

Sligo Airport 2024

AIR DISPLAY RISK ASSESSMENT

Sligo Airport, Strandhill, County Sligo, is hosting an air display on Saturday & Sunday July 27th & 28th 2024. The Event Organiser is, Sligo Airport- Noel Jennings

This year's proposed display is, consisting of the Irish Parachute team, wing walkers, three aircraft flying aerobatic display sand a display from the SAR based at Sligo, followed by a series of fly pasts and a pyrotechnic display on the Saturday evening, The display will last approximately Two hours thirty minutes.

The display will take place on Saturday & Sunday 27th & 28th July 2024 between 19:00 and 21:15 on Saturday and 14:00 and 17:00 on Sunday local time.

This Risk Assessment covers the aviation risks associated with the display and has been drawn up by the Airport Manager Noel Jennings.

This Risk Assessment is based on the requirements of IAA Aeronautical Notice O.79 issue 1 and follows the guidelines and format of CAP 403 published by the UK Civil Aviation Authority.

Abbreviations used in this document:

AMSL	Above Mean Sea Level
AN	Aeronautical Notice. These are issued by the IAA
ASL	Above Surface Level
C of A	Certificate of Airworthiness
CTA	Controlled Airspace
FDD	Flight Display Director
IAA	Irish Aviation Authority
METAR	An actual weather observation at an airport, normally reported every 30 minutes
MTOM	Maximum Take Off Mass
NM	Nautical Mile
SERA	Single European Rules of the Air
TAF	Terminal Area Forecast. Weather forecast issued for an airport.

DETAILS OF THE FLYING DISPLAY

The Display will be held over the Runway at Sligo Airport, Strandhill, County Sligo. Location at N 54° 27'88" W 008° 59' 90" and is 11' AMSL.

Low Speed Display line

The Display Line is 1000m long, orientation 10-28 East West

The Display Line is 150m from the closest point in the Spectator Area

The Display Area includes the Display Line and turning spaces at either end of the Display Line. There are no major roads or buildings in the Display Area.

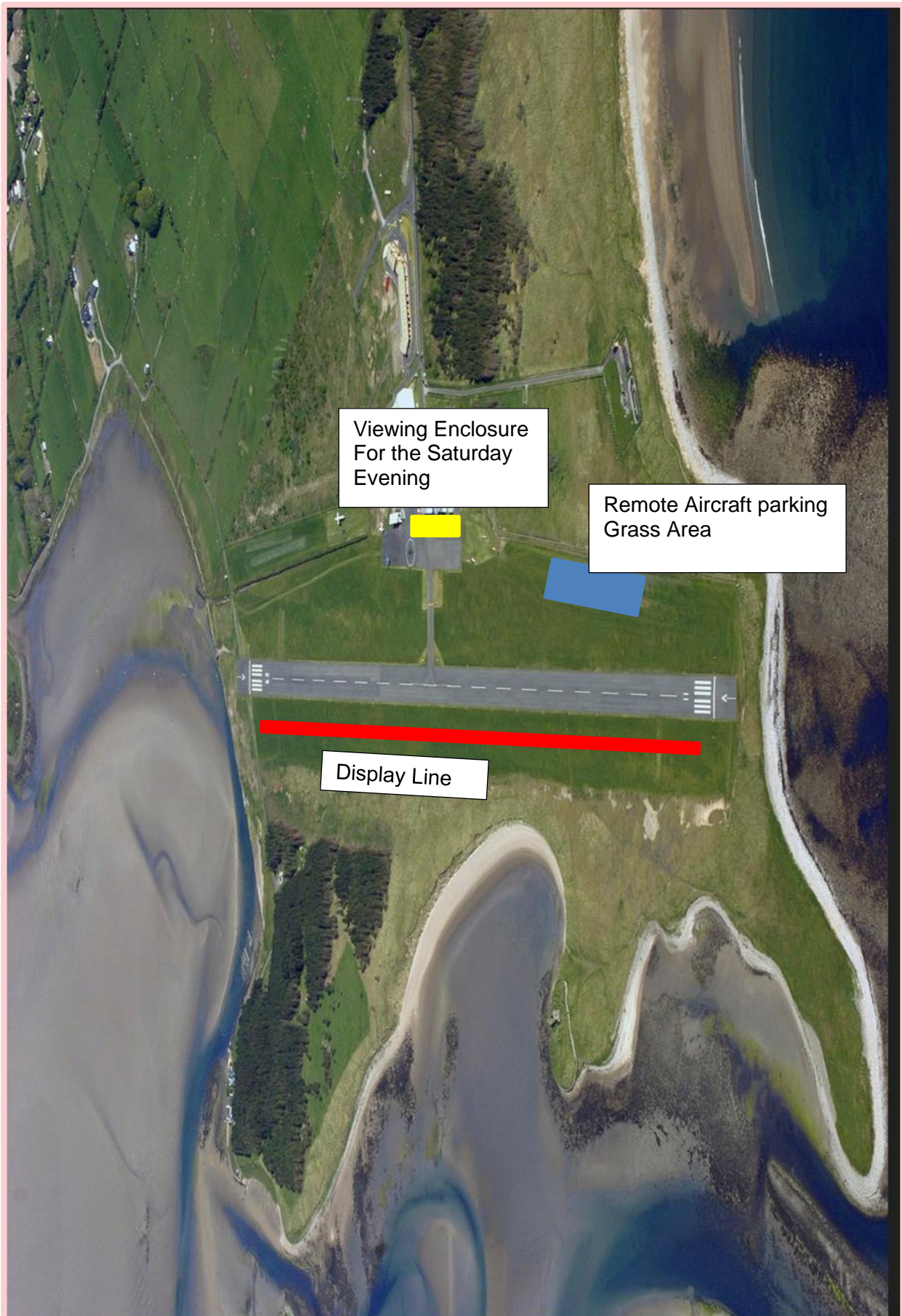
The highest obstacles in the Display Area are trees some 50' tall.

No part of the land under the Display Area will be easily accessed by the public.

The Display Area includes some flat green fields which could be used in the event of a forced landing. There is a no-fly area to the south of the Display Line.

All the above are shown in the attachments that follow.

The Display Aircraft, Awaiting a full list from Flight Director Se Pardy.






ENGINEERING CONSULTANTS & SURVEYORS
INTEGRAL
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 SURVEYORS
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SLIGO AIRPORT
SLIGO AIRPORT - OVERVIEW


DATE	12/12/2023
SCALE	1:1000
PROJECT NO.	2023/001
DRAWN BY	...
CHECKED BY	...
APPROVED BY	...



Risk Assessment

This Risk Assessment gives both primary and residual risks. The primary risk is the risk associated with the identified risk/hazard assuming that the risk/hazard associated remains completely uncontrolled. The residual risk is the level of the remaining risk produced when the proposed control measures have been applied. The figures given may be interpreted using the matrix below. The columns of the risk rating sections are headed $S \times L = RR$ (Severity of consequences \times Likelihood of occurrence = Risk Rating)

The control measures, indicated within the assessment, are reasonably practicable measures. A review of the assessment will be made, should further information be received which suggests that the control measures suggested are no longer sufficient to control risks or are inappropriate or if additional hazards are identified. The Risk Assessment should be read in association with the above maps which shows the display line, display area, the display's audience, and areas where members of the public have access to and can observe the display from.

Risk Tolerability Matrix

Risk likelihood (L)	Risk severity (S)				
	Catastrophic(5)	Hazardous(4)	Major (3)	Minor (2)	Negligible (1)
Frequent (5)	Unacceptable	Unacceptable	Unacceptable	Tolerable	Acceptable
Occasional (4)	Unacceptable	Unacceptable	Tolerable	Tolerable	Acceptable
Remote (3)	Unacceptable	Tolerable	Tolerable	Acceptable	Acceptable
Improbable (2)	Unacceptable	Tolerable	Tolerable	Acceptable	Acceptable
Extremely improbable (1)	Tolerable	Acceptable	Acceptable	Acceptable	Acceptable

Hazard description = Any condition, event, or circumstance which could induce an accident. **Risk description** = The potential consequence and location that could result from the hazard. **L** = Likelihood of the Risk occurring.

S = Severity of the Risk consequence.

Risk Decision = A combination of the likelihood of a risk occurring in conjunction with the severity of the risk that could result, e.g., **Unacceptable**, **Tolerable** or **Acceptable** as referenced in the matrix above.

Mitigation Measures - Risk control measures additional to CAP 403 requirements to lower the risk to As Low As Reasonably Practical (ALARP).

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
1 Aircraft collision with the surface.	Aircraft impacts terrain due to engine or mechanical failure or damage, or pilot incapacitation, disorientation or loss of control during the display.	3	5	Unacceptable	<p>Both Display Lines are well defined</p> <p>No obstacles above 50' in Display Area, minimum heights revised accordingly per AN O.79.</p> <p>Display pilots familiar with the area</p> <p>Display pilots are flying a practiced sequence, well within their and the aircraft's capabilities.</p> <p>Display aircraft designed for unlimited class aerobatics</p> <p>Display pilots holds valid medical cert.</p> <p>Display Pilots are experienced in display flying</p>	1	5	tolerable	SERA 5005 specifies min 500' AGL south and 1,500' AGL north of Display Area

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
2 Display Area topography.	In the event of a mishap the display aircraft could impact buildings or members of the public.	3	5	Unacceptable	<p>The Display Area is over a Runway</p> <p>There are no buildings in the Display Area.</p> <p>Access for the public to the land areas in the Display Area is difficult due to the nature of the terrain and/or its distance from population centers.</p> <p>There are no obstacles above 50' in the Display Area.</p> <p>There are flat green areas in the event of a forced landing.</p>	1	5	tolerable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
3 Display Area size.	Size of Display Area restricts aircraft maneuvering.	4	4	Unacceptable	<p>Display Area designed to facilitate the display being flown on the day.</p> <p>Display Area opens out at both ends of the Display Line to allow the display aircraft to turn back to the Display Line without leaving the Display Area.</p> <p>Display Pilots have approved the Display Area layout.</p>	1	4	Acceptable	
4 Display Area and Display Line positioning.	Risk of crowd overflight or mishandling to avoid crowd overflight.	4	5	Unacceptable	<p>The Display Line and Display Area is well defined by natural line features,</p> <p>The Display Pilots have practiced the display sequence and have approved the Display Area.</p> <p>The FDD will observe the displays and can pause or terminate the Displays if he feels any limits are being approached.</p> <p>Pilots have been briefed by the FOD on the display lines.</p>	1	5	tolerable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
5 Congested Areas.	Risk of overflight of incidental crowd or aircraft ground collision.	3	5	Unacceptable	There are no congestion areas inside the Display Area. No crowd overflight or rear arrivals are permitted.	1	5	tolerable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
6 Concentrations of Livestock/Animals.	Risk of animals being startled and injured, or injuring people nearby.	2	4	tolerable	No known concentrations of livestock, although the area is rural. Local farmers have been approached by the Aerodrome to advise on the Airshow and livestock concerns.	1	1	Acceptable	
7 Proximity of Controlled Airspace.	Risk of inadvertent penetration of Shannon controlled airspace, possibly leading to loss of separation or mid-air collision.	4	4	Unacceptable	Display Area is in Class C airspace. Two ATC on Duty. Air Show NOTAM Maximum altitude for the display flight is nominally 3,000' AGL (3,151' AMSL).	2	4	Acceptable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
8 Display Airspace infringement.	Risk of non-display aircraft infringing the Display Area possibly leading to loss of separation or mid-air collision.	4	4	Unacceptable	Two ATC on Duty for The Air Show Airspace restrictions NOTAM in place FDD to monitor the airspace around the Display Area for air traffic.	3	4	tolerable	
9 Poor weather.	Poor weather in the display area.	3	4	tolerable	All flying to be carried out and subject to VFR rules and limitations. FDD will observe the weather conditions on the ground and pause or terminate the Display if conditions deteriorate. Display Pilots to monitor the enroute and Display weather and cancel the display if necessary.	2	4	tolerable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
10 Drones.	Drones operating in or near the Display Area can be a distraction to the pilot and/or collide with the Display Aircraft.	3	3	tolerable	Event Organizer to advise all participants at the Event that drone operations are not permitted during the Air Display. Drone operation may lead to Display cancelation. FDD to monitor airspace for drones and pause or terminate the Display if necessary.	2	3	tolerable	
11 Birds.	Risk of bird strikes causing aircraft accident.	4	4	Unacceptable	Airport Wildlife procedures in-force, Constant monitoring by Sligo ATC FDD to monitor airspace for bird activity and advise Display Pilot. FDD to pause or terminate the Display if threatened by bird activity.	2	4	tolerable	

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
12 Power Lines.	Power lines are a collision risk and can be difficult to spot while maneuvering an aircraft.	3	4	tolerable	There are no power lines in the Display Area.	2	4	tolerable	
13 Crowd Line.	Spectators encroaching into the display area.	2	2	Acceptable	The event is a ticket only event All Ticket holders in enclosed spectators' area, with no public attending. Loop walk closed Saturday 27 th @ 13:00 local, both turnstiles will be blocked with haraz fencing and manned by Marshall	1	1	Acceptable	The short 15 minute display affords little opportunity for crowds to access the Display Area.

Hazard Description	Risk Description	Initial rating			Mitigation Measures	Final rating			Remarks
		L	S	Risk Decision		L	S	Risk Decision	
14 Emergency Services Response.	Risk that emergency response could be delayed or hindered by poor planning.	4	4	Unacceptable	CAT 4 Fire cover will be provided by Sligo Airport Fire service For the event. Normal airside operations will be in force. Second fire appliance will be positioned on the northside as additional cover	1	3	Acceptable	
15 Human Factors.	Risk that the Display Pilot will have an incident or accident due to human factors.	3	4	tolerable	Display Pilots will be operating from Sligo Airport runway, all pilots are familiar with the Airfield	1	4	Acceptable	
16 SAR	Delay in dispatching the search and rescue helicopter	3	4	tolerable	SAR has priority Air Show will be Suspended until the SAR has departed or returned to base. FOD will be contacted by Sligo tower in the event of SAR getting an emergency call. The FOD will either terminate or pause the Display to allow for normal operations for SAR this has been discussed and agreed with all parties.	3	4	Acceptable	Please find accompanied pilots briefing
17 Pyrotechnics	parking of loaded Aircraft	3	5	Unacceptable	Loaded Aircraft will be parked on a grassed area north terminal building, Pyrotechnics not to be armed until the Aircraft is	3	2	Acceptable	

					airborne as per display pilots risk assessment				
18	Display Aircraft entering the water	Aircraft impacts terrain due to engine or mechanical failure or damage, or pilot incapacitation, disorientation or loss of control during the display.	3	5	Unacceptable	As per Hazard 1 aircraft collision with obstacle With the added of details in the Airport Emergency Plan 1.aircraft accident on the Aerodrome. 1.1 action by ATS & 1.2 Action by ARFFS. In the case that an accident/incident should result in any aircraft or casualties end up in the surrounding waters of the aerodrome ask ATC to call the Coastguard on 074 9370103 and request helicopter and/or RNLi assistance if considered necessary. ARFFS crews should respond to the nearest land point and assist in any way they can.	1	5	tolerable

I confirm that this Risk Assessment is suitable and sufficient to manage the risks associated with the flying display.

Accountable Manager Sligo Airport	Noel Jennings	<i>Noel Jennings</i>	
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