becomes an issue for you, you should contact your Team Leader.

4.5.2.4. Maintaining Good Situational Awareness

Maintaining good situational awareness is something that you have to work on continually.

Researchers have identified a number of key activities that will help you maintain or improve situational awareness, these include:

- The use of mental pictures.
- Clear and open communication.
- Checking for ambiguous information.
- Planning ahead.
- Keeping an eye on the bigger picture and following standard operating procedures.

4.5.2.5. Building Good Mental Pictures

Well-developed mental models are critical for good situational awareness in a complex environment like the airport.

Building a good mental picture takes practice and a lot of training however one method is to talk yourself through a situation or problem. Talking or writing things down helps clarify the important information in our minds.

4.5.2.6. Maintaining a Listening Watch

A listening watch refers to the ability of being situationally aware, relating radio transmissions to aircraft movements and vehicle movements around the Movement Area.

4.5.2.7. Clear and Open Communication

Good situational awareness depends heavily on timely and honest feedback.

The use of feedback and open communication within a group is necessary to correct any obvious performance errors.

Feedback and open communication assist with group knowledge and contributes to good performance.

4.5.2.8. Checking for Ambiguous Information

Ambiguous information can be fatal in the airport environment; therefore, we have to be on the lookout for unclear messages.

If unsure of what has been asked or directed, always seek clarification. For example, if the radio communication is unclear then ask them to 'say again'.

Don't let the situation intimidate or overwhelm you. It is far better and far safer to seek clarification than to assume.

4.5.2.9. Planning Ahead

One of the best techniques for maintaining good situational awareness is to plan ahead.

Planning ahead means that you prepare yourself for the shift ahead. Ask yourself at the start of every shift:

- What team role am I to perform?
- Who is on my team for (today/tonight) this shift?
- Have there been any changes to SOPs?
- What works are on today?
- What is the weather going to be like?

Planning ahead means having all of the information before going out to perform your role airside.

4.5.2.10. Monitoring and Evaluating Performance

You are already aware that you are vulnerable when you are in stressful situations. It is important to continually monitor both your individual performance and the performance of your team.

Monitoring and evaluating performance means that you act as part of a team. It means assisting one another when the workload is starting to rise. Remember, good situational awareness depends on clear communication and feedback.

4.5.2.11. Keeping an Eye on the Bigger Picture

There are a number of famous incidents where 'loss of situational awareness' has been the direct result of spending too much time looking at minor details to the detriment of the bigger picture.

It is sometimes easy to forget that you work in a larger environment when you are concentrating on the job at hand.

Good situational awareness demands that you keep your focus on the big picture.

4.5.2.12. Following Standard Operating Procedures

By following Standard Operating Procedures, we respond in a way that has been tried and tested.

Standard Operating Procedures have been developed over time and should represent the best-known approach to a given situation.

Following the SOPs will assist you in maintaining Situational Awareness by minimising stress and managing your workload.

SOPs are continually changing. If you believe there may be a better way to perform a task, please email the [Airfield Standards Manager](#). If there is a safer and better way, the SOP can be changed to incorporate your ideas.

5. Airport Facilities

Refer to the Enroute Supplement Australia (ERSA) for Melbourne (YMMML) Airport facilities information. Refer to the Melbourne Airport website for [Airfield Maps](#).

6. Airport Physical Characteristics



Melbourne Airport has a Movement Area designed to handle the largest commercial aircraft in service today. In order to operate safely, a set of standards developed by CASA have been incorporated into the design of the airport.

To ensure you have the most up-to-date information, refer to the below chapters in the CASR Part 139 Manual of Standards, which can be found on the [CASA website](#).

- **Chapter 4** - Aerodrome Reference Code and Determination of Aerodrome Standards
- **Chapter 6** - Aerodrome Planning, Design and Maintenance – Physical Characteristics of Movement Facilities

Information on the Movement area for Melbourne Airport can be found in the ERSA on the [Airservices Australia website](#).

7. Aircraft Operations

7.1. Safety Around Aircraft



There are many hazards of working in and around aircraft – some obvious and some not so obvious. Working on the apron we all must be acutely aware of many dangers, including but not limited to:

- Jet blast.
- Engine ingestion.
- Spinning propellers.
- The underwing area.
- The under-fuselage area.
- The landing gear.
- Noise.
- Ground servicing traffic.

7.1.1. Jet Blast



Jet blast is the exhaust of a jet engine and is one of the most dangerous aspects of the jet engine because:

- The exhaust consists of heated gasses.
- The exhaust moves at high speed.

- The exhaust emits noxious gasses.
- The exhaust energy can blow loose materials, vehicles and equipment around.

If you get too close to jet blast you could get burnt by the hot exhaust, blown over by the strong winds, get eye and respiratory irritation from the gasses or be injured by flying debris.

To avoid these dangers, you need to follow one simple rule and that is to remain well clear of the rear of an aircraft with its engines running. The minimum safe distance behind an aircraft with engines idling is **75 metres**.

7.1.2. Engine Ingestion



Engine ingestion is when an aircraft engine draws an object into itself. When the engine is operating it creates a low-pressure area in front of the engine. This low-pressure area causes a large quantity of air to rush into the engine inlet area.

Engines regularly ingest items of FOD which cause varying degrees of damage to the engine. Birds are also a hazard to the aircraft when ingested.

Unfortunately, there have also been instances of people being ingested. There have been a number of fatalities overseas where ground staff have been ingested into operating engines. Because the danger is invisible - you may not recognise a dangerous situation until it's too late.

To avoid the danger, you must avoid the engine ingestion zones. Adopt the simple rule of never approaching an aircraft with its anti-collision beacons operating. The danger zones extend up to **7.5 metres** in front and to the sides of an operating engine.

Important: Remember to also remain at least **75 metres** away from the rear of an operating engine.

7.1.3. Spinning Propellers



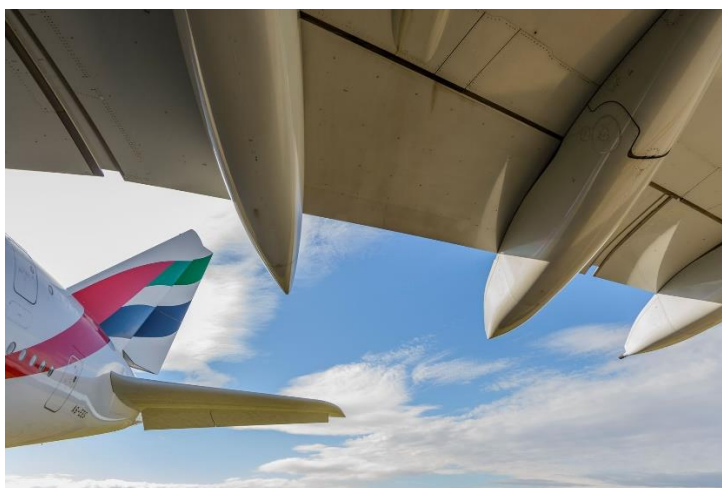
Propeller driven aircraft are less common than jet aircraft and this is a major factor that contributes to their danger. Quite simply, propeller driven aircraft pose a risk because once the propeller is rotating it can be almost impossible to see.

Many people have been either seriously injured or killed both here in Australia and overseas from walking into a spinning propeller blade.

There are three ways to avoid the associated dangers:

1. Look for the rotating beacon which indicates whether the engines are operating (propeller tags/tie downs are also a good indicator that the propeller isn't moving).
2. Never walk through the arc of a propeller.
3. Always walk around the propeller as if it was spinning, even if the engine is not operating. Treat every engine as if it is operating, even if it is not.

7.1.4. The Underwing Area



The underwing area contains many of the aircraft flight controls including the flaps, the engines and the cowlings.

The greatest hazard associated with the underwing area is the clearance between the wing and the ground. With the flaps extended, the clearance under the wing of an aircraft the size of the B747 can be as little as 1.07 metres. Fuel vents are also located under the wings which means, when under the wings, you are always in danger of being doused in fuel.

The simple way of avoiding the danger is to not proceed underneath an aircraft. Additionally, our Melbourne Airport policy is that our staff are not permitted to drive underneath an aircraft under any circumstances.

Important: Remember, our primary concern at Melbourne Airport is the safety of staff and personnel airside – safety is our top priority.

7.1.5. The Under-Fuselage Area



The fuselage is the belly of the aircraft and as strange as it may seem there are many hazards underneath the fuselage.

The hazards of the fuselage are associated with the minimum ground clearances of most aircraft. The specific things to watch out for are antennas, masts, inlets, exhausts, drain holes and sewerage outlets.

To avoid the dangers do not go underneath the fuselage of the aircraft. Our Melbourne Airport policy is that no staff member should drive under an aircraft at any time. If you have to walk under an aircraft then do it very carefully under the supervision of an engineer or a Melbourne Airport Airside Safety Officer.

Don't ever put your hands inside any of the inlets or outlets of the aircraft, stay upwind of any drain holes and stay clear of the toilet waste outlet because the blue water that can leak from these vents is toilet waste.

Important: Remember that if you do accidentally hit something then you must report it to the airline engineer immediately.

7.1.6. Landing Gear



As well as the landing gear, there are many other components located in the wheel wells of an aircraft. The landing gear struts, wheels, brake assemblies and even an auxiliary power unit in the case of some aircraft types.

The most obvious danger is hot or burning brakes. Hot brakes can explode and any explosion of the wheel assembly could be fatal. People have been killed overseas by exploding wheels when the hubs have blown off.

There are other dangers of the landing gear including hydraulic components that could move or close at any time without warning.

To avoid the dangers, never put yourself at risk. Never approach the wheels from side on, as this is the most dangerous area.

Important: Remember that as a Melbourne Airport employee you have no requirements to be under any aircraft.

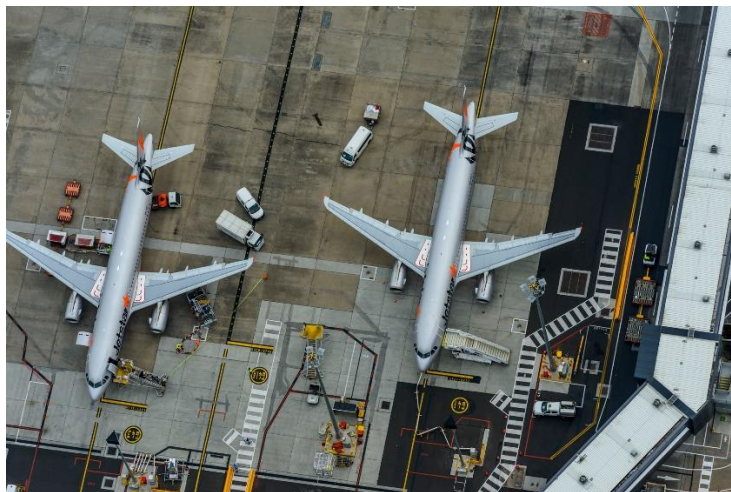
7.1.7. Noise

As a Works Safety Officer, your job will take you in and around aircraft on a daily basis. Aircraft are noisy, even when just sitting on the ground.

The danger to you is that noise can and does lead to permanent hearing loss.

There is only one way to avoid the dangers of noise and that is to always wear your hearing protection when within 100 metres of an operating aircraft, and at any other time that you deem it appropriate, such as when around contractor work sites.

7.1.8. Traffic Hazards



All airlines are trying to reduce costs and one way of doing this is to reduce the turnaround times of their aircraft as aircraft will only make money when they are flying. To minimise the ground time, airlines apply the maximum number of resources to the aircraft to turn it around in the shortest possible time. This means that the area around the aircraft becomes very busy.

The danger here is the volume and erratic behaviour of the traffic around an aircraft. Vehicles around the aircraft include catering trucks, refuelling vehicles, toilet trucks, tugs, maintenance vehicles and security vehicles.

7.1.9. Contractor Pressures

Contractors will often want to drive quickly to maximise productivity. WSO's should be mindful of this in order to manage contractor behaviour when conducting escorts. Safety around aircraft should always remain the number one priority. Any aggressive behaviour should be reported immediately to your Team Leader.

7.2. Adverse Weather Warnings



The Bureau of Meteorology (BoM) issues the weather warnings applicable to Melbourne Airport.

Storms, whether rain, wind or electrical; all have the potential to cause serious damage to airport facilities, aircraft and more importantly injury to staff. For this reason, the following procedures must be followed to ensure that staff and equipment are protected.

These storm procedures are put in place in following situations:

- Strong Wind Warning - Winds above **41kts** are forecasted (mobile alert, update on FIDS)
- Thunderstorm Alert - Lighting is within **10nm** of the airport (mobile alert, update on FIDS)
- Operations Shutdown - Lighting is within **5nm** of the airport (Storm Warning Alarm sounded, mobile alert, update on FIDS)
- Weather Warning - Adverse weather warnings from BOM (mobile alert, update on FIDS)

WSOs are to follow the direction of ASOs during these events.

7.3. Foreign Object Debris



Working at the airport you need to be familiar with the term FOD. FOD stands for Foreign Object Debris that causes Foreign Object Damage.

Foreign Object Debris is anything on the movement area that shouldn't be there such as something that falls off a luggage trolley, pieces of broken pavement or even an aircraft part left on the runway.

If you do notice FOD on the Movement Area which may resemble an aircraft part - you should refrain from touching or tampering with the piece of FOD. In this event you should contact your Team Leader, and they will contact the Senior Airside Safety Officer (Car 2) so they can attend and report the matter.

Foreign Object Damage is the damage caused to aircraft by Foreign Object Debris. Foreign Object Damage can be damage to the engines, the propellers, the hydraulic system or control surfaces of the aircraft or even the tyres.

7.3.1. The Source of FOD

Foreign Object Debris comes in every shape and size and originates from many different sources. At the airport there are four basic sources of FOD:

- Deterioration of airport facilities.
- Construction activity.
- Aircraft operations.
- Personnel belongings/ tools.

7.3.1.1. Deterioration of Airport Facilities



Deterioration of airport facilities contributes significantly to FOD at the airport. Broken lights, spalling concrete and the cork material from concrete joints are all different types of FOD found on the airport.

Broken lights are a common occurrence on the runway and can be due to jet blast or aircraft manoeuvring on the very limits on the runway itself.

Spalling concrete from cracks in the concrete as well as from fatigue cracks across the corner of some of our concrete slabs are a serious problem at our airport.

Sometimes, rain can cause the cork or the foam in between the concrete expansion joints to become loose which can pose a serious FOD risk. During rain, ensure that the FOD affected areas are identified and rectified immediately.

Deformation of the pavement, where water is being held, also creates a considerable FOD problem.

Grass cutting on the edge of the runways and taxiways is another common source of FOD and the main reason we use pick up mowers on the taxiway and runway edges.

7.3.1.2. Construction Activity

Almost all construction site activities have the ability to generate FOD. Mud, dirt, loose stones from vehicle tyres and mud flaps from under work site vehicles present a FOD hazard. Even construction sites a long way from aircraft movement areas have to be kept clean because there is a possibility that waste will end up being blown around the airport.

7.3.1.3. Aircraft Operations

Most of the debris encountered on the airport is a result of aircraft operations:

- Locks, wheels and tags from passenger bags.
- Ties and plastic wrap from freight.
- Bits and pieces of broken wooden pallets.

Refuelling, catering, cleaning, loading and unloading of aircraft are all capable of producing FOD.

7.3.1.4. Personnel Belongings

Personnel belongings are also a source of FOD. This is an especially high-risk area for the airlines because it usually means tools or other objects left on or inside the aircraft.

7.3.2. Damage Caused by FOD

Foreign Object Debris is a problem because it can damage aircraft engines, tyres or undercarriage as well as injure staff working on the apron.

7.3.2.1. Injury to Persons on the Apron

FOD on the apron, plus jet blast, poses a serious threat to the safety of staff and passengers.

FOD picked up by jet blast, even from an aircraft operating at low break away power may travel a significant distance from the rear of the aircraft. Similarly, dust or sand stirred up by an aircraft exhaust may cause irritation to staff or passenger's eyes even when they are hundreds of metres behind the aircraft.

7.3.2.2. Ingestion into Aircraft Engines

Aircraft engines, especially modern jet engines, need large volumes of air to operate efficiently. This makes them like giant vacuum cleaners and they will pick up almost anything in their path.

FOD entering an operating aircraft engine usually means damage to the engine. Even if only a single blade is damaged the whole set may need replacing because one damaged blade puts the rest out of balance.

Engine repair is highly expensive, not just from the perspective of a damaged part, but also from the perspective of the aircraft out of service time and the costs of missed connections for passengers.

7.3.2.3. Chipped Propellers

Small stones thrown up by propeller wash (prop wash) can lead to chipped propellers. We are fortunate that our extensive sealed runway and taxiway system means chipped propellers are a rare event.

7.3.2.4. Damaged Hydraulic and Electrical Systems

FOD flicked up by wheels can damage the hydraulic and electrical systems of an aircraft. The undercarriage area of an aircraft is quite vulnerable to damage because of the hydraulic and electrical systems in the area.

7.3.2.5. Damaged Tyres

Damaged tyres as a result of FOD picked up on aprons, taxiways or runways is not uncommon at an airport, but it is unusual for the FOD to penetrate the tyre completely.

Just like everything else on an aircraft - damaged tyres are expensive to replace. The escalating issue with this type of damage is that a blow out of a single tyre usually means that the pair has to be changed.



7.3.2.6. Jammed Aircraft Control Surfaces

FOD has been known to jam the control surfaces of aircraft.

The most famous incident of this type was in 1970 when a DC8 flight crashed after take-off from New York JFK Airport. The aircraft reached a height of about 300 feet before stalling and literally falling out of the sky. The cause of the accident was traced back to a stone jammed in the starboard elevator which became lodged in the control surface after the aircraft suffered a tail strike.

7.3.3. Dealing with FOD

Our simple challenge is to eliminate FOD at this airport. We do this by having a FOD program that builds awareness of the problem, educates people, identifies the source of FOD, controls the spread of FOD and measures our results.

7.3.3.1. Building Awareness of the Problem

Building awareness means making sure that everyone on the airport is aware of the problems FOD may cause. At Melbourne Airport we do this via education and regularly reminding staff of the dangers through safety campaigns.

7.3.3.2. Identifying and Eliminating the Source of FOD

Finding and eliminating the sources of FOD is a part of all of our jobs and one that requires constant attention.

Our inspection regime requires four runway inspections a day, as well as two taxiway inspections and an inspection of each bay after the departure of an aircraft. During these inspections you must keep a look out for any FOD.

The airlines have an inspection program for the apron area. Before the arrival of each aircraft the airline checks the bay thoroughly to make sure that the bay is safe for each aircraft's arrival.

Another way we identify FOD at its source is through the joint apron safety inspections. These inspections are conducted regularly throughout the year and are intended to be an opportunity for airport and airline staff to identify and address any problems on the apron area, including FOD.

7.3.3.3. Control the Spread of FOD

Controlling the spread of FOD is a constant challenge for those in Airfield Operations and we must employ a number of different techniques to achieve this.

During all of the runway, taxiway and apron inspections, the ASOs are constantly on the lookout for FOD. All staff should continually look for, and pick up FOD, as long as it is safe to do so. The very act of looking out for and picking up FOD when you see it, helps to stop the spread of FOD across the airport. Remember when removing FOD from the runway or taxiway you must report the FOD, have the area closed by an ASO if necessary and clean the area thoroughly, as aircraft must not be permitted to operate on an area where there is FOD contamination.

FOD bins on the apron provide a receptacle for FOD, as well as an easily identifiable reminder of the challenges FOD presents. It is important that these bins are emptied on a regular basis, so if you notice that a bin requires emptying - report it to the Faults line as soon as possible.

FOD fences prevent FOD from being blown around the apron, but it is important that we pick up the debris so that when the wind changes, the FOD is not simply blown the other way. Once again, raise a fault should the fence needs to be cleaned.

Sweeping of the runway, taxiway and apron areas is one of the major ways in which we as an airport effectively handle FOD. The constant presence of the sweeper on the aprons, adds an extra dimension to our inspection regime.

7.3.3.4. Measure Our Results

Measuring our results means keeping a record of the type of FOD collected and where it was found. Having this information helps the airport devise strategies for reducing and eliminating it.

7.3.4. Your Role in FOD Control

Your role in the FOD programme, as Airport Operations staff, is to ensure the safety of the airport. To maintain the airport in a safe condition we need to be proactive. This means that you must:

- Check for FOD during your inspection.
- Check for cork after heavy rains.
- Check FOD bins and tell ground staff if they are full.
- Check loading docks routinely.
- Check your tyres after driving on dirt or gravel.
- Constantly check works sites for FOD.
- Check contractor vehicles prior to leaving a site (static WSOs at site gates).
- Pick up FOD if you see it (as long as it is safe to handle).
- Report a FOD situation if you see one.
- Talk to people if you see them dropping FOD.

FOD will move to wherever the wind, jet blast or vehicles take it. FOD does not discriminate based on airline and even the safest of airlines can be involved in a FOD incident. FOD can occur at any time and we must maintain our vigilance on every shift.

8. Airport Works Safety

8.1. Introduction

Airport works safety is a CASA requirement but more importantly a key part of operating and maintaining of a safe airport. Knowing how to safely conduct these works is just as important.

This document explores the different roles and procedures that are involved with airport works. Also, the processes that are required to be taken before, during and after the works, regardless of whether the works are located on a Taxiway, Runway or Apron.

The types of movement area works, particularly Time Limited Works, have set requirements and timelines as to when the area must be vacated for aircraft movements. The conditions under which works may be conducted on these areas of the airport are defined in the following documents:

- Manual of Standards (MOS) Part 139 – refer to [CASA website](#).
- Method of Works Plan (MOWP).
- Local Works Plan (LWP).

These documents detail the conditions that both Melbourne Airport and the contractors must meet when planning and conducting airport works.

At Melbourne Airport, the Works Safety Officer role is shared by the ASOs and WSOs. It can also be performed by Airfield Lighting Officers (ALO) and Airfield Maintenance Officers (AMO).

8.2. The Role of the Works Safety Officer

The WSO performs a role that is vital to the safe conduct of works on the airport. At Melbourne Airport, there are four types of Safety Officers that share the responsibility for works supervision:

- Works Safety Officer (see [APPENDIX G](#) for a list of basic duties to be performed by the WSO).
- Airside Safety Officer (including Senior Airside Safety Officer).
- Airfield Lighting Officers (completing maintenance or support capital projects).
- Airfield Maintenance Officers (completing maintenance or support capital projects).

Both the WSO and ASO work together to complete different parts of the Works Safety Officer role as defined by the CASA.

8.2.1. Correct Marking of Vehicle and Plant

As a WSO you must ensure that all vehicles are marked and lit in accordance with the required standard. The vehicle marking requirements will be specified in the MOWP.

Your responsibility is to make sure that all vehicles used on the works site meet this standard. Constant vigilance is required to make sure that this standard is maintained.

If any vehicle does not meet the standard, you must arrange for an escort to direct them to the works area. The exemption to this is when vehicles within the work site or travelling on the defined access route do not require any special marking as they are already under escort.

8.2.2. Correct Access Routes

You must ensure that the access routes are clearly defined and that vehicles use the routes specified.

The WSO is to follow the designated access route as set out in the MOWP.

It's the responsibility of the contractor to provide a functional Traffic Management Plan (TMP) for any work site impacting airside operations. WSOs are expected to follow the contractors TMP as it has been approved by Melbourne Airport.

8.2.3. Safe Excavations

The appointed WSO must ensure that any excavations are carried out safely. The contractor is required to gain approval from [Airside Permits](#). If the WSO is unsure whether a permit has been issued, notify Car 2 immediately.

The conditions under which excavations may be conducted will be defined in the MOWP.

As a WSO it is your responsibility to ensure these conditions are adhered to by the contractor. You must ensure that the area has been checked by an ALO prior to any excavation commencing. If you believe this may have not occurred, contact your Team Leader or Car 2.

You must also make sure that trenches are back-filled according to the specification contained within the MOWP.

Important: Remember that the runway or taxiway cannot be reopened until the normal safety standards have been restored and this means the runway and taxiway strips must be serviceable. This inspection is normally conducted by an ASO but may require the assistance of a WSO.

8.2.4. Reporting of Incidents, Accidents, and Damage

As a WSO, you are responsible for reporting any accidents, incidents, damages to aviation facilities, particularly those that could affect aircraft operations. Such events may occur due to construction activities.

Aviation facilities may include but are not limited to:

- Any electrical facilities.
- Aviation navigational aids.
- Runway/taxiway lighting.

Any accident, incident or near miss must also be reported to Car 2 through the normal reporting process.

8.2.5. Remain on Duty

It is your responsibility to ensure that you do not leave the work site unless relieved by another qualified WSO.

8.2.6. Shielding of Temporary Lighting

The WSO is to ensure that any temporary lighting used on the work site is shielded so that it does not pose a hazard to aircraft operations during taxi, take-off and landing. This includes temporary lighting used in works areas on the movement area or roadway lighting on the Perimeter Road.

The most effective way to shield temporary lighting is to direct them away from approaching aircraft. Where this is not practical then dedicated shielding will be required.

As a WSO you must keep a constant check on lighting. As the works party moves around during the night, they will need to adjust the lighting as they go.

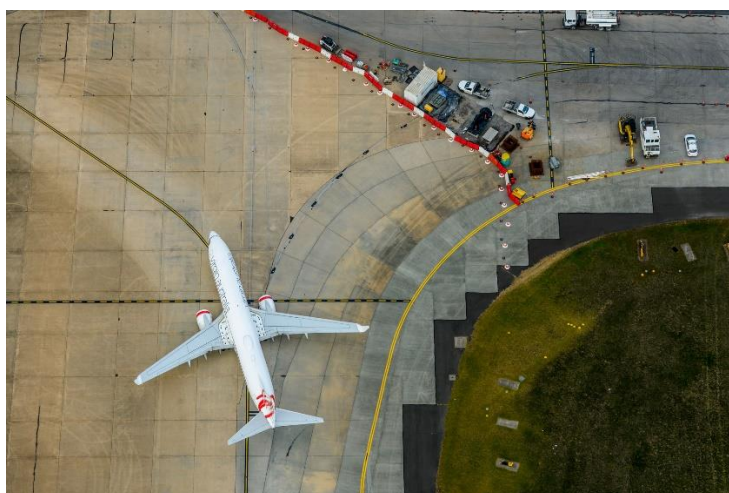
Vehicles are another source of distraction for approaching aircraft. As much as possible, vehicles and plant must face away from approaching aircraft. Make sure that headlights on both stationary and moving vehicles are not on high beam.

8.2.7. Briefing of the Works Party

The final responsibility of the WSO to be discussed in this section, is the responsibility of briefing the works staff. All of the works' staff must be briefed by the WSO before commencing works. In conducting the briefing, the WSO must cover all of the standard safety conditions outlined in the MOWP. The briefing must also include all of the following points:

- That entry to the movement area is restricted to authorised personnel and vehicles.
- That special clearance through the ASO is required to enter a live runway or WSO Team Leader to enter a taxiway.
- That all vehicles are subject to movement area speed limits.
- That no excavations are to be conducted without an excavation permit and that the conditions in the permit are adhered to.
- That any temporary buildings or structures are to be securely anchored to the ground.

8.3. Method of Working Plans



MOWP alter (for a time) the operational characteristics of the airport.

CASA requires airport operators to prepare MOWP for any works affecting the manoeuvring area. The MOWP are therefore prepared for works conducted on runways, taxiways and approach areas.

MOWP are not normally issued for works on the apron, however, some apron works are complex and affect such a vast audience that a MOWP is issued for them as an additional safety measure.

As part of the process of developing a MOWP, a number of different organisations are consulted including:

- All major regular public transport operators.
- Air Traffic Control, and
- The Aviation Rescue Fire Fighting (ARFF) Service.

A MOWP is drafted by the Airfield Operations in conjunction with the Project Manager for the works. A draft of the MOWP is then circulated to relevant internal management, Airservices Australia and the airlines for comment before being finalised.

The MOWP will provide a detailed description of the restrictions that apply both to aircraft operators and to the works contractor.

There are a number of standard conditions that apply to all works. These standard conditions are clearly set out in the MOWP (see [APPENDIX J](#)) and include:

- Security arrangements during the works.
- Authorities to drive airside
- Access points for the works
- Access routes to and from the works
- Maximum height of vehicles
- Location of parking areas for equipment
- Location of storage areas for materials
- Requirements for waste disposal
- Special conditions for operation of cranes
- Special conditions for cutting, welding and grinding
- Use of explosives
- Requirements for a clean work site
- Special conditions that apply during emergency situations
- Special conditions that apply during reduced visibility
- Requirements for marking of the works site
- Requirements for WSOs

Whilst these conditions are termed 'standard conditions' they do vary from project to project. During the planning and approval stage - the impact of the works on the operation of the airport is carefully considered and the standard conditions are then modified to ensure a smooth interface between the project and airport operations.

Important: Remember that the conditions set out in the MOWP cannot be varied without the approval of Airfield Operations.

Each MOWP stage may be subject to independent audits, which are undertaken at the commencement and completion.

8.3.1. Local Works Plan

Additional notification in the form of a Local Works Plan (LWP) will be issued for work scheduled on the runways and taxiways. The LWP will be directed to Airfield Operations, WSOs via their management, Airservices and airline operators. It reiterates NOTAM information, marking requirements, inspections and contact arrangements.

For works on the apron area, a LWP will be issued (see [APPENDIX K](#)). Where the works on the apron will potentially affect multiple operators, an Operations Advice is also issued.

8.3.2. Security Arrangements During Works

The security arrangements that apply during works are exactly the same as those that apply to everyone else on the airport. All of the contractor's staff must hold a current and valid ASIC or VIC before they can proceed onto the airside. For short term projects or for projects which have recently begun, workers are likely to only carry a VIC. There must be an ASIC holder for every five (5) VICs. If they do not have a current ASIC or VIC card, then they are not permitted to work on the airside.

8.3.3. Authority to Drive Airside

Any contractor that needs to drive unescorted on the airside is expected to hold an ADA. If they are following an access route as defined in the MOWP, and are supervised by a WSO, then they are deemed to be under escort and are exempt from the requirement.

If they need to deviate outside of the established works access route, they must have a current ADA or be under escort.

8.3.4. Access Gates for the Works

The access gates nominated for the works (or for each stage of works) are carefully chosen so as to provide the least disruption to normal airport operations.

Only those gates nominated by the MOWP may be used for access unless otherwise approved by Airfield Operations.

8.3.5. Access Routes for Vehicles

The route from the access gate to the works site is chosen to have minimal impact on the movement area and also take into account the load bearing strength of the pavement. The access routes may only be varied with the written approval of Airfield Operations. WSOs can use taxiways under ATC permission when escorting heavy plant and machinery.

8.3.6. Vehicle Height

There is always a maximum vehicle height specified for vehicles on the work site. There are two reasons for specifying a maximum height of vehicles. The first is because of the height limitations underneath the terminal buildings and concourses. The second reason is to protect the runways. calculations based on the specific vehicle height are conducted to ensure useability and safety of the runway system is maintained during works.

Relevant height restrictions are detailed in the MOWP and LWP documents.

Vehicles above the maximum height are not permitted on site without the written permission from Airfield Operations.

8.3.7. Limit of Works

The Limit of Works markers are used to define the limit of works for the works party.

The markers used to signify the limit of works is the common road works type witches hat:

- During daylight hours the witches hats are placed across the middle portion of the runway or taxiway (6 cones) to denote the limit of works.
- At night the witches hats are supplemented with orange/amber lights.

The Limit of Works markings define the area that the contractor is not permitted to go beyond without an escort. The area beyond the limit of works markers is part of the active manoeuvring area.

The exact position for the limit of works marking will be defined in the MOWP, however most closures will not use them as the placement of unserviceability lights and cones will be sufficient. If in doubt, the Team Leader is to consult with Car 2.

8.3.8. Parking of Equipment

It is important that equipment be stored away from the work site in an area where it does not infringe the Obstacle Limitation Surface (OLS) or operational areas. To determine if equipment can be stored on a work site near (i.e. grassed areas) or on the manoeuvring area, contact the Team Leader.

At the end of each shift, equipment, vehicles and plant must be removed to the nominated storage area.

8.3.9. Storage Areas for Materials

Like the equipment parking area, the storage area for materials is chosen so that they are conveniently located for the works party without infringing the OLS or operational areas. Materials stored must not infringe the runway strip.

If you are unsure of this location, contact the Team Leader for clarification.

8.3.10. Waste Disposal

Waste and rubble have the potential to disrupt normal operations if not managed properly. Construction sites are a potential source of FOD and therefore the collection, storage and disposal of waste is critical. It is important for the contractor to provide secure waste disposal containers on site, so that rubbish is not free to blow around the airport.

But it is not just construction waste that you need to be mindful of, stringent conditions will be placed on all work sites regarding the management of putrescible waste (i.e. waste foodstuffs) as well. This is because the waste foodstuffs have the potential to pest species and wildlife to the airport.

8.3.11. Clean Work Site

An obligation is placed on the contractor to keep the construction site clean, so that the site does not become a source of FOD. The contractor is required to keep pavements clean which will usually mean keeping a sweeper on site. The contractor may also be required to clean the wheels of their vehicles before leaving a construction site so that mud and stones are not deposited onto the apron, taxiways or runways.

8.3.12. Low Visibility



A definition of Low Visibility Operations (LVO) will provide the limits at which works cannot be performed.

The common standard is for works not to be conducted on a runway during Instrument Meteorological Conditions (IMC). This may vary depending on the type, timing or stage of work.

Some MOWPs will allow work to continue until conditions fall below 2000 metres of visibility or a cloud base at 600 feet or less.

During periods of LVO the WSO is to stop all work (when directed by Car 2) and direct all work parties to vacate, except under the following conditions:

- Works being undertaken in an enclosed area on the apron may continue to operate within the enclosed area subject to the Car 2 approval.
- Any vehicle escorts to and from this area will also be subject to Car 2 approval.
- Vehicle escorts that require access to the Manoeuvring Area, will not be approved under any circumstance unless undertaken by an ASO.

Crane operations on the landside or on the airside apron area are subject to assessment and approval by Car 2. All crane operations on the manoeuvring area and any crane penetrating the protected airspace either landside or airside must be stopped. To determine whether a crane can continue to operate during deteriorating weather conditions, contact the Team Leader who will receive instructions from Car 2.

8.3.13. Emergency procedures

Works are not permitted to be carried out during airport emergencies.

This restriction applies to a 'Full Emergency' or other critical situations but not a 'Local Stand-By'.

In this situation your role may be to explain to the works party the need to vacate the airfield beyond the security gate.

In dealing with the contractor be courteous but firm. Explain that airport standard operating procedures require an evacuation of all non-essential services to the landside, and could they please assist by packing up and moving as quickly as possible.

8.3.14. Wildlife Hazards

It is the responsibility of the WSO to monitor the works site and fill dumping area for increased wildlife/pest activity. In the event that wildlife/pest are attracted to the area, Melbourne Airport will instruct the contractor to implement suitable measures to reduce the wildlife hazard.

To limit the risk of wildlife/pest activity on the airfield, restrictions apply to eating airside. Eating is restricted to inside enclosed areas only. Any food scraps must be disposed of correctly in suitable bins to prevent attracting wildlife/pest. Any bins used to dispose of food scraps must be emptied daily.

Food vans are not permitted on the airfield without approval from Airfield Operations.

8.4. Legislation/ Regulations

Civil Aviation Safety Regulations, Manual of Standards Part 139—Aerodromes stipulates the conditions under which works may be conducted.

For additional requirements specific to Melbourne Airport, refer to the Airport Manual chapter [Airport Works Safety](#). A copy of this document may be obtained from Airfield Operations.

8.4.1. Environment

Within the Melbourne Airport boundary there are three threatened ecological communities:

- Natural Temperate Grasslands of the Victorian Volcanic Plains.
- Grey Box Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia; and
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.

These communities are defined as Matters of National Environmental Significance and are protected under federal environmental legislation (the Environment and Biodiversity Conversation Act 1999). As such, APAM has a responsibility to maintain or enhance the condition of this protected native vegetation (see [Map of Protected Native Vegetation](#)).

If you see fencing and/or flagging that is within an area of protected native grass, you should not enter the restricted area. Where possible vehicles should remain on established roads or maintenance tracks. If you are required to drive through an area of protected native grass, the ground condition should be checked first to ensure the ground is not too wet.

It is the responsibility of the WSO to advise a Team Leader if you notice damage or ground disturbance within an area of protected vegetation that is outside of a project area. These areas can also contain cultural and historical artefacts. The Team Leader should then pass this information on to Airfield Operations via Car 2.

9. Escorting Vehicles Airside



Escorting vehicles on the airside of the airport is an important and necessary task; however, to escort a vehicle on the airside, a person must be trained and approved as an 'Authorised Escort Officer'.

Vehicle escorts to and from the works site, are to be conducted according to the standard operating procedure detailed in your Airside Driver Training and follow the Traffic Management Plan (TMP) for the project.

Staff will sometimes be required to provide escorts to other vehicles such as film crews, delivery trucks, and contractor's etc. during the course of their regular duties. The Authorised Escort Officer must ensure that the driver is briefed thoroughly on the necessary requirements prior to entering the movement area.

The briefing to a driver being escorted must emphasise the fact that they are to follow the Authorised Escort Officer vehicle and not deviate from the path. Drivers must also be instructed to drive closely behind the Escort vehicle whilst maintaining a safe stopping distance between vehicles.

Escorting means that you take responsibility for the vehicle being escorted.

For details of the procedure for escorting of vehicles, refer to [APPENDIX I](#).

9.1. Safety Precautions During an Escort

There are a number of important safety considerations that must be taken into account when an escort is being conducted. The safety considerations are:

- The effects of jet blast
- Clearance to parked aircraft
- Clearance from other traffic on the apron
- The manoeuvrability of the vehicle under escort
- The parking of the vehicles

9.1.1. The Effects of Jet Blast

The effects of jet blast must be considered when escorting another vehicle.

Consider carefully the type of vehicle that is being escorted, because a large vehicle with a larger surface area will be more susceptible to jet blast than a smaller vehicle.

At idle thrust an aircraft will cause significant jet blast to the areas immediately behind the aircraft. At breakaway thrust, which is when the aircraft moves away from a stationary position, an aircraft will produce enough blast to roll over a small truck. As a rule, always maintain at least **75 metres** from the rear of an aircraft with the engines idling.

9.1.2. Clearance to Parked Aircraft

The correct clearance to parked aircraft must be maintained during the escort. The rule for all airside drivers states that all vehicles shall maintain a clearance of at least 3 metres from a parked aircraft. During an escort this minimum clearance must be maintained for both the escort and the escorted vehicle.

Be aware of the need to maintain a 15-metre clearance to refuelling aircraft. Both you and the vehicle under escort must remain 15 metres clear of the refuelling aircraft, unless while driving on the Apron Service Roads.

9.1.3. Clearance to Other Traffic

Clearance to other vehicles must also be maintained during the escort. There are a large number of vehicles working in the confined area around an aircraft. Vehicular and other traffic often move unpredictably around aircraft.

9.1.3.1. Manoeuvrability of the Vehicle

The manoeuvrability of the vehicle being escorted is an important consideration. Most modern trucks have a fairly good turning circle, however the larger the vehicle, the harder it will be for them to manoeuvre the vehicle. Keep this in mind when escorting large vehicles. Take a wide berth around aircraft, buildings and other structures.

9.1.4. Parking of the Vehicle

Correct parking of the vehicle is essential to airside safety. The escorting job does not finish when the truck arrives at the point of delivery. Part of the responsibility of the escort driver is to ensure that the vehicle is correctly parked.

10. Airfield Reporting

CASA requires any change in the physical characteristics of the movement area to be reported. CASA uses the term 'Reporting Officer' for those persons at the airport who perform this role which are our Airside Safety Officers. In conduct of their duties, they may require your assistance or to seek information about a work site or escort you are responsible for.

At Melbourne Airport the term 'reporting' also encompasses incident, accident and hazard reporting and recording of the shift events into logbooks.

10.1. The Role of the Works Safety Officer

Melbourne Airport WSOs are expected to respond quickly and effectively to any incidents, accidents or hazards on the airside. They are responsible for then reporting these accurately on incident Report form (contact your Team Leader for a form or assistance in submitting an electronic copy) and in the Logbook.

An effective response to any occurrence or incident will include:

- Responding quickly to contain and control a situation.
- Contacting the appropriate people in a timely manner.
- Reporting the situation accurately.

Confidential safety reports can also be submitted online via:

- <https://www.melbourneairport.com.au/corporate/safety-and-induction>

10.2. Safety Reporting

During the completion of regular duties, the WSO may observe an accident, incident or hazard, or may have one reported to them by another party.

The most important thing is to act on that information promptly and the objective is to then report as soon as the occurrence or problem is observed. All airfield incidents must be reported to Car 2.

10.2.1. Reporting Points

Some incidents, accidents or hazards may need to be reported immediately to Air Traffic Control (ATC) as they are responsible for relaying safety critical information directly to the pilot of any aircraft that might be affected.

However, as a WSO, the majority of the events you encounter will be reported to either your Team Leader, Senior Airside Safety Officer (Car 2) or Airside Safety Officer (Car 2 not available).

10.2.2. Accidents, Incidents and Hazards

The Melbourne Airport incident reporting system forms an integral part of the Aviation Safety Management System (SMS). The system is used by all Melbourne Airport staff (and in some circumstances our contractors), for reporting of accidents, incidents and hazards.

Melbourne Airport remains committed to fostering a positive safety environment that openly encourages the reporting of all incidents, accidents and near misses. A 'positive' and 'just' culture encourages management to accept that people, processes, equipment, systems and attitudes can fail and promotes openness in reporting and fairness in the management of involved persons. Through the application of a 'positive' and 'just' culture, APAM seeks to proactively educate staff to continuously improve.

A just culture does not tolerate wilful negligence. Should evidence of wilful negligence exist, the safety system reserves the right to inform the appropriate Manager who may instigate administrative discipline as appropriate.

10.2.3. Purpose of the Safety Management System

As the operator of Melbourne Airport, we have a duty of care to provide a safe and secure airport for everyone on Airside. Specifically, we are obligated:

- To provide a 'safe place of work' for airport staff and visitors.
- To act on safety issues that arise at the airport.
- To demonstrate due diligence in managing the airport.
- To demonstrate that we are a responsible airport owner.

10.2.4. What to Report

The incident, accident, hazard reporting system is designed to assist us to understand any issues effecting safety at the airport. It is essential that all events are reported so we can design and implement a strategy to prevent such a reoccurrence.

Required reporting includes FOD incidents through to major accident on the public road system.

It is vital that you take this role seriously and be an active reporter, because it is only through the reporting system that safety issues get actioned.

Important: *You must also be aware of your obligation in reporting any incident or accident that you may have been involved in (e.g. damage that occurs to a vehicle that you were driving).*

See [APPENDIX D](#) for further instructions on how to report an accident, incident or hazard.

See [APPENDIX E](#) for instructions on how to complete an Accident, Incident, and Hazard Report.

See [APPENDIX F](#) for an example report form.

10.2.5. Investigations

All incident reports are triaged once submitted by the Airside Safety and Operations Coordinator and escalated to the attention of the responsible manager if required.

Usually, an investigation process commences after an incident is triaged. The investigation type will be dependent on the actual or potential consequences. Dependent on the investigation the following may be gathered:

- Acquiring CCTV, photos and witness statements.
- Acquiring reports from other organisations (both verbal and written).
- Conducting interviews (if required).
- Issuing Penalty Infringement Notices (PINs) if required.

At the conclusion of an investigation, recommendations for preventative/corrective measures may be issued to assist in preventing a reoccurrence. Measures may include, but are not limited to:

- Requesting change or update of procedures from the organisation.
- Requesting hazards be removed, are clearly marked or have safety measures installed.
- If an equipment or vehicle defect was found to have caused the incident, ensuring all equipment or vehicles of the same type are checked for that defect or removed from the airside.

The data from incident reports goes towards understanding current or emerging negative safety trends. The figures are used to compare ourselves against previous years or other airports.

Incident data is also used to compile safety report that go all the way to the Australian Pacific Airports Corporation (APAC) Board of Directors.

The Australian Transportation Safety Bureau (ATSB) requires that certain accidents and incidents are escalated and reported to them. Where required; the Airfield Operations Manager or Airside Safety and Operations Coordinator will send a copy of the incident report together with other relevant material to the ATSB.

Work Safe also requires that certain accidents and incidents are escalated and reported to them. Where required; the Airfield Operations Manager or Airside Safety and Operations Coordinator will send a copy of the incident report together with other relevant material to Work Safe.

If you want to check up on the progress of a particular report – contact airsidesafety@melair.com.au.

10.3. Reports

10.3.1. Logbook

Filling in the logbook is an essential part of the role of a WSO. The accurate recording of information is a vital part of the reporting process and an essential part of the Reporting Officer's duties.

A logbook might be required as evidence in court after an accident or might provide important background information for an investigation. It is therefore essential that the logbook entries are accurate and events that have taken place during the shift are faithfully recorded. The logbook not only provides evidence of the fact that a particular task has been undertaken – but also evidence that it was done at a certain time on a certain shift.

Recording the details of inspections or other actions in the logbook is almost as important as conducting the inspection itself.

Our standards require a logbook be kept in every vehicle and for each WSO position. This does mean each WSO will need to complete a logbook for every shift that they undertake duties. All activities, both routine and unusual, are to be recorded and the logbook should contain a summary of your shift's activities.

See [APPENDIX B](#) for instructions on completing a Logbook.

See [APPENDIX C](#) for an example of the Logbook.

11. Radio Procedures

To be able to carry out their job efficiently – WSOs must be familiar with radio procedures. These procedures include listening and understanding Melbourne Ground, knowing the correct terminology and knowing how to identify & respond to radio failure.

Approval from ATC (Melbourne Ground) is required for everyone who wishes to proceed from the apron out onto the manoeuvring area. Melbourne Airport and WSOs are exempt from this requirement but only under the terms of the Letter of Agreement with Airservices Australia (ASA). If in doubt, contact your Team Leader or Airside Safety Officer.

To ensure we communicate effectively we use what are called 'radio procedures' when talking to the Melbourne Ground. Radio Procedures refer to the standards for communicating with each other via the non-operational radio or Melbourne Ground via the operational radio.

To undertake routine duties safely, we must all have a thorough understanding of all of the elements that formulate radio procedures.

11.1. Phonetic Alphabet

The International Phonetic Alphabet is used to assist in voice transmission of aircraft call signs, runway or taxiway names and for spelling proper names or unusual words.

Each letter of the phonetic alphabet is made up of different elements to assist pronunciation.

Letter	Pronunciation	Letter	Pronunciation
A	AL-fa	N	No-VEM-ber
B	BRAH-vo	O	OSS-kah
C	CHAR-lee	P	Pah-PAH
D	DEL-tah	Q	Key-BECK
E	ECK-ho	R	ROH-me-OH
F	FOKS-trot	S	See-AIR-rah
G	Golf	T	TANG-go
H	Hoh-TELL	U	YOU-ne-form
I	IN-dee-ah	V	VIC-tah
J	JEW-lee-ETT	W	WISS-key
K	KEE-low	X	ECKS-ray
L	LEE-mah	Y	YANG-key
M	Mike	Z	ZOO-loo

11.2. Numerals

Numbers are transmitted using the following pronunciations:

Number	Pronunciation
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er

Most numbers (except for altitude and aircraft call signs) are transmitted by pronouncing them as a single unit. Thus the number 10 can be transmitted as either TEN or ONE ZERO, 75 as SEVENTY FIVE or SEVEN FIFE and 100 as ONE HUNDRED OR ONE ZERO ZERO.

Numbers containing decimals are transmitted slightly differently. When a number contains a decimal - each number is transmitted individually in the appropriate sequence. The word “decimal” itself is pronounced as DAY-SEE-MAL. Therefore, the number 121.7 is pronounced as WUN TOO WUN DAY-SEE-MAL SEVEN. The number 121.9 is pronounced as WUN TOO WUN DAY-SEE-MAL NINER.

11.3. The Basic Principles

The three basic principles of good radio communications are:

- Think before you talk.
- Be concise.
- Speak clearly.

11.4. Microphone Technique

To use the radio effectively means using good microphone technique. Good microphone technique refers to the way you hold the microphone as well as the way you speak into it.

It's good practice to squeeze the button a second before talking into it and to release it a second after finishing the transmission. Talk too early or release the button too quickly and you run the risk of accidentally cutting off part of the transmission known as 'clipping'.

Microphone technique also refers to the method of speaking and the choice of words used by the operator. When transmitting - use a normal conversational tone, speak clearly and distinctly whilst maintaining an even rate of delivery.

Try to avoid:

- The tendency to shout.
- Variations in the intensity of speech.
- Unusual inflections of the voice.
- Hesitant sounds such as "er" and "um".
- Long pauses between words.
- Using slang terms or colloquial expressions.
- The use of first names.
- Being too familiar with others.
- Using ambiguous words.

As a final check before transmitting, check that the volume of the radio is set at the optimum level.

11.5. Call Signs

Every vehicle and aircraft on the manoeuvring area has its own unique call sign. For aircraft the call sign is also the registration of the aircraft. VH-ABC is known as ALPHA BRAVO CHARLIE. This registration is assigned by the Civil Aviation Safety Authority when the aircraft is first registered.

Ground vehicles also have a unique numbering system. Each ground vehicle has a call sign made up of a description of the vehicle type plus a sequential number. Call signs operating on the movement area at Melbourne Airport include:

- Works Eighteen.
- Car One.
- Tug Blue One.
- Sweeper Seventeen.
- Truck Twenty-one.
- Tractor Twenty-two.

This call sign is assigned by the Airfield Operations Manager at Melbourne Airport.

11.6. Common Phrases

Melbourne Ground uses a number of standard phrases in order to make communication as simple as possible. By using standard phrases, it means that everyone has the same understanding.

Understand clearly what these phrases mean so that there is no misinterpretation as to what is being asked or directed.

Abeam	At right angles to an object or obstacle
Affirm	Yes
Approved	Permission for proposed action granted
Disregard	Consider that message/instruction as not sent
Expedite	To execute an instruction quickly and efficiently (without delay)
Hold Position	Stop and do not proceed until advised
Hold Short Of	Stop before a specified location (for a runway this is at runway strip edge and for a taxiway it is at the taxi intersection line)
Negative	No - permission not granted or that is not correct
Radio Check	I wish to know how well you can hear me
Request	Request permission to enter a runway or tow an aircraft
Roger	I have received and understood your message
Say Again	Repeat all (or the following part) of your message
Stand By	Wait and I will call you back
Vacate	Move off the runway, taxiway, or manoeuvring area
Vacated	I have vacated runway/taxiway/manoeuvring area
Wilco	I (fully) understand your message/instruction and will comply

11.7. Correction and Repetition

If an error has been made, the word 'CORRECTION' is used, and transmission resumed at the last phrase correctly transmitted.

If repetition of an entire message is required, the words 'SAY AGAIN' are used. If repetition or confirmation of only a portion of a message is required, use the phrase 'SAY AGAIN ALL BEFORE' (first word satisfactorily received) or 'SAY AGAIN ALL AFTER' (last word satisfactorily received).

11.8. Maintaining a Listening Watch



Whilst on the movement area - maintain a constant listening watch for aircraft movements. A 'listening watch' means having an awareness of radio transmissions in order to increase situational awareness.

Listen to the radio and pay particular attention to the clearances given to taxiing aircraft. Anticipate aircraft movements in the area you are operating to assist you in staying clear of them.

When working on a closed runway, park your vehicle facing towards any potential landing and departing traffic when not required to face the worksite. Ensure you are within hearing distance of your radio at all times and if leaving your vehicle carry a portable operations radio.

Important: it is your responsibility to stay alert to what is happening by listening to radio communications on both the non-operational and operational radio.

Never move outside the hearing distance of radio communication.

11.9. Standard Blanket Clearance

Some staff who work on the manoeuvring area operate under a system of control called a Standard Blanket Clearance. Standard Blanket Clearance means that these staff may move around the taxiway system without continual transmission for approval from Melbourne Ground.

The terms of the Standard Blanket Clearance require these staff to maintain a constant listening watch and remain clear of all aircraft movements.

A final consideration is that the terms of the Standard Blanket Clearance only apply during visual meteorological conditions. During Low Visibility conditions - every movement on the manoeuvring area must be approved by Melbourne Ground.

11.10. Signal Strength

It is a standard procedure to check the radio at the start of each shift. WSOs should check their radios at the start of the shift by communicating with their Team Leader or with another WSO at an appropriate time.

The readability of radio signals, that is how well a transmission is able to be heard, is categorised according to the following scale:

1. Unreadable.
2. Readable now and then.
3. Readable but with difficulty.
4. Readable.
5. Perfectly readable.

The correct procedure when requesting a radio check from the Team Leader is:

“WORKS TWEN-TEE-TOO – WORKS SEVEN-TEE-WUN REQUEST RADIO CHECK”.

The Team Leader will likely respond:

“WORKS SEVEN-TEE-WUN - READ YOU FIVE”.

Acknowledge the call by transmitting your call sign again and how well you read them:

“WORKS TWEN-TEE-TOO - READ YOU FIVE ALSO”.

11.11. Radio Failure

A radio failure is a fairly unlikely event given our modern radio equipment, however, a radio failure will quickly become evident to a WSO providing that they are alert and keeping a listening watch. If a radio failure is suspected there are a couple of simple things that can be done to test the radio:

1. Check the mute and volume controls and then transmit again.
2. Check the plugs and then transmit again.
3. Change location and transmit again.

If there is no response to any of these, there is a possibility that you are experiencing radio failure whilst you are out on the movement area. Vacate the movement area immediately and advise the Team Leader or Supervisor by phone in the event that the non-operational radio has failed as well.

Important: *a radio failure will be pretty obvious if you are maintaining a listening watch, as you will see aircraft moving but will hear no corresponding communications on the radio.*

11.12. Common Radio Frequencies

Melbourne Airport operates a digital radio system for all non-operations communications - communication with Melbourne Ground, Melbourne Tower and the Aerodrome Terminal Information Service (ATIS) remain on the analogue radio system.

11.12.1. Non-operations Radio

The non-operations digital radio system is a two site multi-channel system that offers overlapping coverage of the airport. As it is a two-site system, the second site always acts as a redundancy in the event of a failure.

The non-operations digital radio network eliminates static normally heard on analogue radio however with digital radio you will experience a slight delay in the transmission and receiving of messages – similar to the delays you would experience when using your digital TV or radio.

The new system is split into 'zones' and within each zone are several channels – refer to Table 2 below: Digital Talk Groups and Users.

Table 2. Digital Talk Groups and Users

New/Digital Talk Group	Zone	User Group	User
EMERGENCY ALL	1	APAM	RESERVED FOR USE BY APAM IN EMERGENCIES
TERM SERVICES	1	APAM	ELECTRICIANS
TERM OPERATIONS	1	APAM	ACC/COMMS/DUTY MANAGERS
AIRSIDE MAINT	1	APAM	AIRSIDE MAINTENANCE TEAM
AIRSIDE OPS	1	APAM	APAM OPERATIONS
SECURITY GEN	1	APAM	ISS SECURITY
AIRFIELD LIGHT	1	APAM	AIRFIELD LIGHTING TEAM
W.S.O.	1	APAM	WSOs
LANDSIDE OPS	1	APAM	LANDSIDE OPERATIONS TEAM
EMERGENCY A	1	APAM	ACC/COMMS/DUTY MANAGERS
EMERGENCY B	1	APAM	ACC/COMMS/DUTY MANAGERS
SPARE 1	1	RESERVED FOR APAM	-
SPARE 2	1	RESERVED FOR APAM	-
SPARE 3	1	RESERVED FOR APAM	-
SPARE 4	1	RESERVED FOR APAM	-
SPARE 5	1	RESERVED FOR APAM	-
TROLLEY SERVICES	2	CONTRACTOR	SmarteCarte
BUS SERVICES	2	CONTRACTOR	Skybus
TRAFFIC CONTROL	2	CONTRACTOR	OCS Traffic
CAR PARKS	2	CONTRACTOR	OCS Car Parks
BAG HANDLING	2	CONTRACTOR	BCS
CLEANING A	2	CONTRACTOR	ISS Cleaning
CLEANING B	2	CONTRACTOR	Spotless
TALK GROUP A	2	CONTRACTOR	RESERVED
TALK GROUP B	2	CONTRACTOR	RESERVED
TALK GROUP C	2	CONTRACTOR	RESERVED
TALK GROUP D	2	CONTRACTOR	RESERVED
TALK GROUP E	2	CONTRACTOR	RESERVED

11.12.2. Operations Radio

There are five radio frequencies on the analogue system that everyone must be familiar with.

- 121.7 Melbourne Ground
- 120.5 Melbourne Tower
- 118.0 Automatic Terminal Information Service
- 127.2 Melbourne Clearance Delivery
- 131.0 ARFF Emergency

Melbourne Ground (121.7 Mhz) is the frequency that most, if not all, communications with the Control Tower will be on. Melbourne Ground is sometimes referred to as the Surface Movement Controller.

Melbourne Tower (120.5 Mhz) is the frequency that aircraft arrivals and departures are controlled through. At night Melbourne Ground is normally switched through to Melbourne Tower. You may notice a slight difference at night when the frequency is switched as you will hear landing and take-off approvals on the Melbourne Ground frequency. The switching is done in the Control Tower and does not require you need to change frequencies.

During low visibility the Melbourne Tower also takes over control of all movements on the airport, including vehicle movements and aircraft take-off and landing clearances. This is done to increase the safety on the movement area.

The Automatic Terminal Information Service (ATIS) is the recorded weather and aerodrome information service for Melbourne Airport. This automated service provides current weather and aerodrome information.

Melbourne Clearance Delivery (127.2 Mhz) is the frequency used by pilots to ensure their initial flight plan is correct. However it is now also used to control the movement of tugs on the manoeuvring area. The new procedure is for tug operations and repositioning aircraft or equipment via the taxiway. All tugs and vehicles repositioning aircraft and/or equipment via the taxiways must make initial contact with Melbourne Clearance Delivery. They will advise the tug or vehicle to monitor ground on frequency 121.7 MHz. The vehicle is not to contact ground but monitor only. Further instructions will then be given by Melbourne Ground.

ARFF Emergency Channel is only to be used by ASOs to communicate with the Fire Commander during an emergency.

12. Airport Emergency Plan

The Airport Emergency Plan (AEP) is the plan established by Melbourne Airport in conjunction with both the State and Federal emergency agencies to enable an effective and efficient response to an emergency on or near the airport.

If you have any questions in relation to any parts of this section, please contact the Team Leader who can escalate to Airfield Operations who will provide further clarification.

The AEP was first established to provide for the timely, measured and coordinated response to and recovery from an emergency either at, directly affecting, or in the vicinity of, Melbourne Airport.

The aim of the AEP is to provide a strategy for the timely, measured and coordinated response to and relief from an emergency at Melbourne Airport. It also aims to set the foundations for the transition into the recovery phase of an emergency.

In this context recovery can mean human recovery, aircraft recovery or airport recovery.

The plan aims to achieve the following objectives:

- Save lives and minimise injury.
- Ensure we are adequately prepared and resources are available for an emergency situation.
- Meet our obligations under International treaties and regulatory responsibilities from both ICAO and CASA.

12.1. To Save Lives and Minimise Injury

When we prepare detailed plans for an emergency we are putting into place the mechanisms that will assist in saving lives and minimising injury. For example, when we plan access and egress routes we are making sure that ambulances can get to and from the site quickly.

It is important to note the most important person in an emergency is yourself. At all times your health and safety must come first. The plan is therefore written to provide protection for you in carrying out your duties in an emergency.

12.2. To Ensure Adequate Preparation

As the operator of a certified aerodrome, it is part of our role and responsibility to have an Airport Emergency Plan in place. It is not enough to have an emergency plan that just sits idle on a shelf gathering dust – the plan must be dynamic and constantly updated to meet the current environment.

As a WSO, your preparation for an emergency situation requires:

- Familiarisation with the Airport Emergency Plan
- Participation in training

12.3. To Meet our Legal Obligations

We have an obligation under both international treaties and national regulations from both ICAO and CASA to develop an Airport Emergency Plan and to test this plan at least once every two years.

Melbourne Airport exceeds this requirement by testing the plan annually.

12.4. Facilities

The Airport Emergency Plan outlines a number of locations and important equipment stores that must be known by all airport operations staff.

12.4.1. Emergency Access Gates



Melbourne Airport has five emergency access gates located around the airport. These are:

Gate Designation	Gate Number	Location
A	2	Off Sunbury Road near the Emergency Staging Area
B	28	Off APAC drive, near the corner of Centre Road
C	22 (and 22A)	Off Operations Road next to Qantas Maintenance. Entry to the airfield is via Gate 22A near Taxiway Kilo
D	12	At the end of Operations Road between the Airservices Australia Compound and the Main Fire Station
E	4 (and 8)	Accessed off Sunbury Road near the Wildwood Road roundabout. Entry to the airfield is via Gate 8 next to the Fire Proving Ground

A map of the emergency access gates is located in [APPENDIX A](#).

Located at Emergency Access Gate A is a secondary Gate 2A which provides access to airside.

12.4.2. Emergency Staging Area

Once emergency vehicles enter airside, they need to be staged. Staging prevents the problem of 'convergence' from occurring.

Convergence occurs when too many vehicles congregate at the emergency site that aren't required for the response. Convergence is a serious problem that must be managed.

It is worth keeping in mind that outside the airport, emergency responders are used to self-activation (driving straight to the emergency scene) and will do the same thing airside unless they are controlled.

As the airfield can be a dangerous place to the unwary (active movement areas, complicated access roads, pits, culverts etc.) all external emergency vehicles must be held at a Staging Area and only escorted to the emergency site when requested by the Incident Controller.

Likewise, once a vehicle has performed its required role at the emergency site, it should be escorted back to the Staging Area to keep the number of vehicles at the emergency site to a minimum.

The Staging Area location should be nominated by the Incident Controller in conjunction with Car 2. The Staging Area near Gate A may be appropriate for the emergency. If not, another suitable area should be chosen near the emergency site in a safe area with easy road access.

13. Summary



Before going out onto the movement area:

- Know the rules and procedures.
- Operate the radio with professionalism.
- Plan your route and work carefully.

And when you are out on the movement area:

- Be patient.
- Comply with the rules for drivers.
- Stay attentive and alert at all times.
- Never move outside the hearing distance of radio communication.
- Avoid any tendency to rush while completing your duties.

14. Airside Operational Policies

The below Melbourne Airport Policies and Procedures can be found on the [Melbourne Airport Website](#).

Policies and Procedures
Airside Conditions of Use
Aircraft Turnaround
Airside Vehicle Control Handbook
Airside Waste Management
Airside Works Safety
Disabled Aircraft Recovery Plan
Drug and Alcohol Management Plan
Ground Running of Aircraft
Melbourne Airport Emergency Plan
Pedestrian Safety
Spill Prevention and Response
Staging and Storage of GSE and ULD's
Transfer of Explosive Cargo
Wildlife Hazard Management Policy

15. References

Title	
CASA Website (Manual of Standards Part 139)	https://www.casa.gov.au/rules-and-regulations/changing-rules/casr-regulatory-structure/casr-part-139-aerodromes

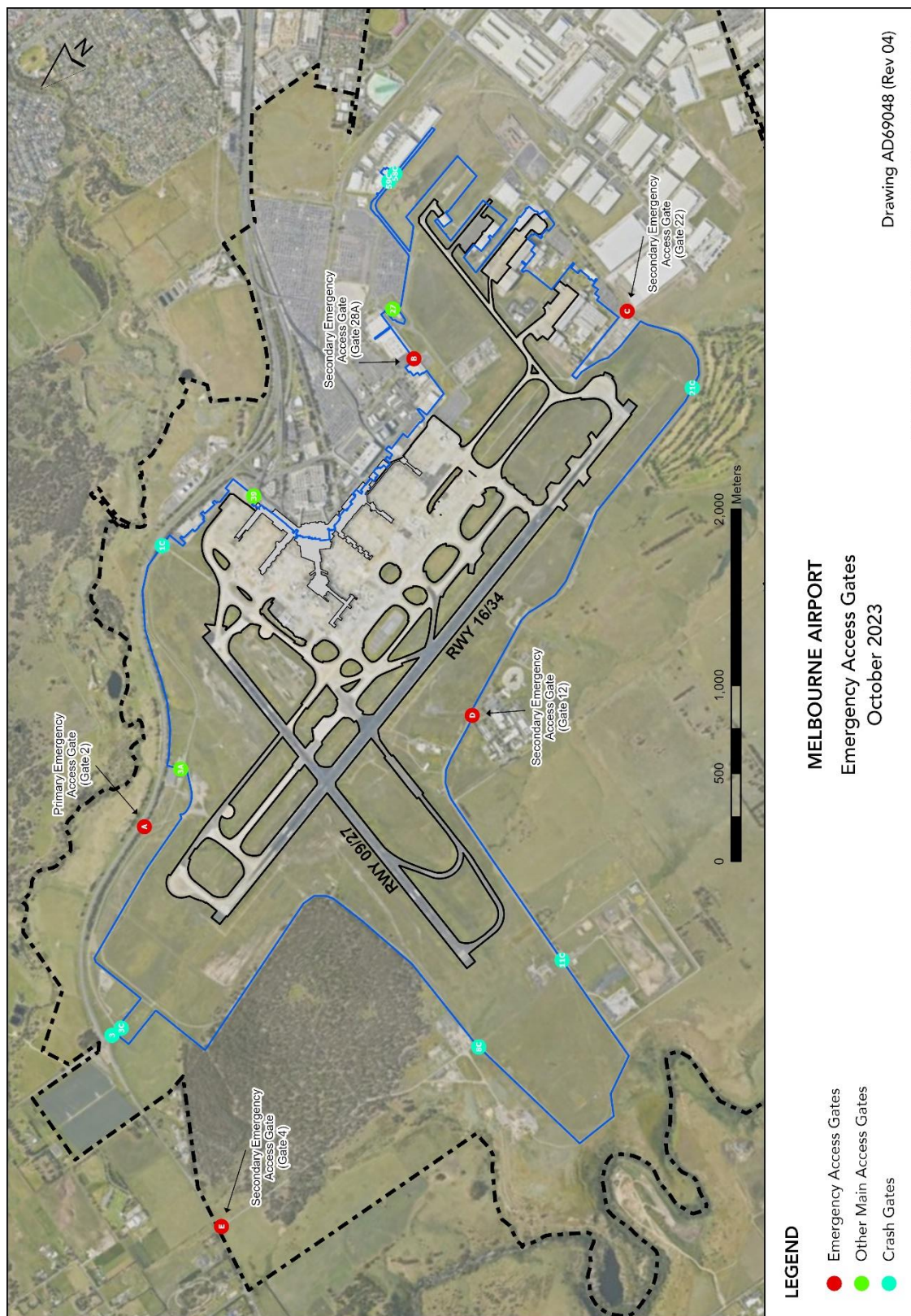
16. Further Information

For further information with regards to this **Manual**, please contact: airfieldsupport@melair.com.au.

17. Review Schedule

This **Manual** remains in effect until repealed or replaced. Subsequent reviews of this procedure will be carried out as and when necessary to maintain the accuracy and intent of the procedure, at an interval of not less than 24 months from the date of issue

APPENDIX A Location of Emergency Gates



APPENDIX B Completing the Logbook

Purpose:

The purpose of this instruction is to detail the method for completing the logbook.

Procedure:

The overriding principle when recording details in the logbook is to be clear and concise, so that anyone who reads the logbook will understand the entry.

See [APPENDIX C](#) for an example logbook page.

1. Fill in the date and time (this should reflect the date and time that you commence your shift)
2. Fill in your name and signature.

Note: When you sign the logbook, you are confirming that you have been briefed by the person going off shift and that you understand all of the information that has been recorded during the previous shift (where a shift handover is required).

3. Scan and check off the list under 'movement area status', if applicable. Ensure:
 - the vehicle has been checked for serviceability
 - current MOWP have been noted
 - current works permits have been noted
4. During your shift complete the 'time' and 'remarks' columns when a recordable activity occurs. If an item needs 'follow up', a short note or mark should be placed in the 'follow up' column and the item should be followed up during or after the shift ends.

Recordable activities

- unusual events requiring further follow up action
- significant weather (storms, reduced visibility, high winds)
- significant articles which have been picked up on the movement area
- unusual occurrence such as an emergency (including ambulance escorts) or aircraft incidents
- vehicle or equipment accidents
- messages or instructions to oncoming staff (utilise the 'message' section of logbook)
- works such as time limited works or MOWP works and other hazards
- all escorts, contractors and deliveries

Do not include your assumptions, opinions or guesses.

5. At the end of the shift, fill in the date/time and your name and signature.

Important: *When you sign the logbook, you are confirming that all essential information has been entered into the logbook.*

[1]

—: tasks performed

MESSAGES:

Uncontrolled when downloaded or printed

APPENDIX D Reporting Accidents, Incidents and Hazards

Purpose:

To describe the process for Works Safety Officers to follow when reporting accidents, incidents and hazards.

Procedure:

If an accident, incident or hazard has occurred on the airside then:

1. Report the accident/ incident/ hazard to your Team Leader or the Senior Airside Safety Officer (Car 2). Team Leaders should report all incidents to the Senior Airside Safety Officer.
2. The Senior Airside Safety Officer will then inform (based on the severity of the incident):
 - Air Traffic Control (who will inform all air and important ground traffic)
 - Emergency Services
 - Integrated Operations Centre who will coordinate the response of the emergency services (if necessary)
 - Airfield Operations Manager
3. When arriving at the scene of an incident (WSO under instruction from Car 2)
 - approach the scene where the incident occurred with caution
 - Do not place yourself in danger
 - render assistance to anyone in need (however, do not place yourself in danger)
 - try to avoid contamination of the scene
 - protect the scene as much as possible
 - If there was an injury or the possibility of an injury, ask the organisational representative if they have reported the incident to WorkSafe.
4. Take notes in your Logbook and if necessary on the Accident, Incident, Hazard Report form (refer [APPENDIX E](#)), however once reported, the incident will be the responsibility of the Senior Airside Safety Officer (Car 2).
5. The Senior Airside Safety Officer (Car 2), or representative, will be responsible for investigating the incident and submitting an Accident, Incident and Hazard Report form (refer [APPENDIX F](#)).
6. Submit the Accident, Incident and Hazard Report via <https://melair-safety.nogginoca.com/>

APPENDIX E Completing an Accident, Incident and Hazard Report Form

Purpose:

To detail the method for completing an Accident, Incident, Hazard Report form.

Important: *The Accident, Incident and Hazard Report form should only be utilised by the person responsible for completing the Incident Report – this would normally be the Senior Airside Safety Officer (Car 2) or an Airside Safety Officer appointed by the Senior Airside Safety Officer.*

Procedure:

1. Fill in if it is an emergency or not
2. Fill in if you are reporting an incident or hazard
3. Next, complete your details including:
 - Your name
 - Your Company
 - Email address
4. Fill in the incident details. (e.g. Vehicle accident at E9)
5. Immediate action that has been taken (e.g. 'Car 2 informed')
6. Name the people that have been notified of the incident

Details of the incident in the 'Details' section. These include, but are not limited to:

- Date, time and location
- Names of all involved (names should be spelled out in full i.e. John Smith not J.Smith or John)
- ASIC/ ADA and company details of all involved
- AUA and vehicle descriptions or aircraft registrations and type
- Cause of accident, incident or hazard
- Any other relevant details

Things not to include:

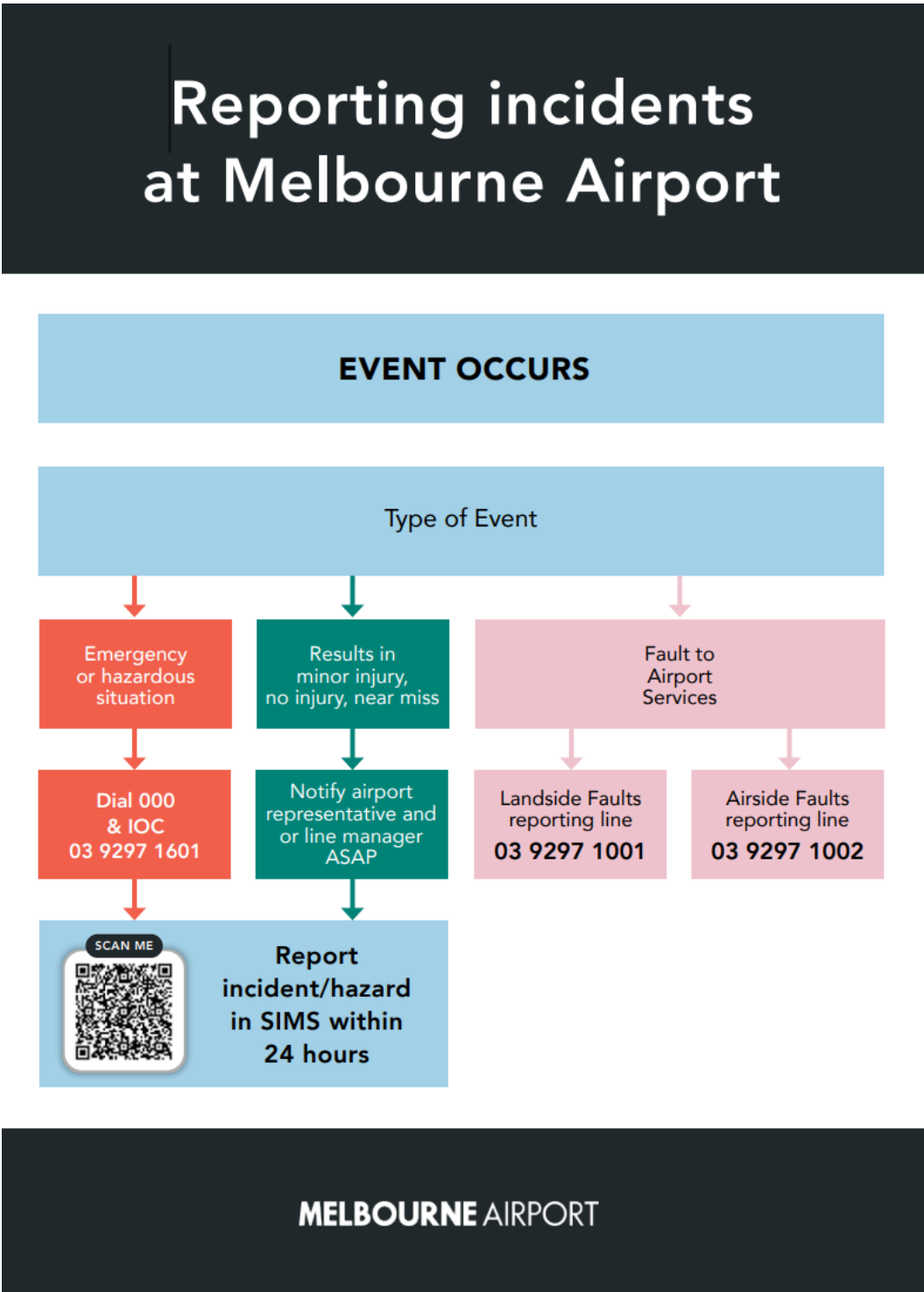
- Your assumptions, opinions or guesses

Important: *Consider all information as vital no matter how trivial it may seem at the time. The objective is to identify the causes of the incident and to put in place measures to ensure such an incident does not occur again.*

Pictures and diagrams are also useful if words are too inaccurate or wordy. If you run out of room on the first page, keep using as many pages as necessary in order to completely convey the details of the incident.

Tip: The use of dot points will make your report more concise.

APPENDIX F Accident, Incident and Hazard Report Form



APPENDIX G Daily Works Safety Officer Checklist

Purpose:

To describe the minimum actions to be taken by Melbourne Airport Works Safety Officers when undertaking daily management of works.

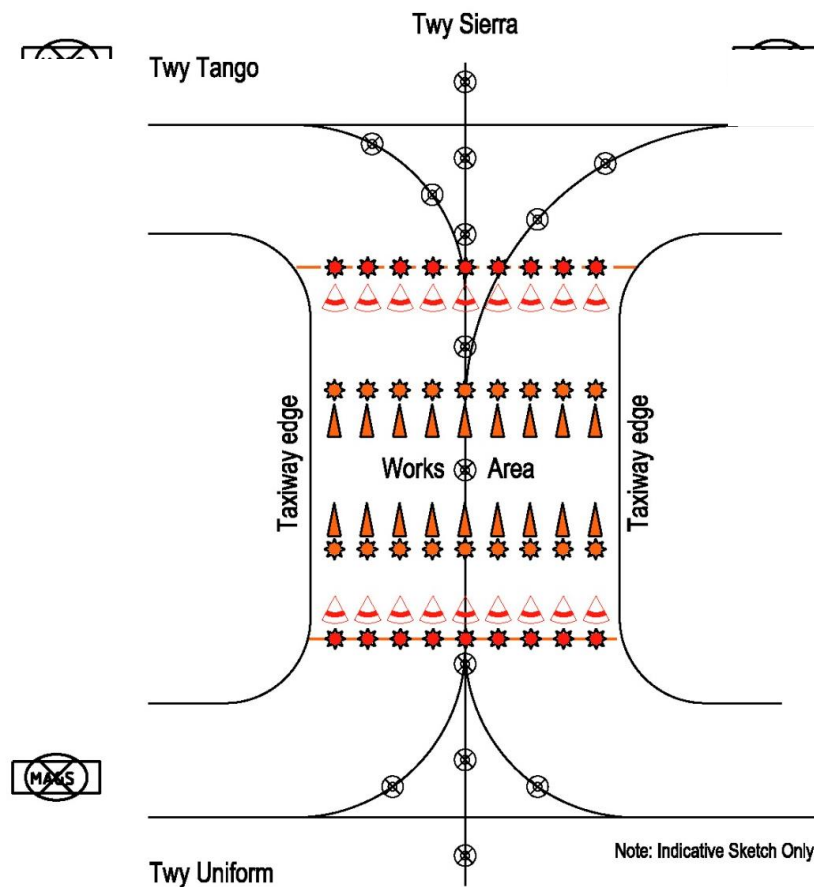
Procedure:

The Works Safety Officer is responsible for the effective implementation of works safety policies and procedures to ensure all airfield works are conducted safely and that the works do not compromise overall airfield safety or environmental controls.

Specific Responsibilities include:

- Facilitate contractor access to the airfield in accordance with appropriate safety and security procedures
- Ensure vehicles and plant are correctly marked and lit
- Ensure correct access routes are used and airside escort procedures are adhered to
- Ensure airside driver rules are adhered to
- Monitor works at the work site ensuring Method of Working Plan (MOWP) requirements and/or Standard Safety and Security Procedures are adhered to, including that the work site is appropriately marked
- Report any incident, accident or damage to facilities to the Works Safety Officer Team Leader and/or Senior Airside Safety Officer
- Monitor/inspect the environmental controls in place during the works and report any environmental issues or incidents to the Works Safety Officer Team Leader
- At the completion of works, assist in ensuring normal safety standards have been restored
- Ensure that all plant, equipment and stockpile, are secure to ensure that they do not blow around the site in windy conditions
- Ensure that all bins have a closed self-closing lid or are covered with a tarpaulin
- Ensure all work site associated lighting is shielded and not facing approaching aircraft.

APPENDIX H Taxiway Closure Markings



Key and Positioning Guidelines

-  Unserviceability lights (9 placed at 3.0m centres) - night/ poor visibility
-  Unserviceability cones (across Twy at 3.0m centres) - day and night/ poor visibility
-  Obscured taxiway centreline lights (all leading into area) - night/ poor visibility
-  Witches hats (across Twy at 3.0m centres) - day and night/ poor visibility
-  Limit of works lights (across Twy at 3.0m centres) - night/ poor visibility
-  Taxiway Intersection Marking

Where the limit of works lighting and/or the site restriction marking coincide with the unserviceability lighting, Melbourne Airport will only install and energise the unserviceability lighting.

The limit or works marking and/or the site restriction marking will be installed when documented in the MOWP or LWP.

APPENDIX I Escorting of Vehicles

Purpose:

To detail the procedure to be followed by a Works Safety Officer as an authorised Escort driver, responsible for escorting vehicles airside on their Airside Driver Authority (ADA). **The Works Safety Officer must brief each escorted vehicle driver verbally before proceeding with an escort. This is a critical procedure to ensure all personnel are informed of each other responsibilities the route and any contingencies.**

Procedure:

Briefing the Driver

The first thing to do upon arrival at the gate is to establish **verbal** contact with the driver and confirm exactly where they need to go. The most important thing to remember is to **verbally** brief the driver thoroughly, so that they understand exactly what they are expected to do and which route you are going to take. **You must also confirm the driver has understood your instructions. This can be done by quizzing them on parts of the brief.**

Make sure the driver of the vehicle under escort understands all of the following:

- That they must stay close to the escort vehicle
- That they must stay alert and not be distracted by the aircraft
- That they must not deviate from the route being taken
- That they should use their lights and horn to attract attention if necessary
- That they must not depart from the destination without an escort

Things to Keep in Mind

For the Works Safety Officer performing the escort, there are a number of things to keep in mind when performing the escort:

- Think and plan the route before starting
- Activate your amber rotating beacon before you move and advise escort to use hazards
- Plan your route carefully so that you don't cross active movement area
- **Use the height sign indicators at Gate 27 and Gate 3 to confirm the height of the vehicle you're escorting. If you're unsure of a height take a physical measurement.**
- Ensure you know the **height** of the vehicle. Many sections of airside road have low clearances and it is vital that you do not perform an escort of an oversize vehicle through these areas
- Consider the manoeuvrability of the vehicle being escorted when choosing your route
- Signal to the driver to follow
- Keep the vehicle being escorted under constant surveillance
- Drive at a constant speed so that you do not lose contact with the vehicle
- On arrival at the delivery point make sure the vehicle parks correctly
- Confirm the time required to unload or complete the task with the driver
- Stay with the vehicle or arrange for it to be supervised whilst they unload (if applicable)
- Once they have unloaded, escort the driver back to the exit Gate

Managing the Delivery

Whenever you escort any delivery vehicle to any location on the airside i.e. Loading docks and work sites, the following is important:

- Unloading cannot commence until the ASIC holder is present to receive the delivery
- The escort driver will only wait with a VIC holder for a maximum of 5 minutes and if no ASIC holder arrives to accompany the VIC holder, the vehicle and driver will be immediately escorted back landside

Important: *It is the responsibility of the person expecting the delivery to have an ASIC holder available to meet each delivery at all times.*

Also note that Gate 27 generally contacts the recipient to advise of the impending delivery, leaving plenty of time to reach the delivery point. If the driver has been waiting for some time, advise the driver to contact the recipient just prior to the commencement of the escort and notify them of the impending arrival.

- The escort driver will instruct the ASIC holder who meets the delivery to remain with the VIC holder until the escort driver returns. Record the ASIC number in your logbook and if the VIC holder is abandoned – raise a security incident report for a security breach.
- Contact the Team Leader immediately if you have a problem that you can't manage

Works Safety Officer Escorting Requirements

For escorting of vehicles, performed during the day or night, the Works Safety Officer must assess the risk of each escort and can reduce the number of vehicles being escorted at any one time. **The standard for escorting is as below:**

- One WSO required for up to two (2) single unit trucks
- One WSO required for up to four cars/vans/utes

Noting WSO assess the risk of each escort, consider the route in advance and can reduce the number of vehicles being escorted at any one time.

APPENDIX J Method of Works Plan

MELBOURNE AIRPORT

Method of Working Plan

MAPMP 2.0 DP3

YMML 2023/5

AFO-AW-PLN-07-0014

Version 1.0

MOWP Approval date	22/08/2023
MOWP Commencement date	05/09/2023
MOWP Expiry	30/04/2026
Works Complete	30/04/2025

Document Number	AFO-AW-PLN-07-0014		
Version Number	Version 1.0		
Originator	Airfield Works Coordinator APAM	Date	27/07/2023
Approver	Head of Airfield, APAM	Date	22/08/2023

APPENDIX K Local Works Plan

MELBOURNE AIRPORT

On Air: Local Works Plan

LED Lighting Upgrade

LWP	2023-1-24 Amendment 2		
MOWP	MOWP YMML LED Lighting Upgrade Stage 8		
Approved By	Ronald Butterworth Airfield Works & Operations Coordinator		
Contact	0439 205 103	Issued date	23/08/2023

Description

ADB Safegate will be closing Taxiway Echo between Taxiway Papa and Taxiway Sierra for the LED Lighting Upgrade Project to conduct the survey, NDD, geological investigation and the construction works to enable the replacement of the current incandescent lights to LED lights.

Please note on Thursday the 24th of August at 23:30 local the closure of the intersection of Taxiways Alpha and Echo will take over and will conclude at 05:30 the following morning.

The closures will take place as follows:

Wednesday the 23rd of August at 21:00 to 05:45 local the following morning.

Thursday the 24th of August at 21:00 to 23:30 local.

Friday the 25th of August at 21:00 to 05:45 local the following morning.

Monday the 28th of August at 21:00 to 05:45 local the following morning.

Tuesday the 29th of August at 21:00 to 05:45 local the following morning.

Closure and Special Instructions

Airfield Operations Officers will place unserviceability cones and lights on Intermediate Holding Points unless stated below.

Please note unserviceability cones are to be placed 2m beyond the IHP's to allow works to take place on the IHP's.

For full details of this closure please refer to the MOWP YMML 2023-1 Stage 8

ATC: Closure Lighting Control

Upon call from Airfield Lighting staff, ATC to select/deselect the following MOWP Button/s:

- T52

NOTAM

NOTAM number C1435/23	NOTAM number C1444/23
TWY E BTN TWY S AND TWY P CLSD DUE WIP REF TO METHOD OF WORKING PLAN 2023-3 STAGE 8 FROM 08 231100 TO 08 291945 2308231100 TO 2308231330 2308241100 TO 2308241330 2308251100 TO 2308251945 2308281100 TO 2308281945 2308291100 TO 2308291945	TWY E BTN TWY S AND TWY P CLSD DUE WIP REF TO METHOD OF WORKING PLAN 2023-3 STAGE 8 FROM 08 231330 TO 08 293130

Works Contacts

Name	Position	Company	Contact
Car 2 (available 24/7)		APAM	0418 335 985
Luca Faidutti	External Project Manager	DCWC	0428 652 768
Paul Coffey	Construction Manager	ADB Safegate	0405 520 317
George Al Makdissi	Leading Hand	ADB Safegate	0402 687 647
Jarred Williams	Airfield Interface Manager	APAM	0431 462 698

APPENDIX L Map of Protected Native Vegetation

