37TH FAI WORLD GLIDING CHAMPIONSHIPS

NARROMINE NSW AUSTRALIA 2023

Self Briefing

NSW GOVERNMENT

feel new south wales

GLIDING AUSTRALIA

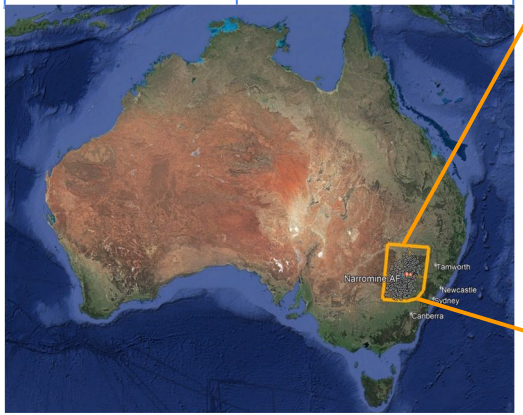
FAI

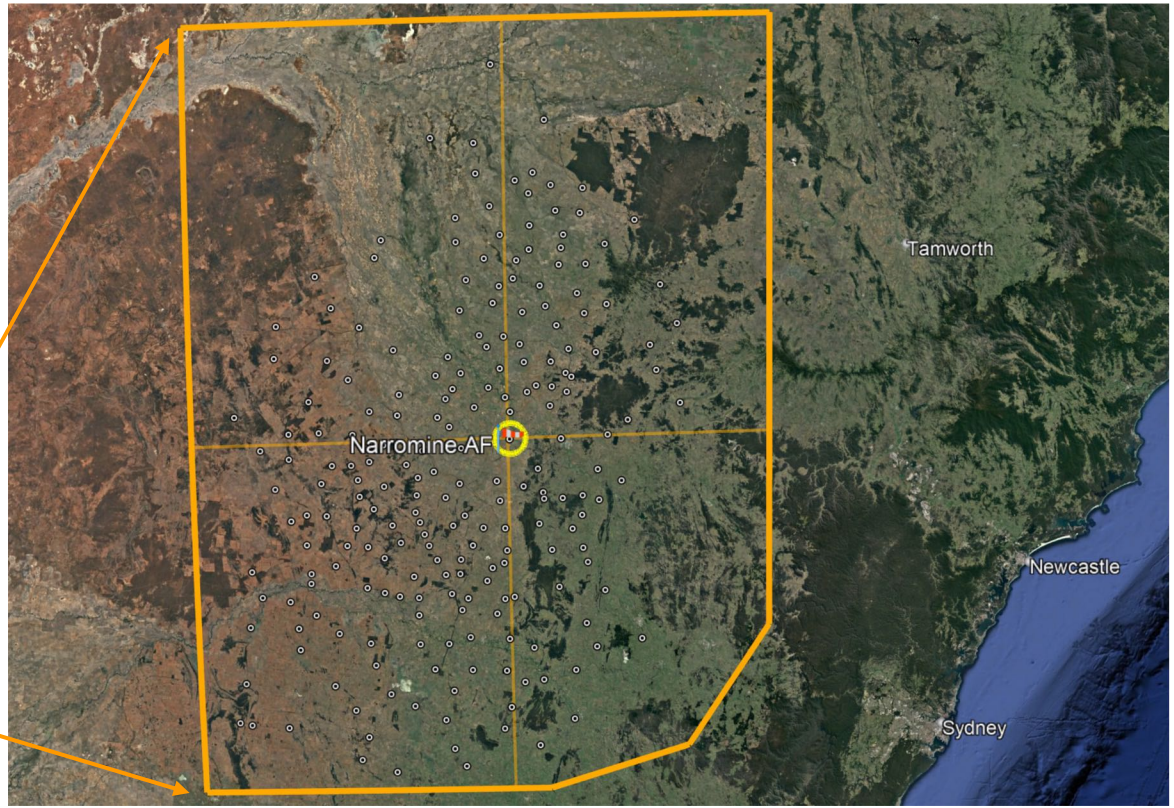
V1.3 – 2023-11-17

Contents

Task Area

East/West	375 km
North/South	495 km
Perimeter	1,700 km
Area	183,702 km^2
Turnpoints	227





Radio – Frequencies: 2023-11-28 to 2023-12-16

Operations	
Elevation	782 feet
CTAF	126.700
Gridding	130.000
Launch	130.000
Start	120.125
Safety	122.025
Finish	130.000
Landing	130.000

Team Frequencies					
DEN	118.625	POL	120.225	FRA	123.125
UKR	118.775	USA	120.675	GER	123.225
AUS	118.875	HUN	120.725	ITA	123.475
JPN	119.625	CZE	121.375	CRO	123.675
FIN	119.725	RSA	121.775	SUI	123.975
GBR	119.775	BEL	121.825		
LTU	119.825	NZL	122.225		
LUX	120.175	NED	123.075		

Radio – Procedures

- For gridding and marshalling directions use 130.000
- Maintain 130.000 for launch
- Change to team frequency, or 120.125, for the start
- CTAF 126.700 will be monitored and non competition traffic rebroadcast on 130.000
- Teams must monitor 130.000 and rebroadcast non competition traffic on team frequencies
- During relights and on return in the event of day cancellation, use 130.000
- On task, use 122.025 for safety/gaggle
- Change to 130.000 prior to reaching 20 km from the edge of the finish ring
- Monitor 130.000 during tow-back to the tie-down and listen for any marshal instructions

Note:

- Australian frequencies are on 25kHz channels, 8.33kHz channels should not be used.
- Only use of the allocated frequencies is approved

Contest Site – Boundary

The contest site boundary is defined here

Some areas are unlandable

Contest site boundary

Contest Site – Unlandable Zones

The contest site boundary is shown here with the unlandable areas shaded

Note the disused extensions to the NW and NE runways – these are available

- Disused bitumen
- Unlandable
- Deep ditch
- Contest site boundary
- Landable areas

Facility Map — Locations, Official

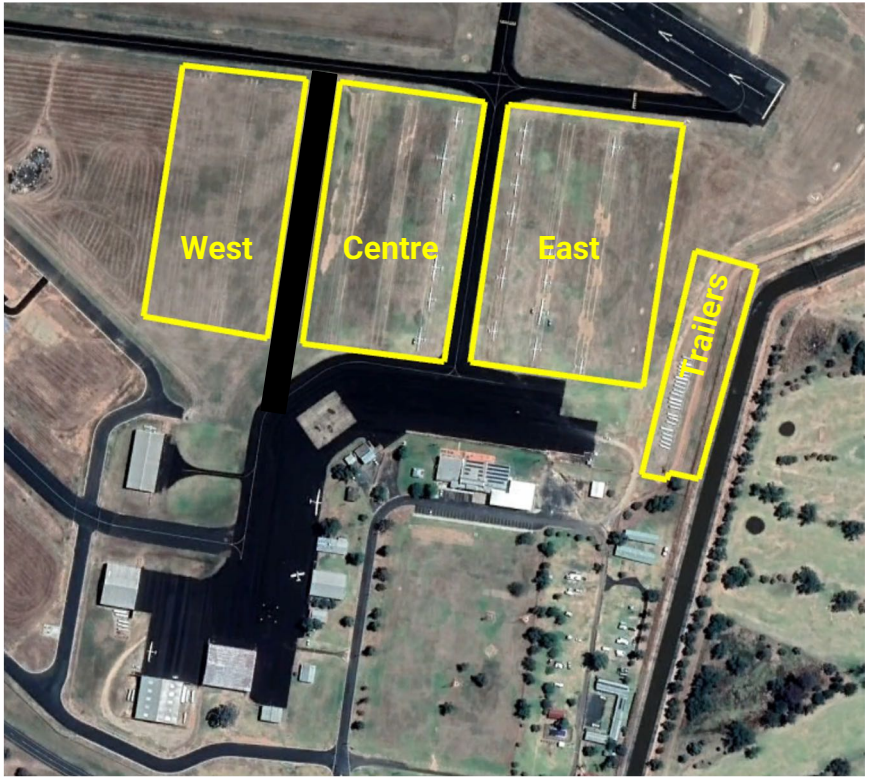
A	Workshop
B	Finance Office
C	Briefing/Press Centre/Tracker Store
D	Competition Office & Registration
E	Scorer
F	Container Park
G	Outlanding Office
H	Auditorium
J	Scrutineering
K	Team Huts & Tents

Facility Map — Locations, Other

A	Gliding Club – Cafe
B	Aero Club – Bar & Bistro
C	Aviation Fuel – AVGAS, MOGAS
D	Campsite
E	Motel
F	Airfield Entrance
G	Parking

Gliders and Trailers – Tie-down

- Tie-downs and trailer parking areas are shown here in detail
- All tie-downs have water available at the tie-down for ballasting
- Trailer parking may continue along the fence line if required
- Tie-downs will be organised by team once all entries have been received
- Teams will be briefed on their tie-down location at registration



Gliders and Trailers – Tie-down

- Trailers must be secured both front and back
- Make sure you have robust tie-downs for gliders

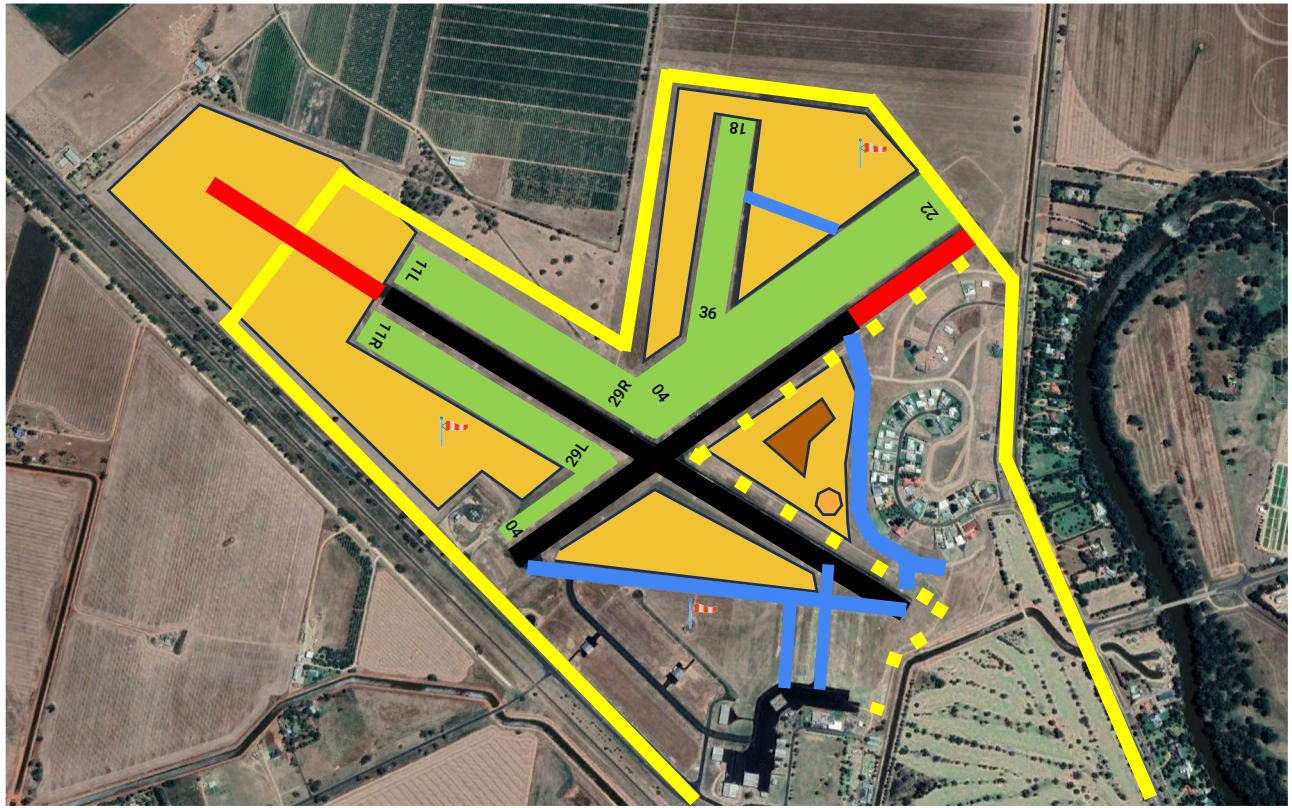
WARNING

Australia has very dangerous thunderstorms with huge winds and gust fronts
All gliders and trailers must be securely tied down: Hail is possible

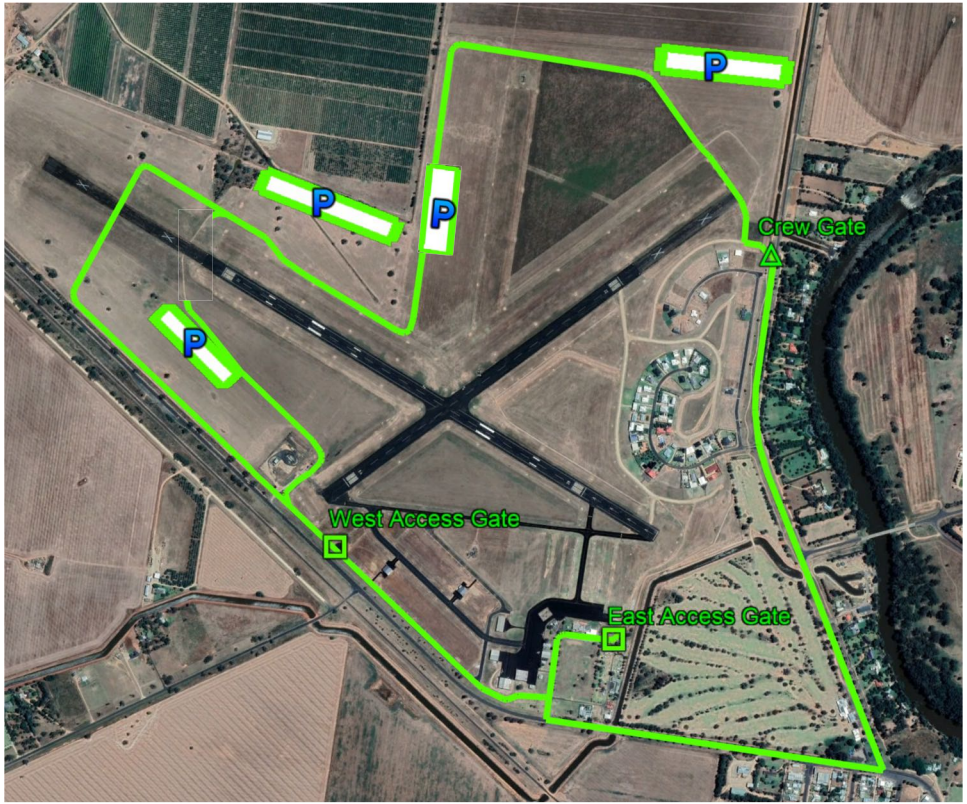
General Airfield Description

Key Features

- Daily Weighing Point
- Grass Strips
- Bitumen Strips
- Taxiways
- Vehicle Access Track
- Alternative Track
- Disused Bitumen
- Unlandable
- Deep Ditch
- Windsock



Vehicles – Airside Access and Parking



Only competition identification card holders may enter airside

Vehicles^ must display a current authority label on the front of the vehicle (window)

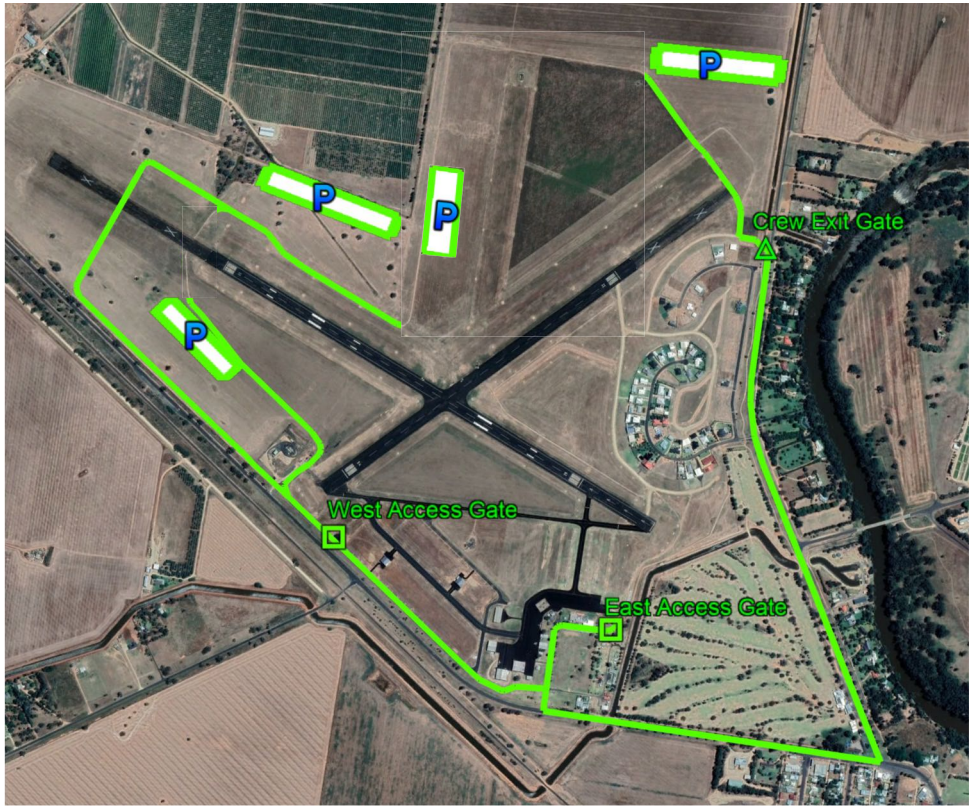
Enter and exit via marked gates

Park in marked zones

Crew Gate is for access to and from North East Parking

^ *'vehicles'* includes cars, bicycles, motorcycles and other ground transport machines

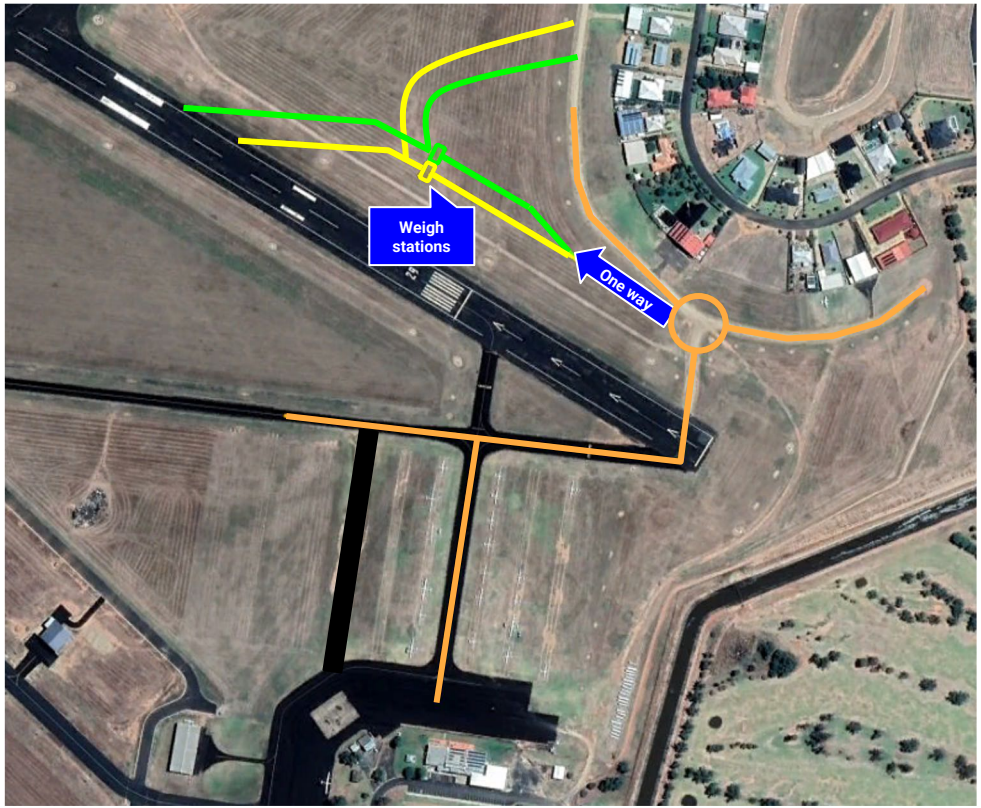
Vehicles – Exit After Launching



Vehicles from North East parking will exit via the Crew Gate

Vehicles from North West and South West parking will exit via the West Access Gate

Daily Weighing Procedures



Two weigh stations (see key):

Gliders from the North join the queue via the taxiway at the end of RWY29

Gliders from the South join the queue via the taxiway at the end of RWY29

Line-up flags will be used for alignment over the scales

Key

Route to queue	All classes
Left lane	Club Class
Right lane	Standard & 15 metre

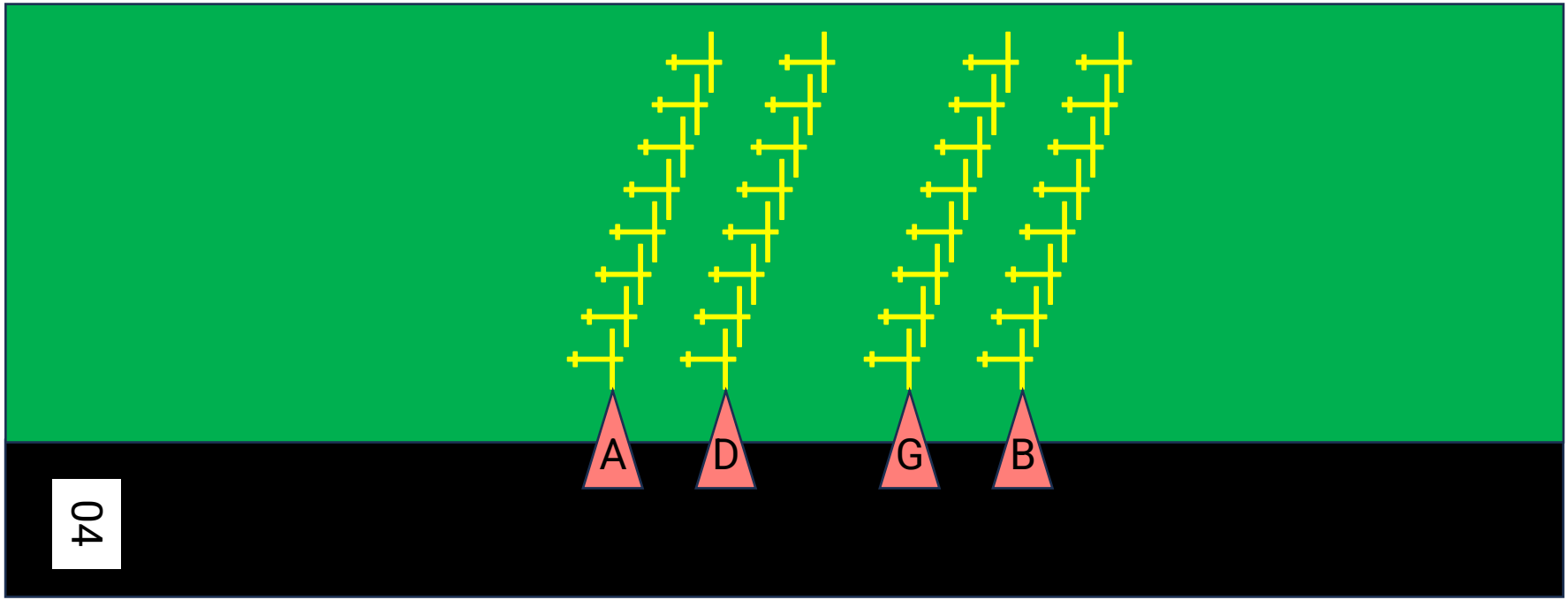
Tow Ropes

- A rope for each glider is available from marshals at gridding during the practice period
- **Any rope can be used, on any glider**, and ropes will not be marked for a specific glider
- Teams are responsible for inspecting and attaching their ropes to the glider
- Teams are responsible for the glider being ready for launch
- Teams provide the wing runner
- Launch crews are responsible for hooking the rope onto the tug
- **After launch of the grid**, teams must **retrieve ropes** from the rope drop area
- **One person per team** should be designated to **retrieve ropes**
- Spare ropes will be available for relights

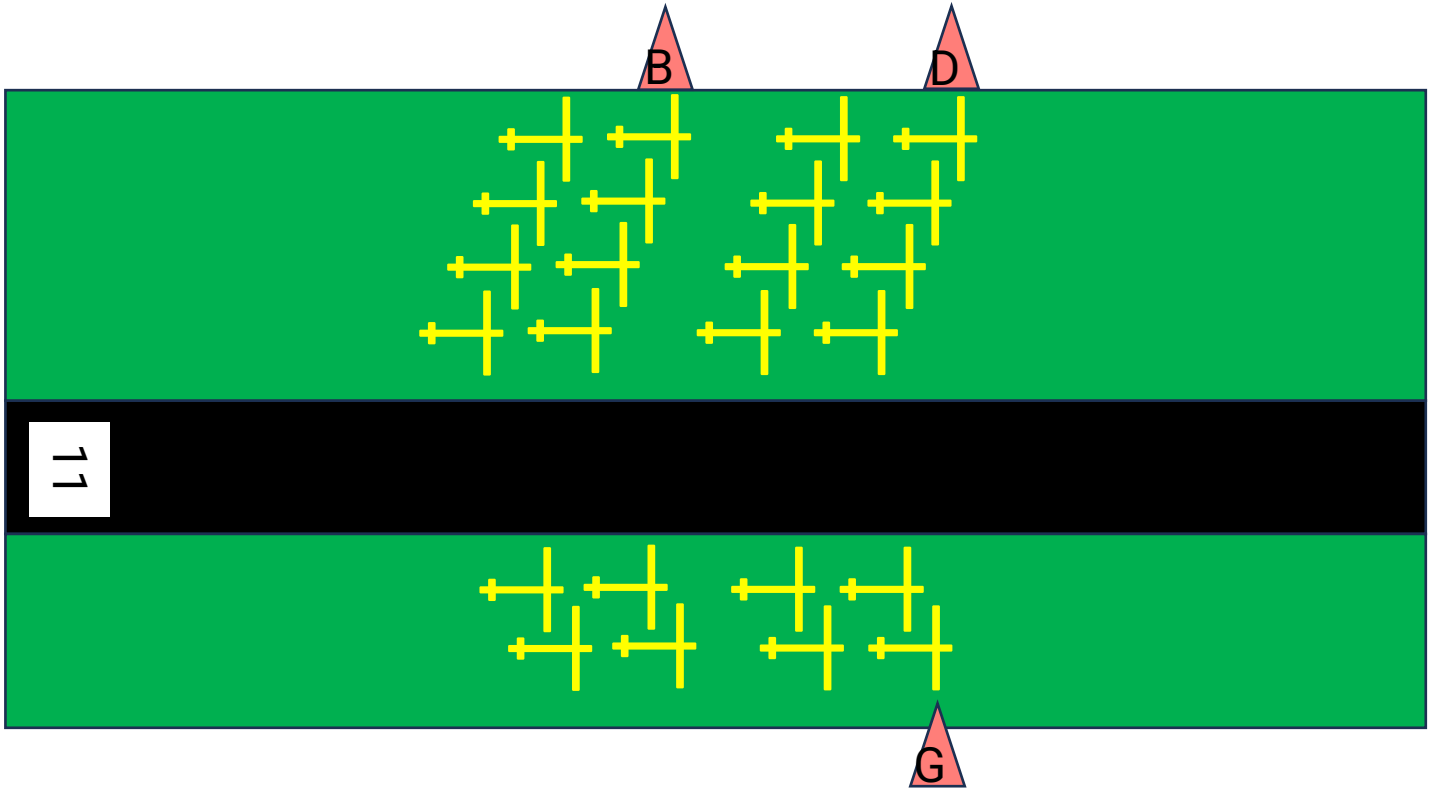
Gridding

- Team Captains will be advised of the row number for their pilots at registration
- Team Captains will be provided with daily grid order at briefing
- Gridding is by designated row, **any order within the row**
- Identifying marker cones designating the row will be relocated each day to rotate the grid
- A **row** may be split into more than one **line (**where runway layout requires)
- Once the grid is filled, all gliders are required to push back

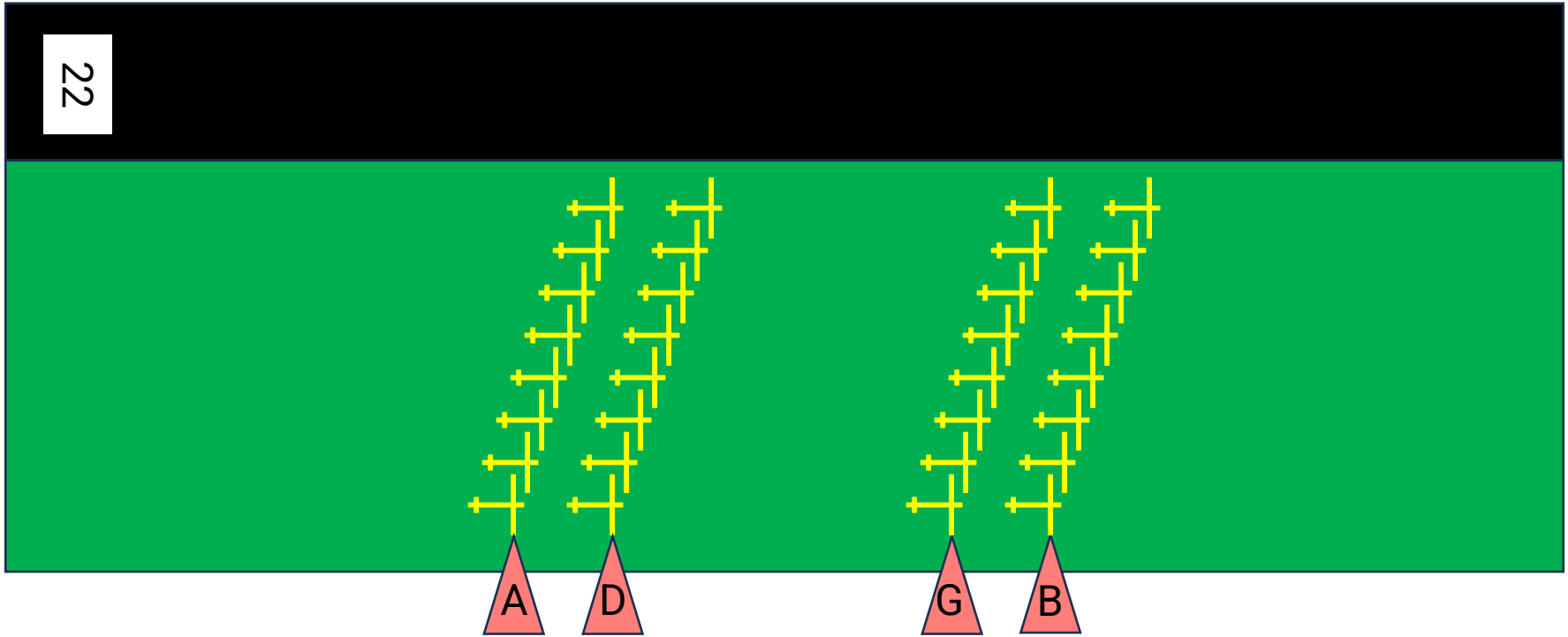
RWY04 Grid Pattern



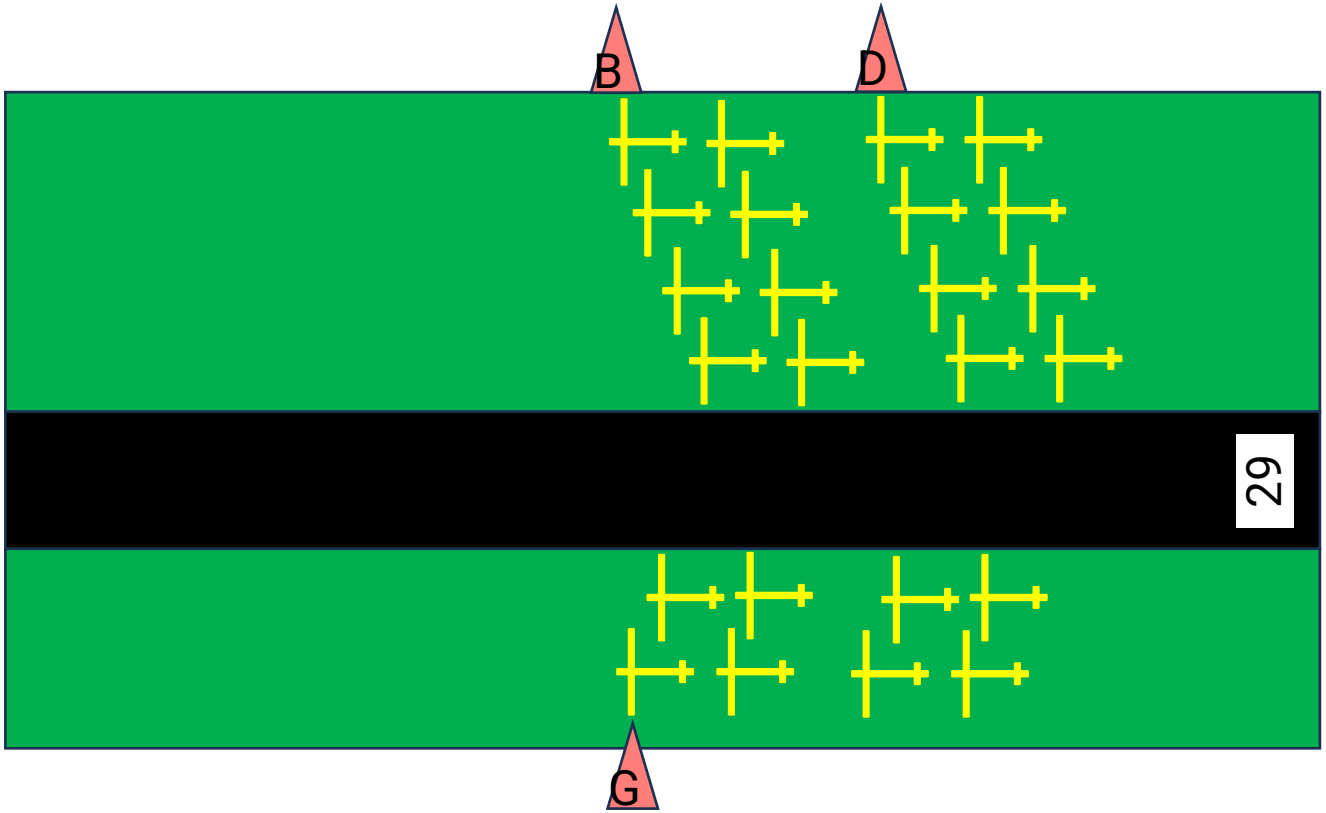
RWY11 Grid Pattern



RWY22 Grid Pattern



RWY29 Grid Pattern

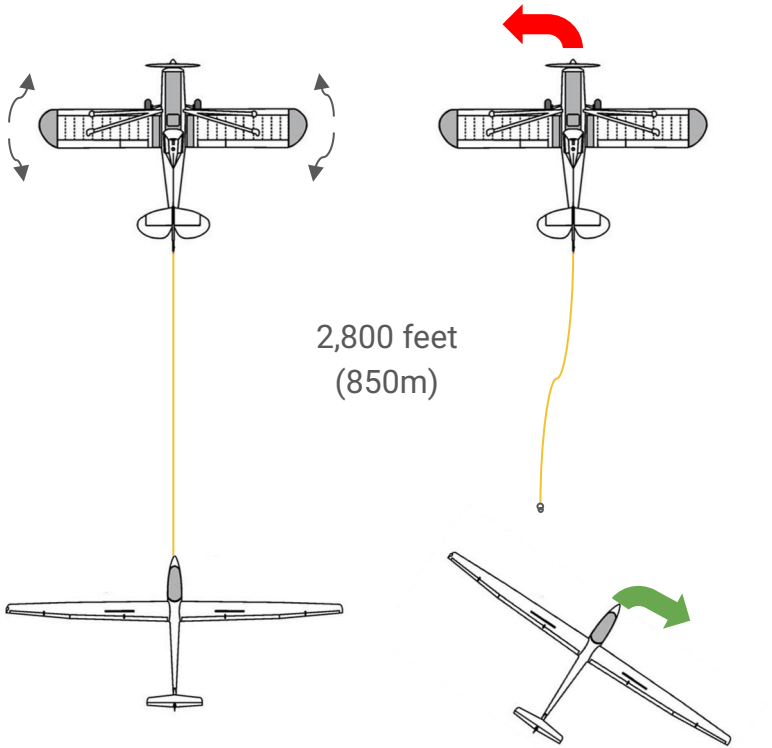


Launching – Launch Point Safety

- When launching starts, all access roads will be closed off
- Competition officials will be identifiable by vests
- Mobile phone use on the grid is discouraged due to distractions
- Vehicles remain in the car parks until all launching has finished
  - In the event of a re-light, crew may retrieve the glider with permission from Operations Director
- Teams are responsible for gathering all equipment and immediately removing from the grid post launch (wing props etc)
- Tow ropes must only be retrieved from the rope drop area after launch of the grid is completed

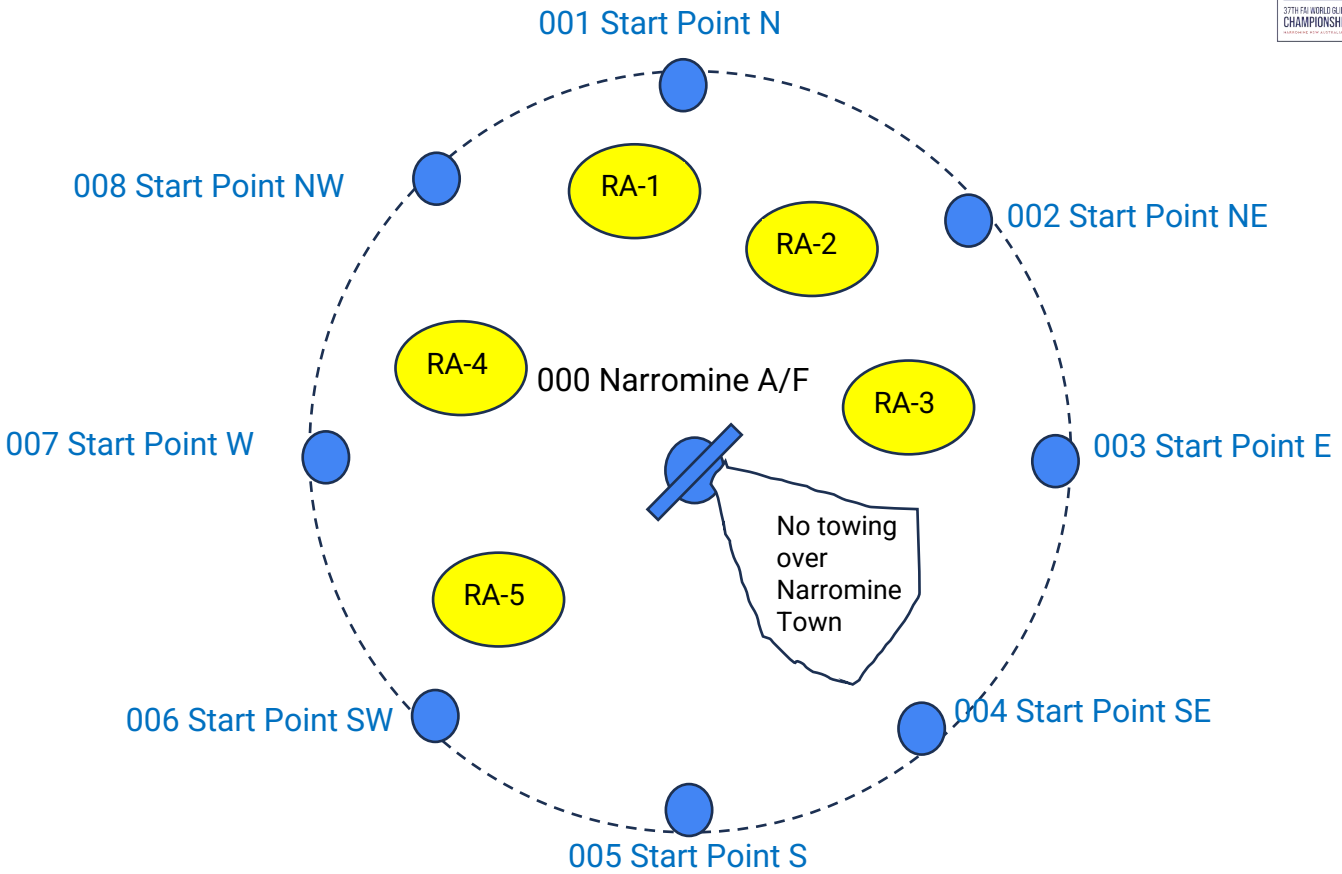
Glider Towing

- Standard release altitude 2,800 feet (850m)
- On release, the glider turns RIGHT
- Pilots shall not release until after the tow pilot has rocked the wings of the towplane
- Pull-ups before releasing are prohibited



Release Areas

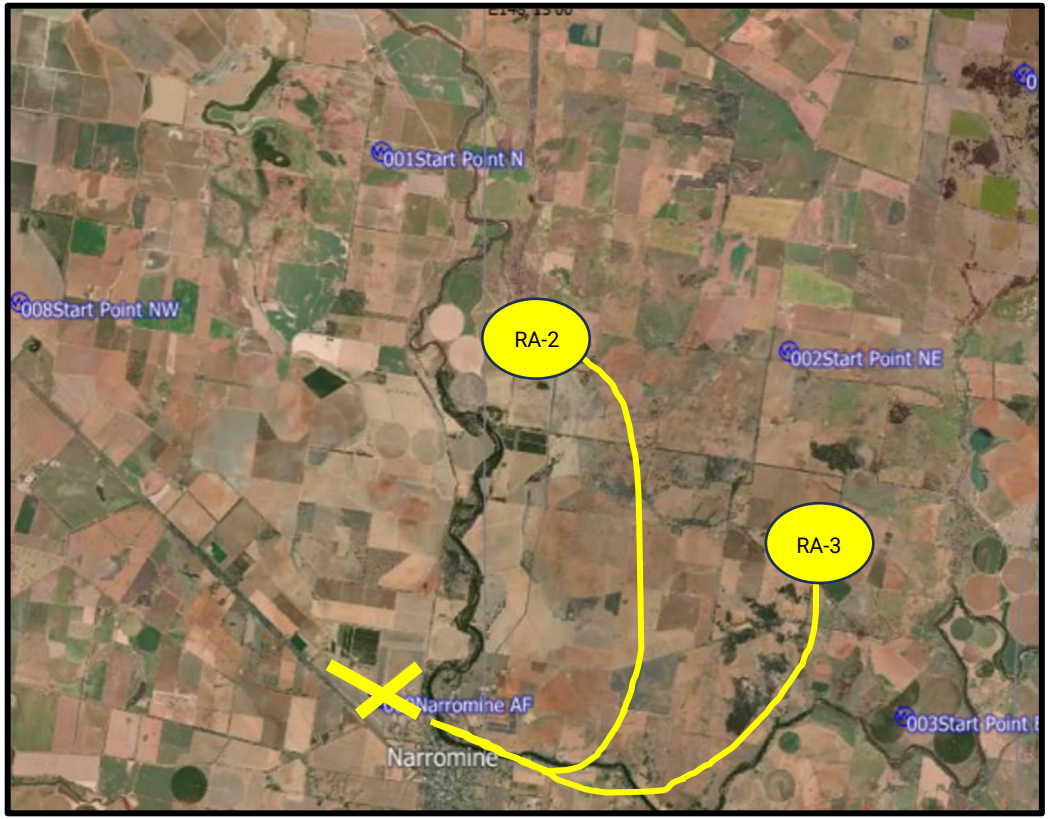
- There are 5 release areas approximately 7 km from YNRM
- No release areas near 005 and 004 due to tug patterns and towing not permitted over the town



RWY04 – Launch Towing Pattern

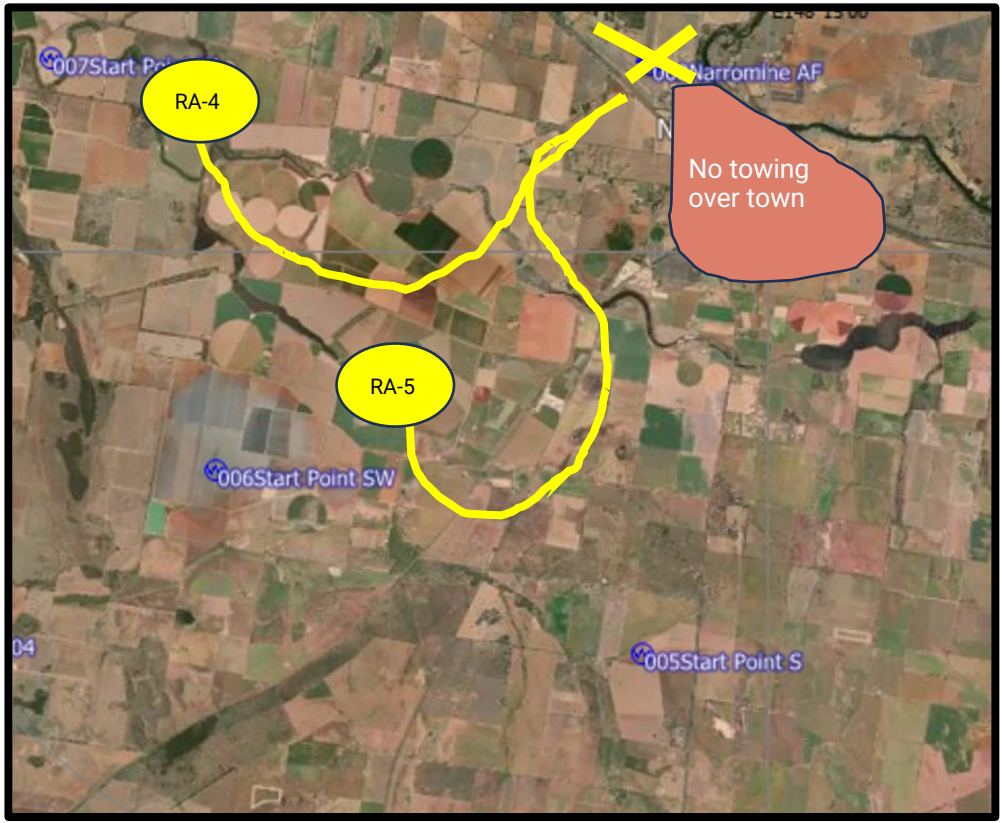
Release areas RA-1 and RA-2 will be used

RWY11 – Launch Towing Pattern



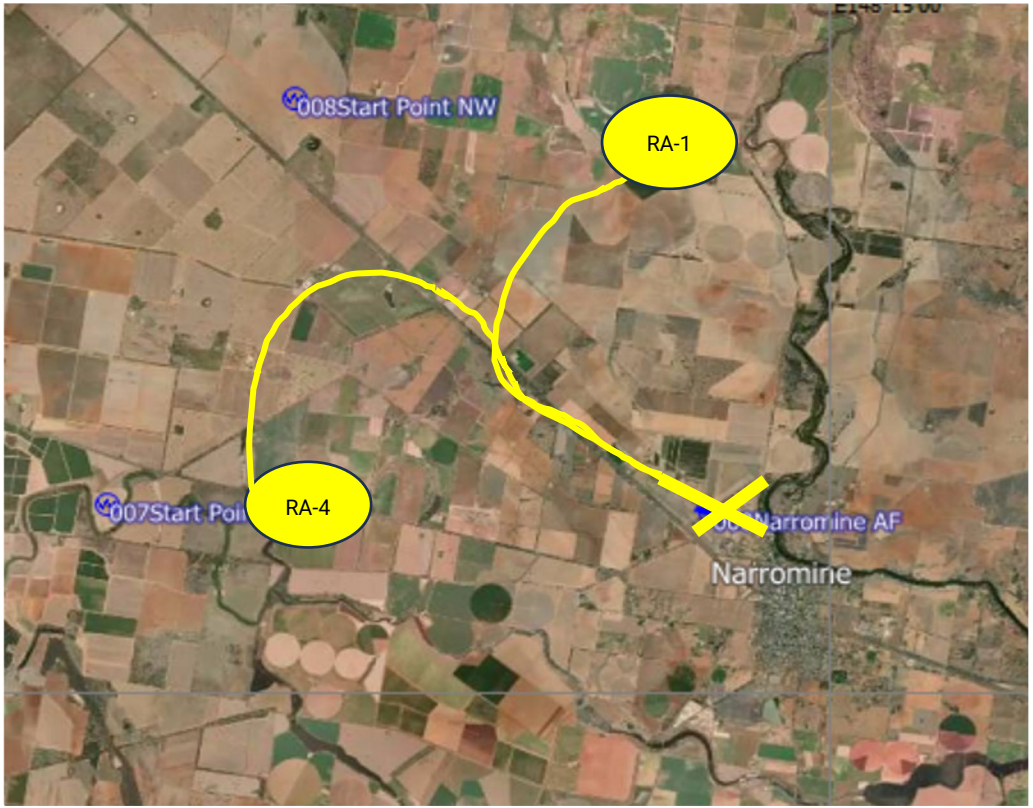
Release areas RA-2 and RA-3 will be used

RWY22 – Launch Towing Pattern



Release areas RA-4 and RA-5 will be used

RWY29 – Launch Towing Pattern



Release areas RA-1 and RA-4 will be used

Land Back for Re-Launch Procedure – Summary

Relight Landing Procedures		
Launch RWY	**Land-Back**	**Preferred Procedure**
RWY04	**RWY11**	Left hand circuit well inside tugs on RWY04 base
RWY11	**RWY18**	Join late left downwind/base to avoid tug climb-out
RWY22	**RWY22**	Left hand circuit for bitumen
RWY29	**RWY22**	Left hand circuit landing on grass or bitumen
In all cases: Land long		

RWY04 – Land Back for Re-Launch Procedure

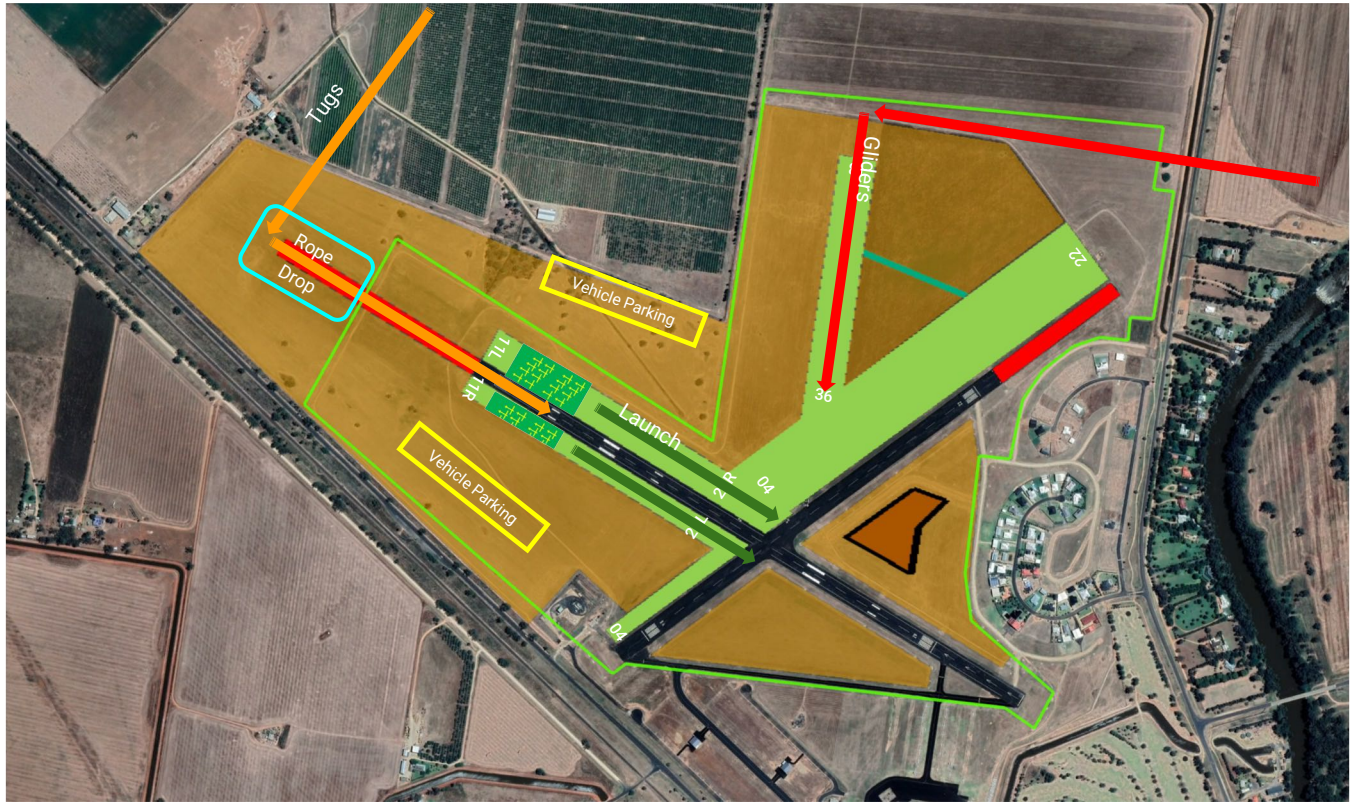
	Landing
Gliders for Re-Launch	RWY11L
Tugs	RWY11 Bitumen

1. Gliders fly left-hand circuit ***inside*** tug circuits
2. Gliders roll to end of RWY11L, stopping before RWY04
3. Tugs land RWY11 and roll through to grid

RWY11 – Land Back for Re-Launch Procedure

	Landing
Gliders for Re-Launch	RWY18
Tugs	RWY11 Bitumen

1. Gliders fly left hand circuit for RWY18, clear of tug climb-out
2. Gliders roll to end of RWY18, stopping before RWY04/22
3. Tugs land short RWY11 and return to grid



RWY22 – Land Back for Re-Launch Procedure

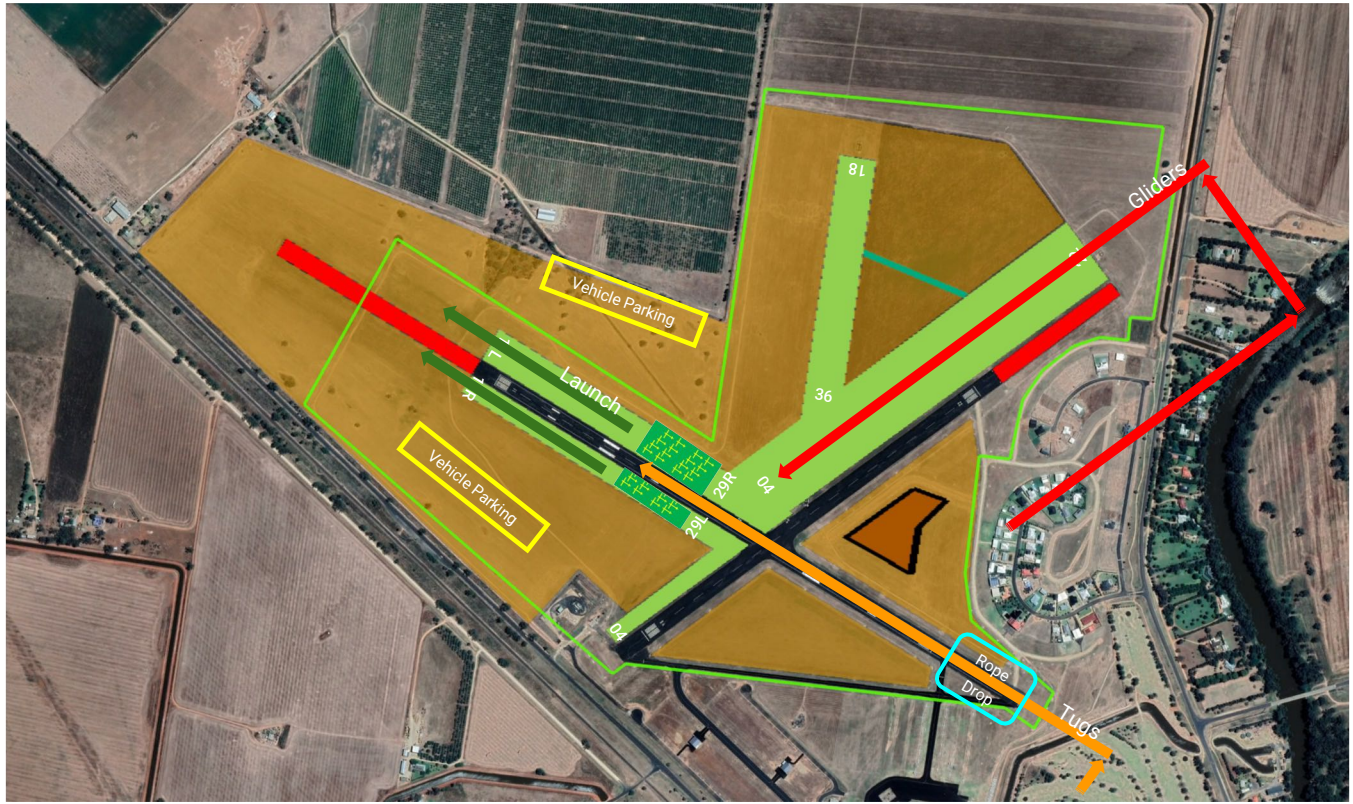
	Landing
Gliders for Re-Launch	RWY22 Bitumen
Tugs	RWY18

1. Gliders fly left hand circuit for RWY22 Bitumen
2. Gliders land long, stopping before RWY11/29
3. Tugs land short RWY18 and return to grid via TWY

RWY29 – Land Back for Re-Launch Procedure

	Landing
Gliders for Re-Launch	RWY22
Tugs	RWY29 Bitumen

1. Gliders fly left hand circuit for RWY22 (grass or bitumen)
2. Gliders land long, stopping before RWY11/29
3. Tugs land RWY29 and roll through to grid



Land Back for Re-Launch Ground Recovery Procedures

Glider Ground Recovery Procedures		
Launch RWY	**Land-Back**	**Preferred Recovery Procedure**
RWY04	**RWY11**	Join the grid at the back of the class being launched
RWY11	**RWY18**	Hold clear of RWY11, then backtrack RWY11L after launching has moved to RWY11R
RWY22	**RWY22**	Backtrack RWY22 on grass south of bitumen
RWY29	**RWY22**	Join the grid at the back of the class being launched
In all cases: Glider recovery must not disrupt the launch		

Finish Procedures – General

- Arrivals must be announced on the finish frequency
- The following phrases shall be used: (Contest number), (distance to finish ring), (altitude)
- Call first at 20 km from finish ring, and then at 10 km from finish ring, and then as necessary to maintain separation and awareness
- Preferred landing will be a “Direct Landing” to the preferred runway, landing long
- Gliders with excess energy may elect to finish followed by a circuit to the nominated alternate runway
- The procedures for joining the circuit of the runway in use for speed finishers will be specified at the daily briefing

Finish – Height and Distances – 3 km Circle

The 3 km Finish circle (ring) is centred on the runway intersection

A minimum finish height at the 3 km circle will be noted on the task sheet

All inbound radio calls are distances to the **edge of the circle**

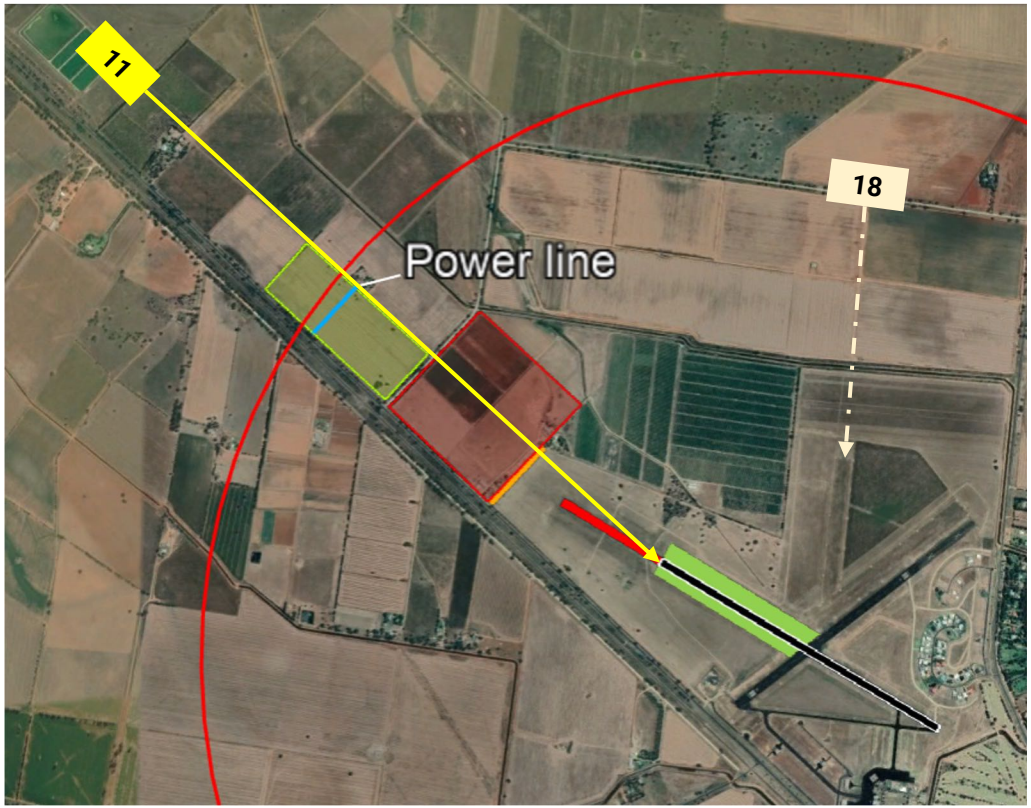
Finish – Height and Distances – 10 km Circle

The 10 km Finish circle (ring) is centred on the runway intersection

A minimum finish height at the 10 km circle will be noted on the task sheet

All inbound radio calls are distances to the **edge of the circle**

Finish – from North West



Preferred runway is RWY11 (grass or bitumen), landing long, stopping short of the intersection on grass left or right

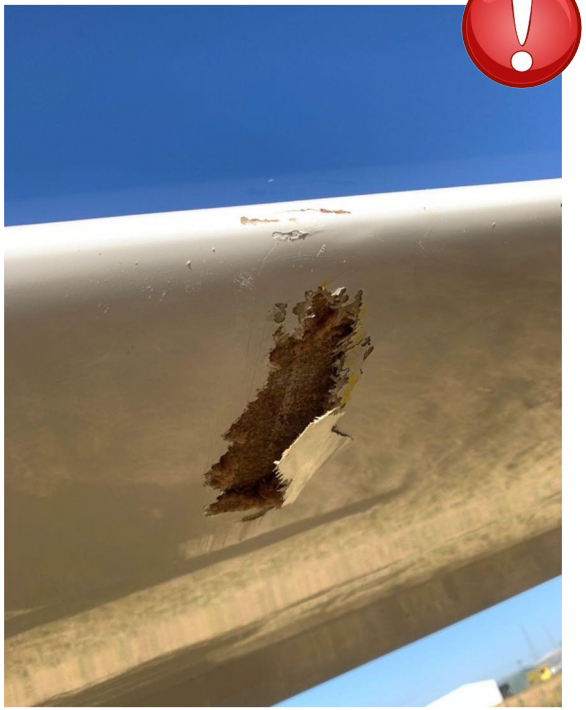
Note: bitumen extends beyond grass, please roll to the end of the bitumen

Power line and irrigation objects on approach to RWY11

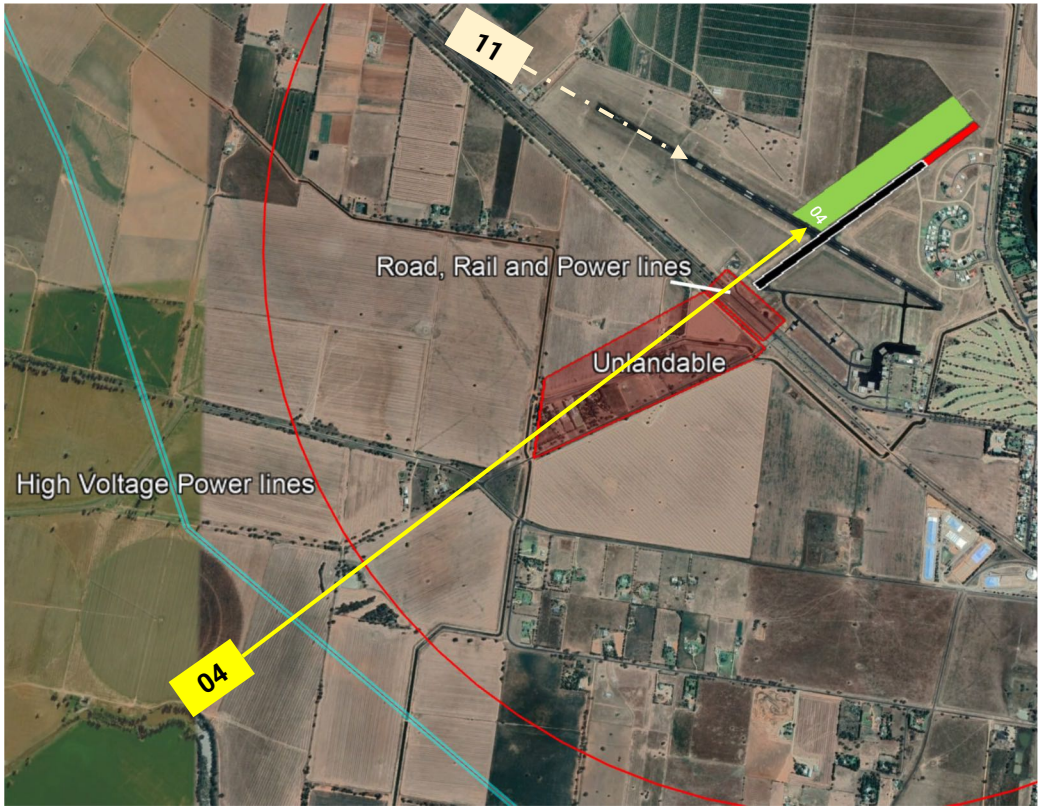
Bitumen has runway lights obstacles on both sides – use with caution

Speed finishes should land on RWY18, stopping short of the intersection

Runway Lights



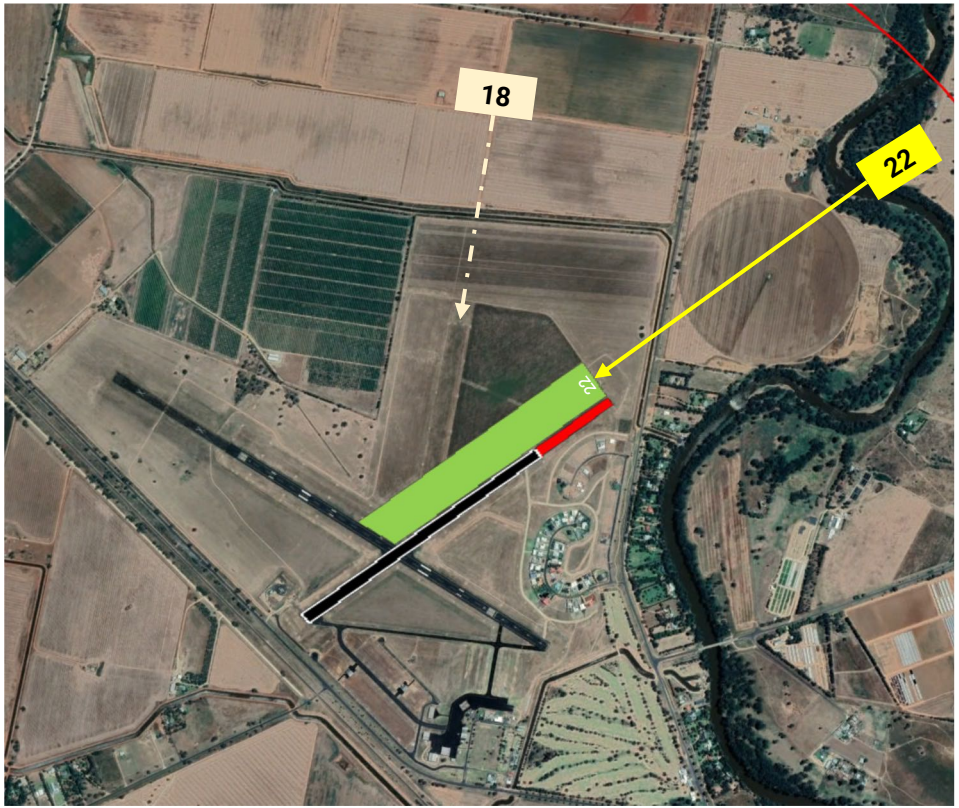
Finish – from South West



Preferred runway is RWY04 (grass or bitumen), landing long

Speed finishes should land on RWY11, stopping short of the intersection with RWY04 Grass

Finish – from North



Preferred runway is RWY22 (grass or bitumen), landing long

Note: bitumen extends beyond grass, please roll to the end of the bitumen

Speed finishes should land on RWY18, stopping short of the intersection

Tow Back – Routes and Procedures

- Finishing gliders will land long on the preferred runway
- Crew should plan for recovery at end of the runway, parking in the designated areas
- All vehicle movements must be on the perimeter tracks unless towing a glider
- Two marshals will be located at the centre of the runways
- Tow back MUST avoid the active runways where possible
- Taxiing gliders are only to cross active runways with permission
- Permission to cross active runways will be provided by marshals, radio 130.000

RWY04 – Tow Back Routes

Tow Back Routes
RWY04 - Taxi along unlandable bitumen towards RWY22 Bitumen threshold - TWYs: G-F-B-A
RWY04 Bitumen - TWYs: G-F-B-A

Caution: Lookout for landing aircraft while backtracking on the unlandable bitumen at the end of RWY22/04
Vacate RWY22/04 before piano keys if necessary

RWY11 – Tow Back Routes

Tow Back Routes
RWY11L - Backtrack RWY22 - TWYs: G-F-B-A
RWY11R - TWYs: J-C-A Plus (for Aeropark): - TWYs: F-G-H
RWY11 Bitumen For Tie-down: - TWYs: E-A or F-B-A For Aeropark: - TWYs: F-G-H

Note: Join TWY J direct from glider retrieve point

Caution: Hold at TWY F before crossing RWY29/11

RWY22 – Tow Back Routes

Tow Back Routes

RWY22 Grass

- Hold at RWY22/04 Bitumen
- Backtrack RWY29 Bitumen

For Tie-down:

- TWYs: E-A or F-B-A

For Aeropark:

- TWYs: F-G-H

RWY22 Bitumen

For Tie-down:

- TWYs: C-A

For Aeropark:

- TWYs: C-B-F-G-H

Caution: Hold at RWY22/04 Bitumen and lookout for landing aircraft

RWY29 – Tow Back Routes

Tow Back Route
From **RWY29L** - TWYs: J-C-A For Aeropark: - TWY B: - Hold at RWY29/11 - TWYs: F-G From **RW29R** - Hold at RWY29/11 - TWYs: J-C-A For Aeropark: - TWY B: - Hold at RWY29/11 - TWYs: F-G

Caution: Before crossing RWY29/11: Hold at TWY F and at RWY11 threshold

Hydration and Hypoxia – Risk Mitigation

- Temperatures may exceed 40 °C, with average daytime maximums of 30 °C in December. Staying hydrated is critical for good decision making and survival:
  - Ensure you have adequate water with separate containers for the grid, in flight, outlanding and retrieves
  - Three litres is excluded from the reference weight of the glider. This should only be the water for in-flight use
  - Highly recommend a separate 3+ litre container for outlanding included in the glider weight

- Hypoxia and Dehydration is a dangerous combination as the symptoms are similar and cumulative over time: Typical convection tops in December are between 8,000 and 14,000 feet AMSL
  - Oxygen use is mandatory above 12,500 feet AMSL
  - Oxygen use is strongly recommended above 7,000 feet AMSL, given possible multiple days in succession and cumulative effects of long periods at high altitude
  - Oxygen refills are free and will be managed by the organisation

Outlanding – Communication

Outlanding Office

Mr Arnie Hartley	+61 418 270 182
Mr Jacob Bloom	+61 472 503 322

LowCrop.aero Will be set up when pilots and glider entries are finalised

Trackers Keep trackers ON

FIRST, CONTACT THE OUTLANDING OFFICE USING **LowCrop.aero** OR OUTLANDING OFFICE. The outlanding office will contact Team Captains

Outlanding – SWER Lines

SWER (*Single Wire Earth Return)* power lines are single strand electrical transmission lines. They carry power from lines on the roads to farm houses, farm buildings and are located at **random locations across paddocks**. They are **very hard to see**. Sometimes the wires are strung between trees as well as fences

Look for poles or plant growth along fence lines and grass clumps in paddocks. Don't fly an approach between trees unless you are sure that the are no possible power lines

As you get lower when flying cross country, regularly look for power poles and follow the lines, identifying when another line splits from the main line

Outlanding – Paddock Selection

Suitable:

- Stubble crops
- Cultivated paddocks

Avoid:

- Irrigation
- Grazing land (often very rough)
- Unharvested crop

Outlanding – Retrieve Procedures, Aerotow

- Paddock must be at least 600-800 m long - step out the distance
- Agricultural strips are OK
- Hard surface is required
- No obstacles (power lines, trees, homes, etc on the departure direction)
- Radio contact with tug pilot on frequency 122.7
- Once tug is despatched, do not leave the glider
- **Prior permission from the landowner** must be obtained before organising the retrieve
- Aerotow retrieves will not be available on Fire Ban days

Outlanding – Retrieve Procedures, Trailer

- 4WD preferred. Always leave Narromine with a **full fuel tank** as there are limited fuel stations across the task area
- **Vehicles should not be parked in long stubble** as catalytic converters can cause a fire[1]
- Always obtain **maps and directions from the Outlanding Office**
- Cell phone reception is mostly poor, so retrieve crews may not be able to contact the pilot once on the road. It is **critical that accurate directions are obtained before the retrieve crew leaves Narromine airfield**
- **Satellite phones or messaging** devices are highly recommended
- Take plenty of drinking water for the crew and pilot (1 litre per hour, per person)
- Gates from roads are often locked

[1] See: Fire warning issued after motorists ignite major blazes.

Outlanding – Cautions

- Many areas are remote with long distances to houses, roads and mobile phone coverage
- Many farm houses are abandoned
- Some farmers are not happy to have unexpected visitors
- Always have your phone with you
  - **SMS text** is much more reliable than calls or data when in remote locations
  - Strongly recommend a SPOT tracker or similar **satellite communication** device
- Don’t leave the glider if unsure of direction to a road, or habitation
- Have a plentiful supply of **water with you**
  - Walking in 40 °C temperatures you will consume 1 litre per hour
- Radio may be used to relay location, including use of 121.5 to contact overflying jet traffic in an emergency/SAR situation

Tracker Management

- Team Captains must:
  - Collect a tracker from the Tracker Store for each pilot each day
  - Return trackers to the Tracker Store within 1 hour of pilot landing
  - Return trackers for charging after a retrieve as soon as possible, but no later than 0800 the following morning
- Organisers will ensure trackers are charged overnight
- The Tracker Store will be in the media room co-located with the briefing room