

# *Runway Safety Awareness Guide*

Incorporating Airside Driving Authority Category 3 & 4





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# Introduction

Perth Airport's **Runway Safety Handbook** has been created to promote safe driving practices for holders of Category 3 and 4 Airside Driving Authority (ADA). A significant risk at Perth Airport involves runway incursions and the content of this handbook aims to provide drivers with the tools necessary to avoid a runway incursion and generally promote the principles of runway and manoeuvring area safety.

The handbook includes:

- Rules specific to Category 3 and 4 ADA holders
- Planning your aerodrome operation
- Signage and markings
- Air Traffic Control (ATC) procedures
- Communications

The handbook is designed to be read in conjunction with the

- **Perth Airport Airside Safety Awareness Guide**
- **Perth Airport Airside Vehicle Control Handbook**

The above documents are available from the Perth Airport, Airport Services Office or via the Perth Airport Extranet:

**Perthairport.com.au/Extranet**

**User name:** member

**Password:** perthairport

Copies of this handbook are available from the Perth Airport, Airport Services Office, located on the ground floor of Hkew Alpha, 2 George Wiencke Drive, Perth Airport and the Perth Airport Extranet.

# Aerodrome Hazards

Note: General aerodrome hazards are covered in the *Perth Airport Airside Safety Awareness Guide*. The below hazards are key hazards relating to operations on the aerodrome manoeuvring area.

## *Runway Incursion*

Runway incursions represent one of the most significant aviation hazards, and involve a vehicle (or aircraft) entering a runway when it has not received a clearance to do so. Several major aircraft accidents have occurred following runway incursion incidents and have resulted in multiple fatalities. Human factors failures are a primary cause of runway incursion incidents. This guide aims to reduce the risk of you being involved in a runway incursion incident through promoting:

- Sound knowledge of the aerodrome manoeuvring area layout
- Understanding of key phrases and terminology
- Importance of planning your aerodrome operation to prevent unexpected situations
- Radio communication procedures

## *Foreign Object Debris (FOD)*

Foreign object damage occurs when loose material and debris on the movement/manoeuvring area causes damage to aircraft. FOD incidents are a significant hazard to airlines and result in millions of dollars of damage and lost productivity through aircraft downtime each year. Any FOD detected on the aerodrome manoeuvring area must be immediately reported to the Perth Airport Control Centre on 9478 8572 so that it can be recovered by Airfield Operations staff.

## *Jet Blast*

Jet blast is the blast caused by aircraft engines and can be particularly hazardous. The effects of jet blast can kill or cause serious injury. In order to prevent being exposed to the hazard from jet blast, always keep well clear of aircraft whilst operating on the manoeuvring area.

# Applying for a Category 3 or 4 ADA

Application for an Authority to Drive Airside (ADA) must be made in strict accordance with the Perth Airport Airside Vehicle Control Handbook (AVCH).

Applicants seeking to apply for a Category 3 and Category 4 ADA must have successfully attained a Category 2 ADA and have operated under that Category for a minimum period of 8 weeks.

Category 3 ADA holders are permitted to operate in accordance with a Category 2 ADA plus taxiways and taxilanes for the repositioning of aircraft and/or servicing of facilities.

Category 4 ADA holders are permitted to operate in accordance with a Category 3 ADA plus runways.

## Rules specific for Category 3 and 4 ADA holders

Drivers must comply with all safety rules as documented in the *Perth Airport Airside Safety Awareness Guide* and *Perth Airport Airside Vehicle Control Handbook*. Important requirements relating to driving rules for Category 3 and 4 ADA holders are outlined below:

### Beacons

All vehicles operating on the movement area must have and operate at all times an amber rotating beacon. The beacon must be visible from 360 degrees.

### VeeLo

All vehicles operating on the Perth Airport Manoeuvring Area (runways and taxiways) must be equipped with a serviceable VeeLo unit, which, when mounted to a vehicle transmits a signal to the ATC, enabling identification of the vehicle. Any vehicle not equipped with a VeeLo unit will not be permitted to enter the Manoeuvring Area unless under escort by a Perth Airport Operations vehicle.



### Call sign

Each vehicle is allocated a call sign which is directly linked to the unique code assigned to the VeeLo unit fitted to the vehicle. Know your vehicle call-sign.

### Driving – speed limits

While Airside, you must obey all signs and, unless indicated otherwise, adhere to the speed limits as documented in the Airside Vehicle Control Handbook. Drivers must operate their vehicle in accordance with the conditions.



## *Incidents*

If you see a hazard and/or an incident you must report it to

- In an emergency situation Perth Airport Control Centre Emergency line - 9478 8500
- Any other occurrence – Perth Airport Control Centre - 9478 8572

## *Familiarity*

Drivers operating on the Manoeuvring Area must be familiar with:

- The designations of the Runways and Taxiways
- Aviation radio procedures
- The meaning of ATC light signals
- Signs and markings used on the manoeuvring area
- Content of the *Perth Airport Airside Safety Awareness Guide* and *Airside Vehicle Control Handbook*

Under no circumstances are vehicles, other than Airfield Operations vehicles and emergency services vehicles in an emergency, permitted on the Manoeuvring Area during Low Visibility conditions.

Drivers must be aware of the hazard that can be created by jet blast and propeller wash when operating a vehicle in the vicinity of the manoeuvring area.

Drivers should not drive from unsealed areas directly onto paved aircraft surfaces to avoid FOD.

You must maintain a listening watch for other vehicles, aircraft and radio transmissions at all times while operating on the manoeuvring area.

# Planning your aerodrome operation

A thorough knowledge of the manoeuvring area physical characteristics is essential for safe driving. Take a moment to think about where you need to go and how you are going to get there. Listed below are important points of interest to consider BEFORE driving on Perth Airport's runways and taxiways:

- You should only enter the manoeuvring area when you have an operational need to do so.
- Have a current Perth Airport plan of the manoeuvring area available to use. Current manoeuvring area plan is available from the Perth Airport Airfield Operations office.
- Listen to the ATIS to determine the runway/s in use.
- Check NOTAMs to determine any areas of the aerodrome that may be restricted due to unserviceability or aerodrome works.
- Plan the tasks to be completed whilst you are on the manoeuvring area, and avoid any tendency to rush tasks.
- Ensure your vehicle is serviceable, and any loose items that could become FOD are removed and/or secured
- Check the proposed route against the manoeuvring area plan and pay special attention to any complex intersections.
- Always be aware of where you are and what is around your vehicle – especially when operating close to a runway.
- If in doubt of your current location on the manoeuvring area, STOP and request ATC assistance. Someone will come to assist you. If possible, move off the taxiway or runway to a safe position.
- Know the light signals to be observed by ATC in the event of radio failure as outlined in this guide.
- Conduct a briefing with passengers to ensure they are familiar with 'sterile' environment techniques to avoid introducing any distractions within the vehicle.

Situational awareness is key to avoiding a runway incursion incident. Take note of the following:

- Maintain a 'sterile environment' in the vehicle by switching OFF unnecessary distractions such as external radios and mobile phones.
- Avoid conversations with passengers that may distract you from responding to ATC clearances/instructions or may contribute to you becoming unfamiliar with your location.
- Minimise 'head down' activities whilst the vehicle is moving.

## Towing Operations

If you are conducting aircraft towing activities on the manoeuvring area, then you must be mindful of the following:

- Direct line of communication between the tug and the aircraft must be available at all times during the tow.
- The aircraft's anti-collision beacon MUST be activated.
- All persons involved in the tow operation are aware of their roles and responsibilities and must be familiar with the specific company towing procedures.
- Where a PAPL Airfield Operations escort is being provided, follow all instructions of the Airfield Operations Officer in charge of the escort.

## ATC Procedures

**Drivers of vehicles must obtain an ATC clearance and instructions before entering the manoeuvring area.**

Once receiving an ATC clearance or instruction you should:

- Ensure that you understand the instruction and ask for clarification if unsure.
- Read back the clearance or instruction including your vehicle call-sign
- Monitor ATC clearances/instructions issued to other vehicles and aircraft to help you achieve an awareness of what is happening around you.
- Be cautious of similar sounding call-signs of other aircraft and vehicles. Call-sign confusion is a common causal factor of runway incursion incidents.
- Avoid over-transmitting other aircraft or vehicles when reading back an ATC clearance – over-transmitting can contribute to a runway incursion incident. If you are unsure that ATC has received your read back then you should ask for clarification.
- Listen carefully to avoid responding to a clearance/instruction intended for someone else.
- Advise ATC if you anticipate a delay, or are unable to comply with their instructions.
- Look for light signals from the tower if you suspect radio problems.

**Remember an ATC instruction to operate on taxiways or other areas of the aerodrome is NOT a clearance to cross a runway holding position, or to enter or operate on a runway. Only the words CROSS or ENTER authorise a vehicle to operate on a runway.**

# Communications and Radio Procedures

Effective driver/ATC controller communications are vital to safe aerodrome operations. You can help enhance the controllers understanding by responding (read back procedures) appropriately and using standard phraseology.

Guidelines for clear and accurate communications:

- Use standard phraseology when contacting ATC to ensure clear and concise communication. Your initial transmission should contain these elements:
  - Who you are calling
  - Your call-sign
  - Where you are located
  - A concise description of what you want to do
- State your position whenever making initial contact with any tower or ground controller, regardless of whether you have previously stated your position to a different controller.
- Focus on what ATC is instructing you to do. Do not perform any non-essential tasks while communicating with ATC.
- Keep your communications concise and to the point.
- Acknowledge all clearances - read back all required elements of the clearance and end your transmission with your call-sign. Remember, keep transmissions clear and concise.
- Read back the holding position specified in a clearance or instruction and any clearance or instruction to:
  - Hold short of a runway
  - Enter a runway
  - Cross a runway
- Include the runway designator in all read backs
- Clarify any misunderstanding or confusion concerning ATC instructions or clearances

## Conditional Instruction

A conditional instruction or clearance means the tower may give approval to undertake a task or action and include a condition as part of the approval.

**Note:** If your request is complex, you should consider contacting ATC by phone to discuss any special procedures that may be required prior to the first radio transmission.

## Entering the Manoeuvring Area

Before you request to enter the manoeuvring area you must give consideration to the following:

- The communications equipment is in good working order (radio check should be considered to check equipment)
- Be sure you are on the correct frequency
- Ensure the squelch is set correctly if manually adjustable
- Volume is set to an acceptable level
- Ensure the frequency is clear by listening prior to transmitting (i.e. there are no other communications in progress – this also allows you to gain an awareness of other traffic and current RWY availability)
- If transmitting from an open vehicle, a headset and wind protected boom mike should be considered
- All other communications equipment that may be a distraction must be switched OFF.

The below is an example of a radio transmission between a vehicle and Perth Ground.

Identify who you are calling

*“PERTH GROUND”*

Tell Ground who you are -

*“TUG TWENTY TWO WITH VH-ABC.”*

Tell Ground where you are -

*“ON BAY ONE EIGHT.”*

Tell Perth Ground what you wish to do -

*“REQUEST TO PUSH BACK AND TOW TO BAY SEVEN ZERO THREE.”*

YOUR TRANSMISSION

*“GROUND TUG TWENTY TWO WITH VH-ABC ON BAY ONE EIGHT REQUEST PERMISSION TO PUSH BACK AND TOW TO BAY SEVEN ZERO THREE.”*

PERTH GROUND RESPONDS

*“TUG TWENTY TWO, PUSH BACK AND TOW VIA THE APRON, TAXIWAY BRAVO AND THE SEVEN ZERO ZERO - LANE TO BAY SEVEN ZERO THREE.”*

YOUR TRANSMISSION

*“PUSH BACK AND TOW APPROVED VIA THE APRON, TAXIWAY BRAVO AND THE SEVEN ZERO ZERO LANE TO BAY SEVEN ZERO THREE - TUG TWENTY TWO.”*

All instructions from ATC must be carried out promptly and safely – if you are not 100% sure of an instruction or clearance, DO NOT MOVE. Confirm the instruction or clearance and if you hear a conflicting transmission on either frequency, advise ATC immediately!

If you have been given a clearance to cross or enter a runway, you must monitor transmissions for that runway. If you detect a landing or takeoff clearance on the runway you are operating on, confirm your clearance immediately, conduct a visual check and if you are in any doubt vacate the runway without delay.

Anyone using a radio (VHF to communicate with ATC) is required to hold an Aeronautical Radio Operator Certificate (AROC). All instructions by ATC must be responded to immediately. Unauthorised transmissions on an ATC registered frequency may lead to prosecution.

### *Radio Frequencies*

Radio frequencies (MHz) currently in use at Perth Airport are as follows:

- 120.5 Perth Tower Aerodrome Controller
- 121.7 Surface Movement Controller (West)
- 122.2 Surface Movement Controller (East)
- 123.8 Automatic Terminal Information Service (ATIS)

## *Transmission Techniques*

The efficient use of two way radio depends on microphone technique, the method of speaking and the choice of words used by the operator.

You should make use of the following principles:

- Think before you transmit
- Be concise
- Speak clearly
- Speak plainly and end each word clearly to prevent consecutive words running together
- Avoid the tendency to shout
- Avoid hesitant sounds such as 'er' and 'um'.
- Maintain a business-like manner and do not use colloquialisms, first names or be unduly familiar with others
- If improvisation is required, make it brief and unambiguous.

## *Signal Strength*

Readability of radio signals (i.e. how well a transmission is able to be heard)

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

## Phonetic Alphabet

The International Phonetic Alphabet is used to assist in voice transmission of call signs, Runway/Taxiway designators and the spelling of proper names and unusual words.

The phonetic alphabet is made up of particular words to denote the letters. When used, the pronunciations as shown are to apply:

|   |         |             |
|---|---------|-------------|
| A | ALPHA   | Al-fa       |
| B | BRAVO   | BRAH-voh    |
| C | CHARLIE | CHAR-lee    |
| D | DELTA   | DEL-tah     |
| E | ECHO    | ECK-oh      |
| F | FOXTROT | FOKS-trot   |
| G | GOLF    | Golf        |
| H | HOTEL   | hoh-TELL    |
| I | INDIA   | IN-dee-ah   |
| J | JULIET  | JEW-lee-ETT |
| K | KILO    | KEE-low     |
| L | LIMA    | LEE-mah     |
| M | MIKE    | Mike        |

|   |          |              |
|---|----------|--------------|
| N | NOVEMBER | No-VEM-ber   |
| O | OSCAR    | OSS-cah      |
| P | PAPA     | Pah-PAH      |
| Q | QUEBEC   | Key-BECK     |
| R | ROMEO    | ROH-me-OH    |
| S | SIERRA   | See-AIR-rah  |
| T | TANGO    | TANG-go      |
| U | UNIFORM  | YOU-nee-form |
| V | VICTOR   | VIC-tah      |
| W | WHISKEY  | WISS-key     |
| X | X-RAY    | ECKS-RAY     |
| Y | YANKEE   | YANG-key     |
| Z | ZULU     | ZOO-loo      |

Numbers are to be transmitted using the following pronunciations:

|                |                    |
|----------------|--------------------|
| 1              | WUN                |
| 2              | TOO                |
| 3              | TREE or THREE      |
| 4              | FOW-er             |
| 5              | FIFE               |
| 6              | SIX                |
| 7              | SEV-en             |
| 8              | AIT                |
| 9              | NIN-er             |
| <b>DECIMAL</b> | <b>DAY-SEE-MAL</b> |

|                 |                                   |
|-----------------|-----------------------------------|
| <b>THOUSAND</b> | <b>THOUSAND</b>                   |
| <b>10</b>       | <b>ONE ZERO</b>                   |
| <b>75</b>       | <b>SEVEN FIVE</b>                 |
| <b>100</b>      | <b>ONE ZERO ZERO</b>              |
| <b>583</b>      | <b>FIVE EIGHT THREE</b>           |
| <b>5000</b>     | <b>FIVE THOUSAND</b>              |
| <b>11000</b>    | <b>ONE ONE THOUSAND</b>           |
| <b>24000</b>    | <b>TWO FOUR THOUSAND</b>          |
| <b>38143</b>    | <b>THREE EIGHT ONE FOUR THREE</b> |

In general, numbers except whole thousands are to be transmitted by pronouncing each digit separately.

# Commonly Used Phrases

|                        |  |
|------------------------|--|
| <b>AFFIRMATIVE</b>     | Yes.   |
| <b>APPROVED</b>        | Permission for proposed action granted.  |
| <b>CONFIRM</b>         | Have I correctly received the following?   |
| <b>CORRECTION</b>      | An error has been made in this message, the correct message is “.....”   |
| <b>DISREGARD</b>       | Ignore previous transmission.  |
| <b>GO AHEAD</b>        | Proceed with your message (normally only after stand by – THIS IS NOT A CLEARANCE TO ENTER OR CROSS)                                   |
| <b>HOLD POSITION</b>   | Stop - Do not proceed until advised.   |
| <b>HOLD SHORT OF</b>   | Stop before a specified location (For a Runway this is at Runway strip edge and for a Taxiway it is at the Taxiway intersection line). |
| <b>HOW DO YOU READ</b> | What is the readability of my transmission (or how well can you hear my transmission normally radio check is used).                    |
| <b>NEGATIVE</b>        | No, or permission not granted, or that is not correct.   |
| <b>RADIO CHECK</b>     | I wish to know how well you can hear me. Please advise your readability of my transmission.  |
| <b>REQUEST</b>         | Request permission to, or I would like to know.  |
| <b>ROGER</b>           | I have received your last message.   |
| <b>SAY AGAIN</b>       | Repeat all, or the following part of your last message (say again after “.....”).  |
| <b>STAND BY</b>        | Wait and I will call you back.   |
| <b>VACATE</b>          | Move off the Runway/Taxiway area immediately.  |
| <b>VACATED</b>         | I have vacated Runway/Taxiway area.  |
| <b>WILCO</b>           | I (fully) understand your message/instruction and will comply.   |

## *Light Signals from ATC*

Where communications with ATC are lost, ATC may attract your attention through visual signals. If you receive signals from the Tower, you should respond immediately. The meaning of these signals must be displayed on the vehicle within easy sight of the driver.

The signals are as follows:

|  |   |
|--|---|
| <b>FLASHING RUNWAY OR TAXIWAY LIGHTING</b> | Vacate the manoeuvring area and observe the Control Tower for light signal. |
| <b>STEADY RED</b>                          | Stop immediately.   |
| <b>RED FLASHES</b>                         | Move off Runway or Taxiway and watch out for aircraft.                      |
| <b>GREEN FLASHES</b>                       | Permission to cross Runway or to move to a Taxiway.                         |
| <b>WHITE FLASHES</b>                       | Vacate Manoeuvring Area in accordance with local instructions.              |

## *Radio Failure procedures*

Should you experience a radio failure adopt the appropriate following procedure:

For Vehicles (excluding Tugs)

- a. If on a Runway, vacate the Runway immediately;
- b. Vacate the manoeuvring area using the safest direct route available;
- c. Upon vacating the manoeuvring area, establish contact with the Tower using another radio or by mobile telephone and advise that you are clear of the area;
- d. Do not re-enter the manoeuvring area until the radio has been replaced/repared.

## *Vehicle unserviceability*

If your vehicle becomes unserviceable at any time on the manoeuvring area, contact ATC immediately to advise them of your location, and then remain with the vehicle. A PAPL Airport Operations Officer (AOO) will co-ordinate with ATC for assistance.

# Aerodrome Markings

Aerodrome markings are designed to assist you in navigating around the aerodrome. Ensure that you understand the following principles of Aerodrome markings:

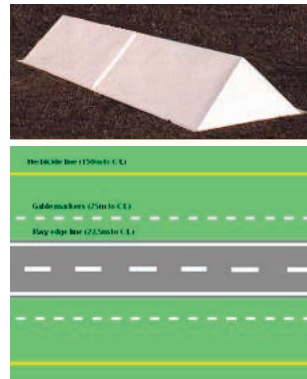
## Colour

- Runway markings are primarily white
- Taxiway markings are primarily yellow

Examples of common markings are outlined below:

### Runway strip markers

White gable markers show the edge of the Runway Strip Graded Portion. Vehicles are not permitted to enter the Runway Strip Graded Portion without specific clearance from ATC. At Perth Airport, the strip is defined by the gables at a distance of 75 metres from the runway centreline giving an overall width of the strip as 150 metres. The declared strip width is an area that also includes the fly over areas of the runway strip out to a width of 150 metres from the runway centreline, marked by the herbicide line.



### ILS Critical Area markers

These identify restricted areas that require ATC approval to enter as they are sensitive areas and vehicle entry could cause interference to navigation aids.



The main landing aids at Perth Airport consist of the Localizer and Glide Path. The signals transmitted from this equipment assist aircraft to set up the approach for landing.



### Precision Approach Path Indicator (PAPI)

Visual aids such as PAPI are also used by aircraft to set up an approach for landing along with other radio navigational aids.

It is important to ensure you do not park directly in front of, behind or adjacent to these structures.



## Other Markers

### Red and white unserviceability cones

Mark the areas restricted for access due to unserviceability. Entry to these areas is restricted unless authorised by PAPL. Marked at night with red lights.



### Runway centreline and edge surface markings

These markings indicate the centre and edge of a Runway. The centre line is a white broken line and the edge is a continuous white line. You must not tow or drive heavy vehicles outside the defined sidelines of the runway. All runways at Perth Airport are 45 metres wide.



### Runway Threshold and end markings

The runway threshold is marked by a series of markings commonly known as the Piano Keys. A set distance for the touchdown area is marked by the aiming point markings and touchdown markers. The Threshold is lit by a series of green lights as viewed from an aircraft on approach. These are collocated with red lights opposite at the end of the runway identifying the runway end to an aircraft taking off in the opposite direction.



### Taxiway strips

The taxiway strips at Perth Airport are not defined by markers. The majority of taxiways are defined as 23 metre taxiways (operational pavement width).

To ensure appropriate clearance to taxiing aircraft, the following minimum distances from the centreline of the taxiway must be maintained by vehicles and personnel operating adjacent to taxiways.

| Code letter |        |      |        |        |        |
|-------------|--------|------|--------|--------|--------|
| A           | B      | C    | D      | E      | F      |
| 16.25 m     | 21.5 m | 26 m | 40.5 m | 47.5 m | 57.5 m |

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### Runway Holding Position

These markings indicate the holding positions for aircraft and vehicles prior to entering a Runway. **You must not cross in the direction of the solid lines without an approval from ATC.** When instructed to 'Hold short' always stop prior to the first solid line of the runway holding point marking.



**As a Cat 3 Driver you must never pass Runway Holding Position markings at ANY TIME.**

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### Intermediate Holding Position Markings

Intermediate Holding Position Markings are provided where Taxiways join or intersect another Taxiway. The markings, including 3 amber lights, provide visual reference to show where to stop if required by ATC.



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### Taxiway Edge Markings

These markings indicate the edge of a Taxiway or Apron surface. The edge is a continuous double yellow line. The double yellow line also indicates low strength pavement from the outside edge. You must not tow or drive heavy vehicles outside the defined taxiway edge markings.



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### Taxiway Centreline

The Taxiway Centreline marking is a solid yellow line that is located centrally along the Taxiway. At night, the centreline is marked by green centreline lights. When vacating a Runway at night, the centreline lights alternate in colour (green / yellow) from the runway to beyond the runway strip on the exiting taxiway. Aircraft under tow must position the nose gear of the aircraft to follow the centreline.





# Aerodrome Signage

## Movement Area Guidance Signs

Along with aerodrome markings and lights, aerodrome signs are designed to assist you in navigating the aerodrome. The types of signs are outlined below:

### 1. Mandatory Instruction Signs

Mandatory Instruction signs identify the entrance to a runway or critical area, and areas prohibited for use by aircraft and vehicles. It has a white inscription on a red background. **Remember: RED and WHITE RUNWAY in SIGHT.**

**Remember: As a Cat 3 Driver you must never pass runway guard Mandatory Instruction Signs at ANY TIME.**



### 2. Runway Holding Position sign

This is a Mandatory Instruction sign located at the entrance to a runway, adjacent to the yellow painted runway holding position marking.

This example indicates that you are on Taxiway Alpha 9 holding short of Runway 21/03. The Runway 03 threshold is to your right; the Runway 21 threshold is to your left.

**Remember: RED and WHITE RUNWAY in SIGHT.**



### 3. Location Sign

Identifies the taxiway you are currently located on. It has a yellow inscription on a black background. This example shows a location sign, co-located with a direction sign.

This sign indicates you are on Taxiway Alpha, and Taxiway Alpha 9 is located ahead and to the left.

**Remember: Black square, you're there**



### 4. Direction sign

Identifies the designation of taxiways leading out of an intersection along with an arrow indicating the approximate direction of turn needed to align with that taxiway. They are located prior to the intersection, normally on the left side and usually with a location sign. It has a black inscription on a yellow background. You can use these signs to confirm your location. This example sign confirms your location on Taxiway bravo, the apron is ahead, Taxiway Hotel 3 is on your left and Taxiway Hotel 4 is on your right.



# Aerodrome Lighting

## Runway Guard Lights

Runway Guard Lights are located at Runway Holding Positions on each Taxiway. At Perth Airport, Runway Guard Lights are installed in the following configurations:

### Elevated

Yellow lamps flashing alternate either side of the runway holding point.



### Inset

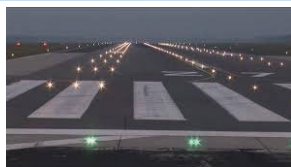
Taxiway November/Charlie runway guard lights are inset due to the width and complexity of the taxiway. Runway guard lights are inset into the Taxiway surface at 3 meter intervals across the intersection with alternate yellow lamps flashing.

**As a Cat 3 Driver you must never pass runway guard lights at ANY TIME.**



### Runway Edge and Centreline Lights

Runway Edge Lights (60m spacing) and Runway Centreline lights to be commissioned on transition from Category 1 AGL to Category 3 AGL (due in 2017) are white, and within 600m of the end of the runway the edge lights are yellow.



### Taxiway Centreline Lights

Taxiway centreline lights are green. In some locations around apron areas, taxiway edge lights are installed and these are blue. When vacating a Runway at night, the centreline lights alternate in colour (green / yellow) from the runway to beyond the runway strip on the exiting taxiway. Aircraft under tow must position the nose gear of the aircraft to follow the centreline.



### Taxiway Edge Lights

In the event of a taxiway centreline light unserviceability, blue edge lights may be positioned on the edges of a taxiway or portion of taxiway. Operators must remain central to the edge lights.

# Definitions and Acronyms

| Term  | Definition  |
|---|---|
| Airside   | That part of the Airport designated as Airside and to which the general public does not have free access.   |
| AIP<br>(Aeronautical Information Publications)                    | Procedural information pertaining to the operational requirements at Australian Aerodromes produced and published by Airservices Australia.   |
| Apron   | That part of an Airport used for the purpose of enabling passengers to board or disembark from aircraft; for loading cargo onto or unloading cargo from aircraft; and/or for refuelling, parking or carrying out light maintenance on aircraft.   |
| Advanced – Surface Movement Guidance and Control System (A-SMGCS) | A system providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions within the aerodrome visibility operational limit while maintaining the required level of safety (ICAO definition). |
| ATC   | Air Traffic Control – A branch within Airservices Australia (AsA) that controls the movements of aircraft at a controlled aerodrome.  |
| Surface Movement Controller (SMC–Perth Ground)                    | A position of ATC that controls all aircraft and vehicle movements on the manoeuvring area.   |
| Aerodrome Controller (ADC-Perth Tower)                            | A position within Airservices Australia that controls the movement of aircraft and vehicles on the runways of an aerodrome. This position provides take-off and landing clearance to aircraft.  |
| Authority to Drive Airside (ADA)                                  | An ADA issued in accordance with Commonwealth Regulations (also called, Airside driver’s license).  |
| Airside Vehicle Control Handbook. (AVCH)                          | The regulatory document under which an airport operator on Federally Leased land controls the access of vehicles on an aerodrome.   |

| Term                         | Definition   |
|------------------------------|--|
| Low Visibility Conditions    | Conditions where visibility at the aerodrome has reduced below 800m horizontally.  |
| NOTAM<br>(Notice To Air Men) | Publication produced by Airservices Australia via the NOTAM Office advising changes to physical and operating standards of the aerodrome.  |
| Manoeuvring Area             | That part of the Airport used for the takeoff, landing and taxiing of aircraft, excluding Aprons (e.g. Taxiways and Runways).  |
| Movement Area                | That part of the Airport that is used for the surface movement of aircraft including manoeuvring areas and aprons.   |
| Runway Strip                 | A specific area on each side of the Runway designed to reduce the risk of damage to an aircraft should it run off the Runway.  |
| Taxiway Strip                | A declared area on each side of the Taxiway designed to ensure an obstacle free area for the safe taxiing of aircraft.   |
| VeeLo                        | Electronic surveillance equipment fitted to a vehicle in order for that vehicle to be permitted to operate on the Manoeuvring Area. Electronic surveillance equipment must meet the technical standards defined in MOS Part 139 Section 10.9.4 |

## References

*Airports Council International ACI Runway Safety Handbook, First Edition, 2014*

*Airservices Australia Airside driver's guide to runway safety, 3rd edition – June 2012*



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