te kaunihera ā-rohe o matamata-piako district council

Waharoa (Matamata) Aerodrome Committee

Ngā Tāpiritanga – Pūrongo | Attachments – Reports

ATTACHMENTS UNDER SEPARATE COVER

Notice is hereby given that an ordinary meeting of Waharoa (Matamata) Aerodrome Committee will be held on:

Ko te rā | Date:	**Thursday 20 June 2024**
Wā | Time:	**10:00**
Meeting Room:	**Te Takere Room**
Wāhi | Venue:	**Matamata-Piako Civic and Memorial Centre** **11 Tainui Street** **MATAMATA**

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AERONAUTICAL STUDY OF THE MATAMATA AERODROME

01 June 2024

MATAMATA PIAKO DISTRICT COUNCIL

PREPARED BY MIKE GROOME

Aeronautical Study of the Matamata Aerodrome.

*Photo Credit on the Front Cover: Matamata Piako District Counci

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Abbreviations

ADS-B	Automatic Dependent Surveillance Broadcast:
AGL	Above Ground Level:
Aimm	Automated Intelligent Movement Management:
AIPNZ	Aeronautical Information Publication New Zealand:
Airways NZ	Airways New Zealand:
AMSL	Above Mean Sea Level:
ARC	Aviation Related Concern:
ASP	Airspace Incident:
AWIB	An Aerodrome and Weather Information Broadcast:
CAA	Civil Aviation Authority of New Zealand established by section 72A of the Civil Aviation Act:
CAR	Civil Aviation Rules:
CFZ	Common Frequency Zone:
Controlled Airspace	Airspace controlled by Airways NZ:
dBa	Noise Level Measured in Decibels:
Flying NZ	Royal New Zealand Aero Club
GA	General Aviation:
GAA	General Aviation Area:
GPS	Global Positioning System:
IFR	Instrument Flight Rules:
INC	Incidents:
LDA	Landing Distance Available:
LSA	Light Sport Aircraft:
MAUG	Matamata Aerodrome User Group
MBZ	Mandatory Broadcast Zone
MCTOW	Maximum Certificated Take-off Weight:
MICROLIGHT	An Aircraft below 600 Kg MCTOW:
MOU	Memorandum of Understanding
MPDC	Matamata Piako District Council:

Movement	A Landing or a Take-off:
NOTAM	Notice to Airmen:
NZMA	Matamata Aerodrome:
OLS	Obstacle Limitation Surfaces:
PCBU	Person Conducting a Business or Undertaking:
PLA	Parachute Landing Area:
RAANZ	Recreational Aircraft Association of New Zealand
RESA	Runway End Safety Area:
RNAV	GPS Area Navigation:
RPT	Regular Passenger Transport:
SMS	Safety Management System
UNATTENDED	Not controlled by Airways NZ
VFR	Visual Flight Rules:

:

Definitions

- **ACCIDENT** means an occurrence that is associated with the operation of an aircraft and takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, being an occurrence in which:

1) a person is fatally or seriously injured as a result of—
   (i) being in the aircraft; or
   (ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or
   (iii) direct exposure to jet blast—
   except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; or

2) the aircraft sustains damage or structural failure that—
   (i) adversely affects the structural strength, performance, or flight characteristics of the aircraft; and
   (ii) would normally require major repair or replacement of the affected component
   except engine failure or damage that is limited to the engine, its cowlings, or accessories, or damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

3) the aircraft is missing or is completely inaccessible:

- **ADS-B OUT** means a function on an aircraft that periodically broadcasts its state vector (identity position and velocity) and other information derived from on-board systems in a format suitable for ADS-B receivers:

- **ADS-B** system means a GNSS position source and a compatible Mode S Extended Squitter 1090 Mhz ADS-B OUT transponder, or any other suitable transponder determined by the Director as specified in a notice referred to in rule 91.258(a)(6):

- **AERODROME INCIDENT** means an incident involving an aircraft operation and Civil Aviation Rules Part 12 CAA Consolidation 1 December 2020 7 CAA of NZ:

  1) an obstruction either on the aerodrome operational area or protruding into the aerodrome obstacle limitation surfaces; or
  2) a defective visual aid; or
  3) a defective surface of a manoeuvring area; or
  4) any other defective aerodrome facility:

- **AERODROME**

  1) means any defined area of land or water intended or designed to be used either wholly or partly for the landing, departure, and surface movement of aircraft; and
  2) includes any buildings, installations, and equipment on or adjacent to any such area used in connection with the aerodrome or its administration:

- **AERODROME TRAFFIC** means

  1) all traffic on the manoeuvring area of an aerodrome; and
  2) all aircraft flying in the vicinity of an aerodrome: Aerodrome traffic circuit means the pattern flown by aircraft operating in the vicinity of an aerodrome.

- **AERODROME TRAFFIC CIRCUIT** means the pattern flown by aircraft operating in the vicinity of an aerodrome as promulgated in the AIPNZ.

- **AEROPLANE** means a power-driven heavier-than-air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight:

- **AEROPLANE MOVEMENT** means an aeroplane take-off or landing:

- **AIR OPERATION** means an air transport operation, a commercial transport operation, or an adventure aviation operation.

- **AIP** - **AERONAUTICAL INFORMATION PUBLICATION NEW ZEALAND** means the AIP for New Zealand published for the Authority by the holder of the AIS certificate for the AIP service: Aeronautical information service means any of the following services that distribute aeronautical information essential for the safety, regularity, and efficiency of air navigation—

  1) AIP service; or
  2) NOTAM service; or
  3) Pre-flight information service:

- **AIR TRANSPORT OPERATION** means an operation for the carriage of passengers or goods by air for hire or reward except—

  1) a commercial transport operation:
  2) an adventure aviation operation: Civil Aviation Rules Part 1 CAA Consolidation 1 December 2021 32 CAA of NZ
  3) a helicopter external load operation under Part 133:
  4) an agricultural aircraft operation under Part 137:
  5) a trial flight.

- **AIRCRAFT INCIDENT** means any incident, not otherwise classified, associated with the operation of an aircraft:

- **AWIB SERVICE** means an automatic broadcast of aerodrome and weather information provided specifically for the facilitation of aviation, and for the avoidance of doubt, an AWIB service is not an air traffic service:

- **AVIATION RELATED CONCERN** is a procedure where anyone can report an "aviation related concern". You don't have to be involved in the aviation community to report something you see or hear that you think might harm aviation safety or security, or that might even be breaching Civil Aviation Rules.

- **AIRSPACE INCIDENT** means an incident involving deviation from, or shortcomings of, the procedures or rules for—

  1) **avoiding a collision between aircraft; or**
  2) avoiding a collision between aircraft and other obstacles when an aircraft is being provided with an Air Traffic Service

- **BIRD INCIDENT** means an incident where—

  1) there is a collision between an aircraft and one or more birds; or
  2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot:

- **CERTIFICATED ORGANISATION** means an organisation issued with a certificate under rules made under the Act:

- **CIVIL AVIATION AUTHORITY OF NEW ZEALAND** means the aviation regulator, a Crown entity responsible to the Minister of Transport. Established and maintained by the Civil Aviation Act 1990

- **CIVIL AVIATION RULES** means rules made under the Civil Aviation Act:

- **CLASS 1 MICROLIGHT AIRCRAFT** means a microlight aircraft other than a Class 2 microlight aircraft:

- **CLASS 2 MICROLIGHT AIRCRAFT** means a microlight aircraft designed and equipped to carry 2 persons:

- **CONTROLLED AERODROME** means an aerodrome at which air traffic control service is provided to aerodrome traffic:

  ***NOTE** — the term "controlled aerodrome" indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

- **CONTROLLED AIRSPACE** means an airspace of defined dimensions within which air traffic control service is provided to IFR flights, and to VFR flights, in accordance with the airspace classification:

- **DIRECTOR** means the person who is for the time being the Director of Civil Aviation under section 72I of the Civil Aviation Act:

- **GENERAL AVIATION AREA** means an airspace, of defined dimensions, in which intensive VFR activity may occur and the rules of Class G airspace apply:

- **Glider** (1) means a non-power-driven heavier-than-air aircraft that derives its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight; and (2) includes a powered glider whether the engines are operating or not:

- **INCIDENT** means any occurrence, other than an accident, that is associated with the operation of an aircraft and affects or could affect the safety of operation:

- **LIGHT SPORT AIRCRAFT** means an aircraft, other than a helicopter, having:

1) a maximum take-off weight of—
   (i) 600 kg or less:
   (ii) 650 kg for an operation on water:

2) a maximum gross weight of 600 kg or less for a lighter-than- air aircraft:
3) if powered, a single, non-turbine engine driving a propeller:
4) a maximum stall speed of 45 knots:
5) if a glider, a maximum never exceed speed of 135 knots:
6) if applicable, an unpressurised cabin:
7) a maximum seating capacity of 2 seats including the pilot seat.

- **MANOEUVRING AREA**
  1) means that part of an aerodrome to be used for the take-off and landing of aircraft and for the surface movement of aircraft associated with take-off and landing; but
  2) does not include areas set aside for loading, unloading, or maintenance of aircraft:

- **MICROLIGHT AIRCRAFT** means a basic low performance aircraft designed to carry not more than 2 persons which meets low momentum parameters that are acceptable to the Director:

- **MICROLIGHT ORGANISATION** means the holder of an aviation recreation organisation certificate issued in accordance with CAR Part 149 that authorises specified privileges associated with the operation of microlight aircraft:

- **MOVEMENT AREA** means that part of an aerodrome intended to be used for the take-off and landing of aircraft and for the surface movement of aircraft, and includes the manoeuvring area, maintenance areas, and aprons:

- **NOTAM** – Notice to Air Missions - means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations:

- **OBSTACLE LIMITATION SURFACES** (OLS) “define the airspace around aerodromes to be maintained free from obstacles so as to permit the intended aeroplane operations at the aerodromes to be conducted safely and to prevent the aerodromes from becoming unusable by the growth of obstacles around the aerodromes.”

- **OCCURRENCE** means an accident or incident:

- **PARACHUTE** means a surface from which a load is suspended by shroud lines capable of controlled deployment from a packed condition:

- **PARAGLIDER** means a hang glider with no rigid primary structure:
- **RUNWAY** means a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft:
- **RUNWAY END SAFETY AREA (RESA)** means an area symmetrical about the extended centre line of the runway and adjacent to the end of the runway strip primarily intended to reduce the risk of damage to an aeroplane undershooting or over-running the runway:
- **TAKE-OFF DISTANCE** available means the length of the take-off run available plus the length of any clearway:
- **TAKE-OFF RUN** available means the length of the runway declared by the aerodrome operator as available and suitable for the ground run of an aeroplane taking-off:
- **UNICOM SERVICE** means a ground radio communications service in the aeronautical mobile service providing local aerodrome information for the facilitation of aviation, and, for the avoidance of doubt, a UNICOM service is not an air traffic service:
- **VFR FLIGHT** means a flight conducted in accordance with the visual flight rules:

1 Executive Summary

1.1 The Matamata Aerodrome is a country aerodrome situated to the north of the town of Matamata and approximately 10 km west of the Kaimai Ranges.

The aerodrome is outside of Controlled Airspace but is within both a Mandatory Broadcast Zone (MBZ) and a Common Frequency Zone (CFZ).

1.2 The aerodrome currently has no physical constraints. Farmland surrounds the aerodrome with State Highway 27 on the western side of the aerodrome and Jagger Road to the north.

1.3 The physical layout of the aerodrome meets the requirements of CAR Part 139. and Advisory Circular 139-7 (Aerodrome Standards and Requirements – Aeroplanes at or below 5700 kg MCTOW – Non-Air Transport Operations.)

1.4 The Matamata Aerodrome, is owned and operated by the Matamata Piako District Council (MPDC) and is well managed by staff from the Council. As with many council owned aerodromes there is a lack of aviation knowledge within the council, who are able to understand the aviation environment and the rules pertaining to it. The MPDC staff have been managing the facility well without expert knowledge. Turnover of staff is always a concern, where knowledge gained may not be transferred to the new person in charge of the aerodrome.

1.5 Aerodromes such as Matamata have several differing types of aviation activity operating from them, with each interest group having their own thoughts as to how the aerodrome should be managed. These thoughts are not always in the best interests of the aerodrome or the other users of the facility. This is why it is very important that a user group such as the Matamata Aerodrome User Group (MAUG) is in existence so that the operator of the aerodrome and users of the aerodrome can discuss any issues that may arise before they get to become larger issues and compromise safety.

1.6 The MPDC is assisted with operational advice by the MAUG, to manage the aerodrome. This group consists of experienced aviation personnel from the different aviation groups based on the aerodrome, who give their time on a voluntary basis. Apart from representing their own interest groups the MAUG, must look holistically with regards to the best interests of the aerodrome.

1.7 The aerodrome is busy at the weekends with General Aviation light aircraft, Gliders, Skydivers and a Model Aircraft Club all operating from the aerodrome. Aircraft movements are increasing to more than 17,000 per year. Each year in January the aerodrome is host to the Walsh Memorial Scout Flying School. This school was responsible for over 7000 of the total aircraft movements in January 2024.

1.8 The aerodrome has two grass runways and four vectors which allows operations in differing wind conditions and direction. The runways are quite adequate for the aircraft types which are currently using the aerodrome.

1.9 The main runway strip, 10/28, is some 137 m wide. The runway fits within this runway strip. When winch towing of gliders, the runway strip is split into two halves. The northern side is for winching operations and the southern side for all other operations.

1.10 There are no designated Taxiways. This is a safety risk which can cause congestion and conflict between aircraft attempting to access the end of runway 28 from the aircraft parking area.

1.11 All aircraft on the aerodrome are housed in hangars on the western side of the main runway. The positioning of these hangars is orderly with room to manoeuvre aircraft between them.

1.12 There are two hangars which are in very close proximity to the runway edge. Although they are close to the runway, the side clearance distance meets the 1:4 transitional side clearance as required by the CAA Rules[1], but do not meet the 1:5 clearance as required by the MPDC District Plan.

1.13 Flight training for both aeroplanes and gliders along with recreational flying are the predominant activities on the aerodrome.

1.14 The Piako Gliding Club (PGC) have put forward a proposal to the MPDC to add wording into the AIPNZ to allow gliders and the tow plane, to join the circuit via a “right base” for runway 28 and “left base” for runway 10, without having to join via the overhead join procedure. This has caused much discussion between the aerodrome users, without a resolution. The proposal by the PGC to add wording into the AIP to include a right-hand turn onto runway 28 has a high risk of aircraft conflicting with each other. The CAA are unlikely to approve this proposal and have suggested that the users resolve the issue amongst themselves. This proposal will be discussed later in the report.

1.15 The interpretation of the Civil Aviation rules and the request to the PDC to be able to deviate from those rules has caused some friction amongst users of the Matamata Aerodrome.

[1] CAA Advisory Circular AC 139-7

1.16 There is a thought among some, that the Matamata Aerodrome is becoming a gliding only aerodrome, and that other traffic should fit around the gliders operation.

1.17 The Matamata Aerodrome is in fact a General Aviation Aerodrome, with many different types of aircraft and activities operating from it, it is not just a gliding aerodrome. It is a very popular aerodrome for flying schools and aero clubs to visit and send student pilots to on cross country flights.

1.18 Unfortunately, there are differing opinions and interpretations by some users of the aerodrome, around the Civil Aviation Rules and how the different operations and activities should be conducted. There has been some confusion around the responsibilities of the MPDC as the owner and operator of the aerodrome, and that of the CAA as the regulator as to who sets the rules.

An Analogy:

In the town of Matamata, the speed limit on the roads (unless it is a State Highway) are set by the MPDC, not the police. However, the police enforce those speed limits. At the Matamata Aerodrome, the MPDC as the operator of the aerodrome sets the rules with regards to operating on and around the aerodrome, including the circuit direction. The MPDC and the CAA as the regulator enforce these rules as well as others set by the CAA.

1.19 Some resident and local pilots have adopted their own procedures for operating in and out of the Matamata Aerodrome. These procedures differ from or are variations of what is accepted practice and have become a normalisation of a deviance to the standard CAA Rules and procedures. This behaviour is unacceptable.

This is a very worrying trend where the discipline of certain pilots has slipped to the point where it is putting themselves, and other users of the aerodrome at risk of a serious incident or accident. Hence the interest in the Matamata Aerodrome taken by the CAA.

Several risks to safety have been identified, on and around the Matamata Aerodrome. The risks and mitigations are documented in the Risk Assessment Report. (See Matamata Aerodrome Operational Risk Matrix Page 80)

1.20 However, there are some recommendations which have a higher priority and are mentioned below as well as in the Operational Risk Matrix.

Recommendations

1) Employ an Aerodrome Manager.

Explanation:

The aerodrome manager, with aviation knowledge, becomes the important link between the MPDC and the users of the aerodrome, with regards to activities on and around the aerodrome and to monitor the activities.

This person becomes the "face" of the MPDC and the "go to" person for all aerodrome related activities. This can be a part time position.

2) Continue with the regular Matamata Aerodrome User Group meetings.

Explanation:

- *At these meetings any issues that have arisen can be discussed and dealt with early rather than waiting for an incident to happen.*
- *This is a way of all sections of the aerodrome community being able to share their thoughts and ideas regarding safety initiatives and ways of mitigating any risk.*
- *Also keeping the communication open.*

3) Develop a taxiway along the western side of runway 10/28.

Explanation:

Mitigate Risk of conflict between aircraft removing the need to backtrack on the runway to the end of the runway.

That a 35 m wide taxiway be created to the southern side of runway 10/28 to allow aircraft to be manoeuvred to the threshold of runway 28 without having to taxi on backtrack on the runway.

This would meet the requirements for aircraft with a wingspan of less than 15m.

For gliders with a greater wingspan, they could be towed down the edge of the taxiway and runway to the end of the runway. See below proposed position of the new taxiway.

Map 1: Proposed Position of the New Taxiway

Aeronautical Study of the Matamata Aerodrome.

4) Develop a formalised system for reporting incidents to the Matamata Piako District Council.

Explanation:

Incidents reports can be raised by anyone. Incidents sent to the CAA via the CAA 005 or Aviation Related Concern (ARC) system are very seldom copied to the aerodrome operator, therefore the aerodrome operator will have no knowledge of the incidents or the trends in risks which may be happening on the aerodrome.

Suggest a simple reporting portal on the aerodrome section of the MPDC website.

5) Consider installing an Automatic Aerodrome and Weather Broadcast system (AWIB).

Explanation:

- *The AWIB is an automated system which gives real time weather and wind conditions and can also broadcast the favoured into wind runway for those conditions.*
- *The system is automated and requires no third-party input.*
- *The aerodrome manager can also add operational information to be broadcast to pilots using the system.*
- *By installing this system, it will reduce confusion as to which runway is the active runway and give advanced warning of the runway in use for an inbound aircraft.*

- *Pilots arriving to the aerodrome can tune into the AWIB frequency, and from many miles out will be given the actual weather conditions at Matamata and can therefore prepare themselves and plan their arrival at the aerodrome.*

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6) Consider changing the circuit direction of runway 10/28 to a northerly direction as are the other two runways. A right turn off runway 28 and a left turn off runway 10.

Explanation:

The reason for the current runway direction is no longer valid, ie because of built up areas.
This means all aircraft are away from the town of Walton and away from the town of Wahoroa.
This then allows gliders that are getting low on returning to the aerodrome to join via base leg without having to go overhead the aerodrome.
By having the circuit direction to the east there will be less chance of a conflict with aircraft opposing each other on the base leg, should a glider arrive from the east, with a powered aircraft in the circuit on a west left base leg for runway 28. See PGC proposal Page 85.

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7) Have the Obstacle limitation Surface re surveyed to ensure that there are not obstructions penetrating the 1:20 gradient from the end of the runways.

Explanation:

To determine the position of the runway threshold markers to ensure that there are no obstacles penetrating the OLS. There are trees which currently penetrate the OLS which would mean the aerodrome is non-compliant with the CAA rule.

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8) That the Gliding Club use orange cones rather than small buckets to indicate the demarcation between runways when winch towing is in progress.

Explanation:

The small buckets are almost impossible to see when on final approach to the runway. Particularly in some lights and the summer when the grass is dried off.
Visiting Aircraft would have difficulty seeing the line of buckets delineating the boundary between the two runways.

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9) That the Gliding Club winch operator makes a call to say that the winch rope is on the ground following a winch tow.

Explanation:

The winch rope is very hard to see when in the air and due to wind factors could drift toward the southern runway following release from the glider. This would be a hazard for an aircraft taking off or landing. By making the call, the aircraft departing on the southern side would know when to commence their take-off roll.

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10) Request that the model Aircraft Club acquire a two-way aviation radio.

Explanation:

With a two-way radio they would be able to communicate with an aircraft which was attempting to land on the closed runway while the model aircraft has it closed for their operation on the day. The club only have a radio receiver.

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11) That the Matamata Piako District Council upgrades the fencing between landside and airside on the aerodrome and install gates to control access to the operational area of the aerodrome, to meet the CAR Part 139.69 Public Protection rule.

Explanation:

The current low rail fence and the lack of gates between the landside and airside does not meet the CAA requirement under CAR Part 139.69. Although the aerodrome is not certificated the CAA and Worksafe require that there is adequate protection for the public and others visiting and using the aerodrome.

As it is at the moment anyone can drive a vehicle onto the operational area of the aerodrome and create a risk to users of the aerodrome, as there are no barriers to stop them.

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2 Scope and Purpose

Purpose of the Study

2.1 This Aeronautical Study has been requested by the MPDC, as operators of the Matamata Aerodrome.

2.2 The purpose of the Aeronautical Study is to assess the risks associated with operations on and around the Matamata Aerodrome, including the impact that the differing types of operations may have on the aerodrome operations.

2.3 The MPDC as the operator of the Matamata Aerodrome are the "Person Conducting a Business or Undertaking" (PCBU).

2.4 The Health and Safety at Work Act 2015, requires the MPDC to have a duty of care to all other persons using the Matamata Aerodrome to ensure that, so far as reasonably practicable, they do not expose those persons to risks to their health and safety.[2]

2.5 This study is a part of the due diligence to ensure that the Matamata Aerodrome meets the requirements of the Health and Safety at Work Act 2015, the Civil Aviation Act 1990, Civil, Aviation Rules, and any other applicable rules that apply to the aerodrome.

2.6 The Civil Aviation Authority have noted that there has been an increase in incidents and occurrences at the Matamata Aerodrome, and as such have been in contact with the MPDC to discuss what, if any, mitigations are to be put in place to reduce these incidents.

Scope

2.7 The Aeronautical Study of the Matamata Aerodrome is to consider the following:

a) An assessment of the current status of operations.
b) Identify aeronautical hazards, risks or issues.
c) Review the current operational documentation, including the Aeronautical Information Publication (AIPNZ).
d) Ensures the Matamata Aerodrome complies with the Civil Aviation Authority rules with regards to layout, runway design, specification, and use.
e) Investigate the airspace requirements around the Matamata Aerodrome.
f) On a busy weekend, inspect the airfield onsite and analyse regulatory or operational issues, and what is deemed to be normal practice by users.
g) Meet and discuss with the organisations that regularly use the aerodrome for their particular activities and concerns.
h) Facilitate, along with the MPDC, a meeting with all users, to discuss their thoughts on any changes that may be proposed.
i) Present a Report with recommendations to the MPDC on any changes to procedures or layout of the aerodrome to assist aviation safety.
j) Review and update the MOU.
k) Review, update, and facilitate the risk register.

[2] (Sec 36(2). Health and Safety at Work Act 2015

2.8 An assessment reviews the current aerodrome infrastructure, the airspace around the aerodrome, the operations by the various users on the aerodrome, and the effects of a proposal by the Piako Gliding Club to amend the NZAIP to reflect what the Gliding Club considers a more practical way of joining the aerodrome circuit.

2.9 The assessment is to identify any risks which could affect safe and efficient operations of the Matamata Aerodrome.

Civil Aviation Requirement.
Trigger Factors for an Aeronautical Study.

The aeronautical study is a tool for the aerodrome management to use as part of its operations and strategic planning and is an integral part of the aerodrome's Quality Assurance and Safety Management Systems (SMS). One of the purposes of the aeronautical study is to determine levels of operational safety, service or procedures that should apply at a particular location. The decision to undertake this type of study may be triggered by any one or more of a wide range of factors. These may include changes to:

- *the number of movements*
- *the peak traffic periods.*
- *the ratio of Instrument Flight Rules (IFR) to Visual Flight Rules (VFR) traffic*
- *the type of operations - scheduled, General Aviation (GA), training, etc.*
- *the types, and variety of types, of aircraft using the aerodrome (jet, turboprop, rotary, etc)*
- *aerodrome layout*
- *aerodrome management structure*
- *runway or taxiway and associated manoeuvring areas.*
- *operations of a neighbouring aerodrome or adjacent airspace.*

Feedback about any changes should be sought from aviation stakeholders including pilots, individuals, and other representative groups as part of the study.[3]

2.10 Due to the supposed complexity of the operations, where there is a mix of gliding and powered aircraft operating from the aerodrome at the same time, along with differing views as to how operational procedures and processes are and should be conducted, the MPDC are requesting that an Aeronautical Study of the Matamata Aerodrome be conducted.

Process

2.11 There is a consultation process to obtain feedback from the users and stakeholders.

2.12 Face to face meetings and telephone conversations have been held with several

[3] CAANZ NZ Advisory Circular AC139-15

stakeholders.

2.13 Assess the reported incidents and occurrences.

Aerodrome Operator Responsibility

2.14 The Matamata Aerodrome is not certificated under the current Civil Aviation Rules.

The MPDC as the aerodrome operator is therefore not strictly a "participant" for the purposes of the Civil Aviation Act 1990 and does not have legislated responsibilities relating to the aerodrome in that regard. The MPDC does have responsibilities under the Health and Safety at Work Act 2015.

2.15 Operators of non-certificated aerodromes are, however, a part of a system in which all participants have obligations to ensure air operations are conducted safely. These participants include pilots, air and ground operators, flight training providers, maintenance engineers, aerodrome operators and others.

2.16 Safety management, on and in the vicinity of the aerodrome is therefore a joint and shared responsibility between the aerodrome operator and the users of the aerodrome.

2.17 The MPDC has a role to play in this collaborative effort which includes operating and maintaining the aerodrome to an acceptable standard, ensuring that data published in the Aeronautical Information Publication New Zealand (AIPNZ)[4] is correct, and acting on safety issues where appropriate and practicable and in a timely manner.

3 Civil Aviation Rules

The following Civil Aviation Rules and the Advisory Circulars associated with them are applicable to the Matamata Aerodrome and Operators using the Aerodrome:

Part 12	Accidents, Incidents and Statistics
Part 71	Designation and Classification of Airspace

[4] https://www.aviation.govt.nz/airspace-and-aerodromes/air-navigation/aip/

Part 91	General Operating and Flight Rules
Part 93	Special Aerodrome Traffic Rules and Noise Abatement Procedures
Part 101	Gyro gliders and parasails, Unmanned Aircraft (Including Ballons), Kites, and Rocket Operating Rules
Part 102	Unmanned Aircraft Operator Certification
Part 103	Microlight Operating Rules
Part 104	Glider Operating Rules
Part 105	Parachuting Operating Rules
Part 115	Adventure Aviation Certification and Operations
Part 135	Air Operations Helicopters and Small Aeroplanes
Part 137	Agricultural Aircraft Operations
Part 139	Aerodromes Certification and Use
Part 149	Recreational Organisation Certification

4 Aerodrome – Current Status

Aerodrome Management

4.1 The Matamata Aerodrome is managed and operated by the MPDC, with the assistance of the MAUG.

4.2 MAUG is made up of operators, resident on the aerodrome, all of whom give their service free of charge.

4.3 The MPDC is responsible for ensuring that the aerodrome is operated and maintained in accordance with any applicable Civil Aviation Rules.

4.4 Although there is no formal management structure, the Community Facilities Operations Manager, a Council employee, oversees the day-to-day management of the aerodrome. This position is about to change to the Property and Community Projects Manager.

4.5 The MPDC is the "person conducting a business undertaking" (PCBU) and has responsibilities under the Health and Safety at Work Act 2015.[5]

4.6 Matamata Aerodrome is not security designated, however Work Safe requires procedures in place for public protection. e.g. suitable fencing

4.7 The aerodrome procedures and safety policies required for the safe and effective management of the Matamata Aerodrome for all users, are outlined in the Matamata Aerodrome Safety Management Plan, effective date of 2022.

4.8 Currently there is no designated Aerodrome Manager/Safety Manager.

Aerodrome Overview

4.9 The Matamata Aerodrome is some 9 km north of the town of Matamata and 3 km north of the village of Waharoa and is owned and managed by the Matamata Piako District Council.

4.10 The aerodrome was formed in 1942 by the Royal New Zealand Air force, with the ownership transferred from the Crown to the MPDC in 1965.

4.11 The Waharoa Aerodrome Reserve Management Plan has been established to ensure that the aerodrome continues to promote recreational aviation activities and that active consultation is had with Ngāti Haua, the original owners of the land, with regards to developing the aerodrome

4.12 Discussion around the Waharoa Aerodrome Management Plan is not part of this report.

4.13 The aerodrome is home to several aviation organisations and other activities. These include an Aero Club, Gliding Club, Model aircraft Club and Skydiving and private operators.

4.14 Most of the aviation activity on the aerodrome is for recreational purposes.

4.15 There are several events hosted at the aerodrome each year, the largest being the Walsh Memorial Scout Flying School, which runs for two weeks in January.

[5] https://www.legislation.govt.nz/act/public/2015/0070/latest/versions.aspx

4.16 The Piako Gliding club holds regular competitions throughout the year, with the aero club hosting fly ins from other clubs.

4.17 There are some 31 hangars on leased land plus other buildings for club rooms, a kitchen, ablution block and camping facilities.

Matamata Aerodrome is a Non-Certified and Unattended Aerodrome

4.18 With 15,799 aircraft movements for the financial year ending June 2023, and 18446 movements from July 2023 to April 2024 the Matamata Aerodrome is in the middle of the aircraft movement range for small unattended aerodromes in New Zealand.

4.19 Following dialogue between the MPDC, and the CAA, the MPDC has requested this report to assess the risk that current operations pose to the aerodrome operator and users of the aerodrome. The Director of Civil Aviation may well request a copy of the report.

On receipt of the Aeronautical Study, the Director of Civil Aviation may require the Matamata Aerodrome to become a "Qualifying Certificated Aerodrome." [6]

This would require the Aerodrome to meet certain criteria under the CAA rules, with the CAA having oversight of the aerodrome management and activities.

Some of the requirements to be met include:

- Providing a suitable Senior Person to become the Chief Executive of the aerodrome.
- Providing a suitable Senior Person to become the Safety Manager of the aerodrome.
- Providing the CAA with an Aerodrome Exposition describing the organisation and demonstrating its means and methods for ensuring ongoing compliance with the rules.
- Implementing a Safety Management System
- Setting Aerodrome Limitations
- Notification of aerodrome data
- Movement Data Reporting
- Public protection and security

Noise Contours

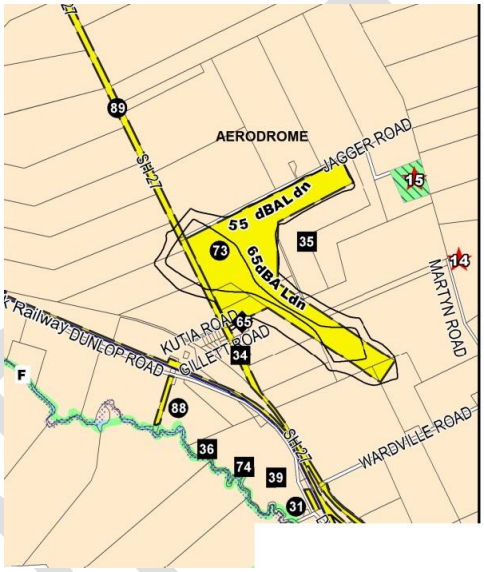
[6] Part 139.21 Subpart AA Determination of a Qualifying Aerodrome

4.20 The following noise contour map shows noise contours on and around the immediate aerodrome.

Due to the relatively low number of aircraft movements noise from aircraft is not a large factor, but the noise contour boundaries do give protection to neighbouring properties from excessive noise that may originate from the aerodrome.

4.21 As gliders make up a large part of the aircraft movements there is effectively no noise except when they are being towed into the air by the tow plane. The current tow plane is quite noisy, but the gliding club are replacing this aircraft with one which is much quieter. The map shows the effect of noise on neighbouring properties is quite low.

Map 2: Noise Contour Boundaries[7]



Obstacle Limitation Surface

4.22 An Obstacle Limitation Survey was conducted in July 2023.

This survey revealed that there were several trees on the aerodrome and the neighbouring properties which penetrated the CAA required 1 in 20 gradients from the end of the runways.

4.23 Some trees within the aerodrome perimeter were trimmed at the request of the Walsh Flying school for better visibility, but the trees on neighbouring properties were not trimmed.

[7] MPDC District Plan

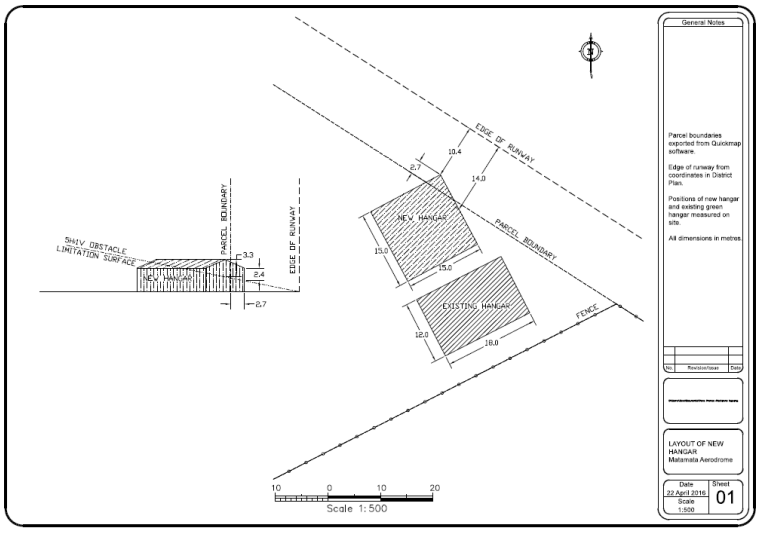
4.24 In the meantime, the placement of thresholds of runways 10 and 04 will need to be assessed to ensure that their position allows for the 1 in 20 approach gradients from the end of the runways. If the gradient is breached, then the runway threshold would need to be displaced to meet the requirement.

4.25 If the thresholds are not displaced, and there is an obstruction penetrating the Obstacle Limitation Surface, then the aerodrome is non-compliant with the CAA rules.

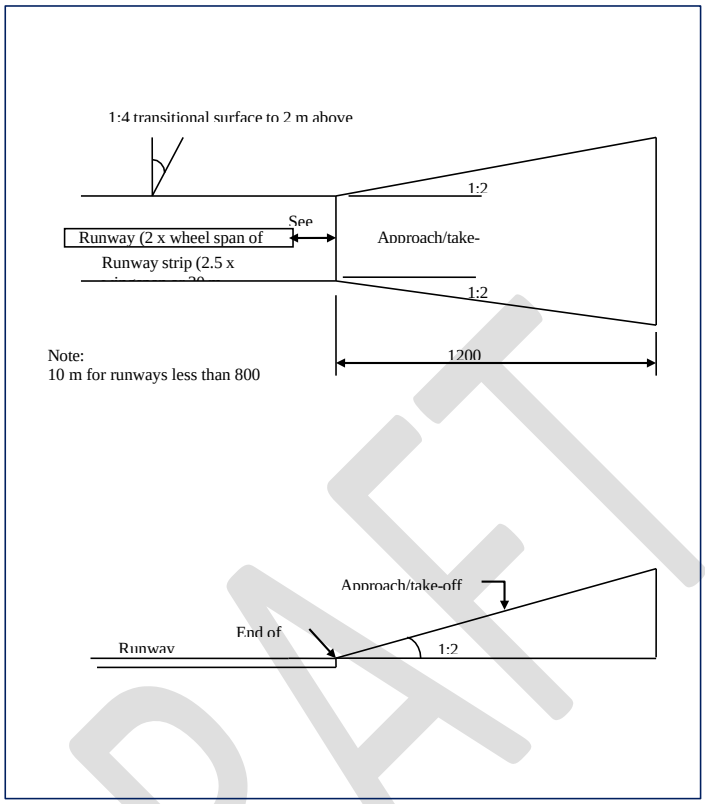
4.26 There are two hangars which have been built close to the edge of runway 10/28, which look as if they penetrate the transitional side clearances of the runway.

4.27 Although these two hangars do fit into the criteria of the CAA rules for the transitional side clearances from the runway, being a 1in 4 gradient up to 2 m in height within 8 m from the edge of the runway strip. The closest hangar is approximately 15m from the edge of the runway strip. They do not however meet the MPDC District Plan requirements, which requires that there should be no obstruction under a 1 in 5 gradient. Both these hangars are within the 1 in 5 gradients of the MPDC Plan.

Map 3: Hangar Sites



Map 4: Obstacle Limitation Surface



Height restriction surface.	Feature.	Encroachment.
Runway 04/22 approach	Tree 1	5.0
	Tree 2	3.6
	Tree 3	7.0
	Tree 4	5.6
	Tree 5	3.7
	Tree 8	4.7
Runway 10/28 approach	Tree 9	7.7
	Tree 10	6.2
Runway 10/28 transitional side surface	Tree 6	7.4
	Tree 7	4.6
	Tree 11	1.0
	Tree 12	6.1
	Tree 13	6.8
	Roof apex 1	3.78
	Roof apex 2	1.04

5 Documentation

Safety Plan

5.1 The Matamata Aerodrome being non certificated, is not required by the CAA rule CAR Part 100 to have a Safety Management System in place. However, the MPDC has taken a proactive stance and developed a Safety Management Plan document.

The NZMA (Matamata Aerodrome) Safety Management Plan document is a very good document explaining in detail the Safety Management System for the aerodrome.

This document was originally drafted in 2019 and has subsequently been undated in 2022 and will need further revision in the near future.

Aviation Information Publication (AIPNZ)

5.2 This document is published by Aeropath Ltd, a subsidiary of Airways NZ, using information supplied by the MPDC. It contains information about and procedures to be used at the Matamata Aerodrome.

5.3 The AIPNZ was last updated on 12th August 2021.

5.4 This document needs a revision to incorporate the current procedures and information, and any recommendations accepted by this report, as well as some other minor changes.

The AIP is not, as a complete publication, legally enforceable. But, depending on the underlying requirements of the Civil Aviation Rules (or CARS) or those of the Civil Aviation Act 1990, (referred to here as "the Act"), information in the AIP can become a compulsory requirement. Or it provides an exception to specific requirements in the rules. But in some cases, it is mandatory to comply with its advice. This mandatory requirement is around CAR Part 91.223(3) Operating on or in the vicinity of an aerodrome. [8]

6 Aerodrome

Aerodrome Infrastructure

6.1 The two grass runways make up most of the land area on the aerodrome.

6.2 Apart from the land itself the MPDC owns very little infrastructure on the Matamata Aerodrome.

6.3 There is an aerodrome road from State Highway 27, which services the lessees and operators on the aerodrome.

6.4 The aerodrome road is the only service access to the aerodrome.

6.5 The MPDC also owns the public toilet facility.

6.6 There is a house on the aerodrome which was once used by the aerodrome caretaker.

Hangars

6.7 There are more than 41 hangars and buildings on the aerodrome which are used for a variety of purposes from the clubrooms, offices, housing of aircraft.

6.8 These buildings are all owned by the tenant who leases the site from the MPDC for a 10-year term at a current rate of around $5.70 per sqm per year.

6.9 Two of the Hangars are situated very close to the runway strip. Although they fit within the transitional side clearances for the runway as required under CAR Part 139, they do not meet the 1:5 gradient of the MPDC District Plan.

[8] CAA Vector. The legality of the AIPNZ. Winter 2021.

Map 5: Matamata Aerodrome Hangar Sites

Fuel Supplies

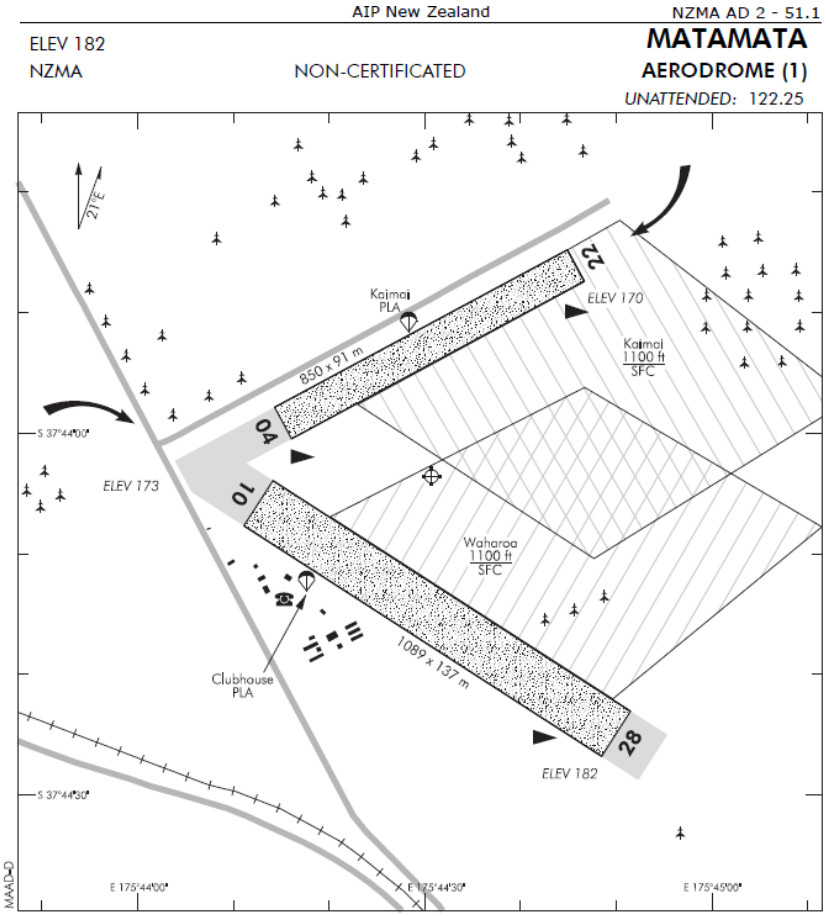
6.10 One fuel company has supplied aviation fuel to the aerodrome. This fuel was available to both resident users and itinerant aircraft to the aerodrome.

The underground fuel tank is now past its use by date and needs to be replaced. Negotiations are underway with various fuel companies to supply a facility on going.

- Avgas is the only fuel available.
- No Jet A1 fuel is available.
- Motor Spirits (MoGas) often used in Microlight aircraft is not supplied to the aerodrome.

Aeronautical Study of the Matamata Aerodrome.

Map 6: AIPNZ Aerodrome Layout[9]



1. Circuit Direction: RWYs 04, 28 — Left hand
   RWYs 10, 22 — Right hand
2. A private aerodrome located approx 0.5 NM north of RWY 10 threshold necessitates extra care when operating on RWYs 10, 22 and 04.
3. Enroute traffic should avoid flying through Matamata MBZ due to the presence of parachute and gliding operations.
4. All pilots should avoid using the overhead join procedure at Matamata aerodrome due to parachute and gliding operations.
5. RWY 04/22 may be closed for grass harvest. White crosses displayed will indicate RWY closure.
6. When RWY 04/22 is in use, model aircraft operations may close RWY 10/28 and be conducted within "Waharoa" — modellers will activate only one model flying area at a time.
7. Intensive sporting activities take place, particularly during weekends.
8. Glider Winch Launching: There will be a white "W" displayed on the threshold of the active vector when the winch is in use. Refer to Matamata Winch Launching Chart. Glider chat frequency outside of the MBZ is 133.55 MHz.

(continued)

Effective: 12 AUG 21

S 37 44 04 E 175 44 31

MATAMATA
AERODROME (1)

[9] https://www.aip.net.nz/assets/AIP/Aerodrome-Charts/Matamata-NZRT/NZRT_51.1_52.1.pdf

Aeronautical Study of the Matamata Aerodrome.

9. When "Gliding Operations" marker is displayed, parachute operations will use either of two alternative sites. See note 11.
10. Before start-up and taxi, each pilot should make a radio call to ascertain whether there are any parachutists in the air. Aircraft within 100 m of an active landing site should have their engines turned off.
11. Parachutists may land at either of two sites, "Clubroom" or "Kaimai". Clubroom is on the SW side of RWY 10/28 in front of the skydiving club (marked with cones). Kaimai is the centre of RWY 04/22. The drop pilot will broadcast which one is in use prior to drop.
12. Aircraft and vehicles are not permitted to taxi or drive through or park inside the parachute landing sites.

Aeronautical Study of the Matamata Aerodrome.

Non-Certificated Aerodrome 5 NM NW of Matamata

NZMA

MATAMATA
OPERATIONAL DATA

RWY

RWY	SFC	Strength	Gp	Slope	ASDA	Take-off distance			LDG DIST
						1:20	1:30	1:40	
04 22	Gr(f)	ESWL 6350	8	Nil	850	850			850
10 28	Gr(f)	ESWL 6350	8	0.55U 0.55D	1089	1089			1089

LIGHTING

Nil

FACILITIES

Fuel: BP Avgas 100, Swipecard

Toilet facilities can be accessed via padlock code 1942

SUPPLEMENTARY

Operator: Matamata Piako District Council, PO Box 266, Te Aroha
Tel (07) 884 0060 Fax (07) 884 8865

Details on activities associated with the aerodrome can be obtained by contacting the appropriate operator:

Gliding: Tel 021 750 151
Sky Diving: Tel (029) 759 3483
Aero Club: Tel 027 702 5924

For general information and events at Matamata aerodrome refer to:

www.mpdc.govt.nz/our-facilities/

Available for aerial work or air transport operations subject to prior agreement of the operator.

Landing fees charged through Matamata Piako District Council only — late payments incur an admin fee.

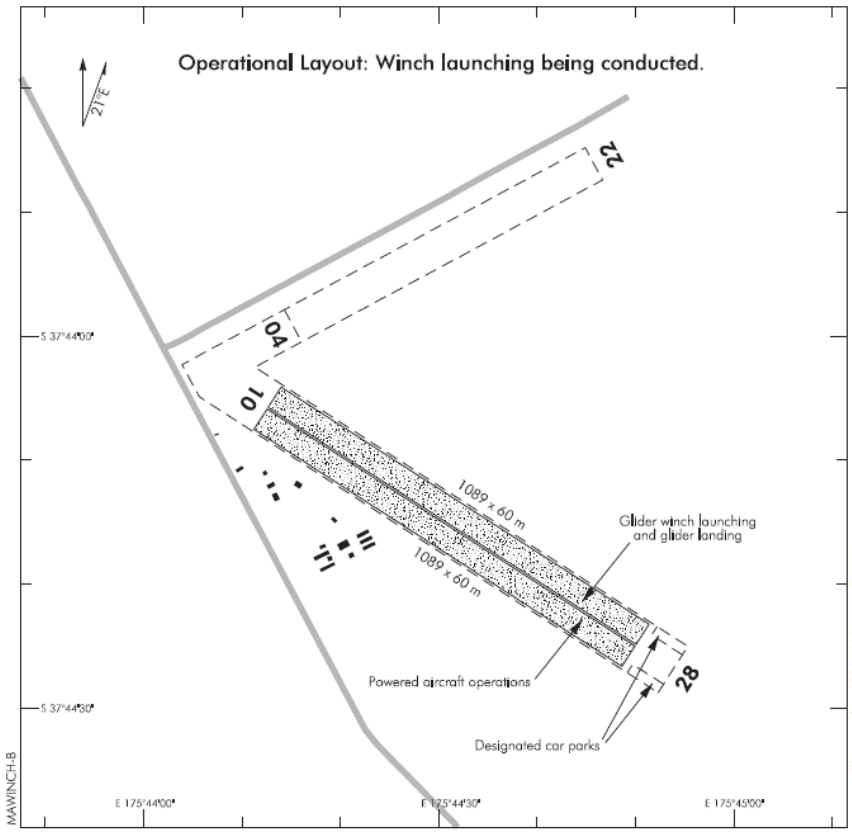
Effective: 5 OCT 23

Aeronautical Study of the Matamata Aerodrome.

ELEV 182
NZMA

MATAMATA
WINCH LAUNCHING

UNATTENDED: 122.25



1. When RWY 10/28 is being used for winch launching a row of cone markers will be placed along the centreline. In addition, there will be 3 white markers, 3.5 x 0.5 metres in size, placed at 20 metre intervals from the threshold of the runway in use, in line with the cone markers.
2. The threshold of RWY 28 is 130 metres from the boundary fence and cars involved in glider operations may be parked in the designated parking areas. In transit they are required to give way to aircraft traffic and to remain adjacent to the southern boundary of the runway.
3. Powered aircraft operations are restricted to the southern side of RWY 10/28, and winch launching operations are restricted to the northern side.
4. Winch launching may not commence at any time when it could result in conflict with other traffic or when parachutes are in descent.
5. Gliders may land on the southern side of the runway but must be moved clear immediately upon completion of the landing roll.
6. When gliding operations marker is displayed, all parachute operations are to be targeted to the nominated PLA.

Effective: 12 AUG 21

MATAMATA
WINCH LAUNCHING

Aerodrome Operations

6.11 Activity/ Land Use/ Infrastructure/Aerodrome Operations

A. Aerodrome Zone

- Currently the Waharoa (Matamata) Aerodrome Reserve Management Plan is being reviewed in accordance with the Reserves Act 1977.
- The objective of this review is to have "*active engagement with Ngati Haua in matters concerning the development of the Matamata Aerodrome as tangata whenua and neighbours.*"[10]

B. Activity

- The Matamata Aerodrome activity derives mainly from light aircraft and gliders used for training and recreational purposes.
- Annual aircraft movement is around 17000 per year with roughly a 50/50 mix between powered aircraft and gliders.
- The Walsh Memorial Scout Flying School uses the Matamata Aerodrome in January each year for their annual training camp.

C. Aerodrome Planning

- Past planning for hangars and lease sites has been reasonably well controlled, with an orderly hangar precinct allowing easy access to the aerodrome runways.
- Two hangars are positioned very close to the runway edge, and in fact infringe the runway side clearances of the MPDC District Plan of 1:5 transitional clearance.
- There does not appear to be a great demand for hangar sites, although there is room to expand.
- The current review of the Reserve Management Plan may change the future development of the aerodrome.

[10] Matamata Aerodrome Reserve Management Plan 2010

Photo 1: Hangar Examples on the Aerodrome

D. Runways

- The Matamata Aerodrome has available, two grass runways and four vectors.
- This allows aircraft to take off and land safely in almost any wind direction and condition.
- Most aircraft based on the aerodrome are Gliders, Microlights, Light Sport, General Aviation aircraft which have a very low tolerance for landing and taking off in windy cross wind conditions, making multiple runways a great benefit allowing aircraft to use the most appropriate into wind runway.
- Runway 10/28 is well maintained, and the length of grass is kept at an optimum height.
- Runway 04 /22 is not kept to the same condition as runway 10/28 as it is used less frequently than the main runway.

Runway 10/28

- This runway has a grass surface and is 1089 m long by 137 m wide.
- This runway currently has no displaced thresholds and is available for full length.
- The length of the runway may exclude some larger aircraft from operating to and from it, as per CAA rules and Advisory Circulars:

CAA Advisory Circular AC119-3 Sub Part D Performance[11].
CAA Rule Part 135.209 Take-off Distance[12]
CAA Rule Part 135.211 Runway Surface and Slope Correction Factors.[13]

[11] https://www.aviation.govt.nz/assets/rules/advisory-circulars/ac119-3.pdf
[12] Part 135-209 Take Off Distance- Subpart D Performance
[13] Part 135-211 Runway Surface and Slope Correction Factors-Sub Part D Performance

- The width of the runway is more than adequate for the type and size of aircraft currently using the runway.
- The runway meets the CAA Code B requirements, which allows slightly larger aircraft than currently use the runway to operate from this runway, so long as they meet the CAA requirements mentioned above.
- The runway width of 137 metres is also an asset in terms of runway utilisation. The runway width can be reduced by half, for periods of time, allowing for glider winch towing to take place.
- There is no intention currently, nor is there a need to operate a Regular Passenger Transport Service (RPT) from Matamata.
- Runway End Safety Areas (RESA) are currently not required nor likely to be in the short to medium timeframe. A RESA is required if there is a regular passenger transport service with an aircraft of 30 seats and above.

Map 7: Proposed Position of the New Taxiway

Runway 04/22

- This runway has a grass surface and a length of 850 m and has a width of 91 m.
- Again, this runway has no constraints with the full published length being available.
- There is a Parachute Landing area next to this runway.
- The Matamata Aero Modellers club also use the runway for their regular meetings.
- There is a proposal to close this runway so as it can be used for growing hay on.

- This runway is used for harvesting grass for hay and is therefore unavailable for much of the year. As such it should be shown on the AIPNZ Plate as being unavailable or a NOTAM issued.
- All aircraft have limitations with regards to operating in crosswinds, so this runway 04/22 if it was available, becomes useful when strong westerly winds prevail.
- It is still shown as an active runway in the AIPNZ, even though the grass is somewhat longer than the other runway.

Photo 2: Matamata Model Aircraft Club

E. Taxiways

- There are no defined or formalised taxiways on the Matamata Aerodrome, with no taxiway shown on the plate in the AIPNZ.
- Aircraft use the southern side of the runway to taxi to the ends of the runway.
- The separation distances between the centre line of the area used as a taxiway and the centre line of the runway, just meets the CAA requirement.
- Care needs to be taken by pilots taxiing aircraft on this “taxiway” as they may stray slightly toward the runway and become an obstacle for aircraft on the runway, or an aircraft about to land or take-off.
- There are no designated holding points.

Recommendation:

That a 35 m wide taxiway be create to the southern side of runway 10/28 to allow aircraft to be manoeuvred to the threshold of runway 28 without having to taxi on backtrack on the runway.

This would meet the requirements for aircraft with a wingspan of less than 15m.

For gliders with a greater wingspan, they could be towed down the edge of the taxiway and runway to the same point. See Proposed Taxiway Map 1, Page 17 or 38.

F. Windsocks

- The three windsocks on the aerodrome are positioned appropriately to give wind direction at the ends of each runway.
- The windsocks are in good condition.

G. Signage

- There is signage on the aerodrome, mainly situated on the low fence which delineates the airside from the landside of the aerodrome. This signage states that that the area is an operational area.
- Not all fences have this signage where there is likely to be public nearby.

H. Security

- The fencing on the aerodrome is not consistent.
- Generally, around the perimeter of the aerodrome the fences between the aerodrome and the neighbouring farmland the fences are a standard 7 or 8 wire and batten farm fence which keeps livestock off the aerodrome.
- The fences between airside and landside where all the buildings are and to the hangars, which the public can access, is just a low wooden railed fence. This would not deter small children or pets from accessing the operational side of the aerodrome. This is not acceptable.
- Upon entering the Aerodrome off State Highway 27 there is a large area which is not fenced. There is nothing to stop an unauthorised person from driving a vehicle directly onto the operational area of the Aerodrome. See following Photos Nos 3,4,5 Page 41 and 42.

Photo 3: Gap in Fencing at Entrance to Aerodrome

Photo 4: Fence between Airside and Landside.

Photo 5: Unsuitable Fencing near the Children's Playground

I. Obstacle Limitation Surface (OLS)

- The aerodrome Obstacle Limitation Surfaces (OLS) are to provide protection from obstacles to aircraft using the aerodrome.
- An obstacle limitation gradient of 1:20 is required for all runways.
- The OLS needs to be reviewed at regular intervals, every 5 years, to make sure the take-off, approach and transitional surfaces are protected from any obstacles.
- Currently there are some trees that infringe the OLS to the north of the aerodrome.

Air Traffic Service

6.12 The Matamata Aerodrome is an unattended aerodrome and is not controlled by Airways NZ. The controlled airspace above the aerodrome starts with a Lower Level of 4500 feet amsl, this airspace is controlled by Airways NZ.

6.13 The aerodrome operates an Aircraft Movement Monitoring System (Aimm) for reporting and recording take-offs and landings at Matamata, and aircraft movements within the MBZ. This system records radio transmissions and data from Automatic Dependant Surveillance – Broadcast (ADS-B). The system can be used for incident investigation, by being able to replay radio transmissions.

7 Airspace

Matamata Aerodrome Airspace

7.1 The Matamata Aerodrome is situated in unattended Class G airspace, but within a Mandatory Broadcast Zone (MBZ) designated B273, which extends from ground level to the lower level of the Controlled Airspace at 4500 ft, except when advised by NOTAM.

7.2 Below 4500 ft the airspace is deemed to be Class G airspace, and unattended. Airways NZ may provide traffic information on request, but do not provide separation between aircraft.

7.3 For the VFR pilot operating in and around Matamata it becomes a case of see and be seen.

7.4 The airspace around Matamata Aerodrome, at lower altitudes is uncontrolled. This airspace can become busy, with aircraft operating to and from Matamata, and other aerodromes within proximity to Matamata Aerodrome. This airspace should remain as Class G Airspace.

7.5 The airspace in the greater Waikato, Bay of Plenty area is reasonably complex for the average general aviation pilot, with a varied mix of unattended and controlled airspace. There are three controlled aerodromes within 30 nautical miles of Matamata but none of them encroach on the activities at Matamata.

Controlled Airspace and General Aviation Areas

7.6 The Matamata Aerodrome is situated under and outside the controlled Class D airspace.

7.7 The lower level of the Controlled Airspace varies within this Class D airspace.

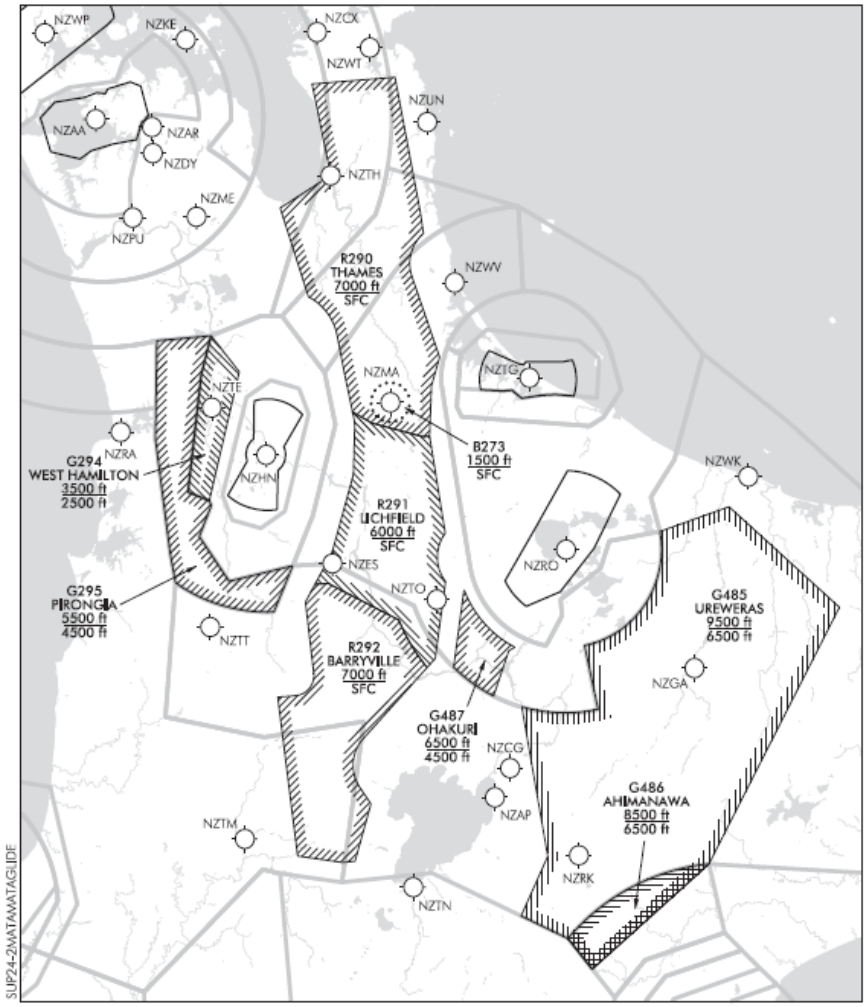
7.8 Most of the controlled airspace within this Class D airspace, and in the vicinity of the Matamata Aerodrome has a lower limit of 4500 ft.

7.9 Generally, from 4500 ft amsl and above, the airspace in the wider Waikato area is controlled by Airways NZ. This is Class D airspace, where permission from Airways NZ is required for an aircraft to enter. Within Class D airspace both traffic information and aircraft separation are provided by Airways NZ.

7.10 All aircraft require an ATC clearance to operate in Class D airspace and must have a serviceable ADSB Transponder fitted and turned on.

7.11 There are a number of General Aviation areas where aircraft, in particular gliders, can operate in the controlled airspace as if it were uncontrolled, on notification and or permission of Airways NZ.

Map 8: General Aviation Airspace



Mandatory Broadcast Zone (MBZ)

7.12 The Matamata Aerodrome is situated within an MBZ. This MBZ extends in a radius of approximately 3 nm from the centre of the aerodrome.

7.13 The upper level of the MBZ is the lower level of the Controlled Airspace which is 4500 ft amsl and the lower level is the surface of the ground.

7.14 The Matamata MBZ requires radio calls by all aircraft within the MBZ to be made every 15 minutes on 122.25 Mhz stating their position, altitude, and intentions.

7.15 The MBZ is not Transponder Mandatory.

**A Mandatory Broadcast zone is an area normally established at a busy unattended aerodrome, or airspace that has intensive operations. An MBZ requires a pilot to broadcast position, altitude, and intentions reports on a specified frequency on entry, when joining an aerodrome traffic circuit, prior to entering a runway, and at specified regular intervals when operating within the MBZ. As an extra safety measure, landing or anti-collision lights must be switched on, if fitted. Radio frequencies are on the appropriate charts. Aircraft without an operable radio must not enter an MBZ unless another accompanying aircraft in formation can broadcast the required reports on their behalf. If the aircraft is entering an MBZ for the purpose of radio repairs, then another party such as a UNICOM unit may make the "broadcasts on behalf". Parachute dropping aircraft must broadcast on the MBZ frequency regarding parachuting when the landing area is within an MBZ.*[14]

Common Frequency Zone (CFZ)

7.16 There is a Common Frequency Zone (CFZ) for the greater Morrinsville area.

7.17 The Matamata Aerodrome is also within the Morrinsville Common Frequency Zone Frequency of 123.25 Mhz.

7.18 The CFZ extends from Whangamata in the north to Reporoa in the south and from the Kaimai Ranges in the east to the controlled airspace at the Hamilton airport to the west.

7.19 The CFZ frequency for Morrinsville is 123.25Mhz, the frequency used for the Matamata Aerodrome is 122.25 Mhz.

**In certain areas of New Zealand, common frequency zones have been established. These areas are not designated airspace, but they are where voluntary common frequencies have been established in order to enhance safety. CFZ's signify areas of concentrated aviation activity, generally recreational aviation.*
It is not mandatory to use a radio on the specified frequency within a CFZ, but it would be very poor airmanship not to use the published frequency and not to comply with expected local radio procedures when radio equipped. As a minimum, pilots should broadcast their position and intentions on entry and exit from a CFZ. Use of landing and/or anti-collision lights is also a recommended practice within a CFZ. [15]

[14] CAANZ Gap Booklet "New Zealand Airspace".
[15] CAANZ Gap Booklet "New Zealand Airspace".

Local Aerodromes Around Matamata

7.21 There are very few other registered aerodromes near the Matamata Aerodrome.

- *Hamilton, Tauranga and Rotorua* airports are within approx. 30 nautical miles of Matamata, these are all controlled aerodromes.
- *Thames and Tokoroa* unattended aerodromes are some approx. 35 and 30 nautical miles to the north and south respectively.
- *Wahi Beach* unattended aerodrome is approx. 20 nautical miles to the northeast.

None of these aerodromes are close enough to Matamata to cause any traffic congestion or airspace issues.

7.22 Pilots of aircraft transiting within the Matamata area must make themselves aware of other aircraft within the vicinity and the circuit of the Matamata Aerodrome, particularly gliders departing and returning from the Kaimai Ranges to the east.

7.23 Gliders often use the General Aviation Areas, and during competitions can use the restricted airspace.

8 Aerodrome Operations

Multiple Use Runway

8.1 Having a multiple use runway such as runway 10/28 is an advantage. it allows winch launching of gliders on one half, and aero tows of gliders and use by other powered aircraft to use the other half by splitting the runway.

This however can cause confusion, particularly if there are other aircraft operating within the circuit or visiting aircraft arriving at Matamata.

<u>For Example:</u>

- When gliders are operating both winch and aero tow gliders can be stacked right across the threshold of the runway.
- This can cause the pilot of a visiting aircraft or a pilot within the circuit some confusion as to what part of the runway is available to them to take off or land on as they could consider the glider grid as an obstruction on the runway.
- This split runway does not allow simultaneous take off and landings.

Photo 6: Gliders Stacked on Runway

8.2 The current use of buckets down the length of the runway as a demarcation between the winch runway and the active GA runway is problematic, as they are almost impossible to see from the air and particularly for the pilot of an aircraft on final. See Photos Nos 7 & 8 Page 48.

Photo 7: Buckets Delineating the Runway Split - Ground Level.

Photo 8: Runway 28. Buckets from Final Approach.

Aerodrome Circuit

8.3 Unfortunately, some local based aircraft operators do not seem to understand the rules regarding joining or operating within the traffic circuit. These same operators are putting themselves and others at risk of a serious incident between themselves and other aircraft which could have disastrous results.

8.4 These aircraft operators appear to have developed their own procedures to suit themselves which are not the standard procedures or those which are published in the AIPNZ. These procedures have become normal practice and are unacceptable.

8.5 Some of the comments by User are as follows:

- The use of two letter call signs instead of the required three letter call sign. [16]
- Powered aircraft when established in the circuit being required to give way to gliders who are about to join the circuit but not yet in the circuit.
- Gliders using nonstandard circuits when they have enough altitude to carry out a standard join overhead.
- Tow plane cutting in on aircraft established in the circuit.
- Gliders still using chat frequency 133.55 within the MBZ.
- Demarcation between the winch runway and GA runway almost impossible to see when on final approach.
- Winch Radio calls blocking other normal calls.
- Poor radio calls.
- Glider Grid blocking most of the runway.
- Cars driving across the runway.
- Cars on the taxiway.
- Aero tows taking off directly into taxying traffic.
- PLA is very close to the runway.
- No communication between jump plane and other traffic.
- Aircraft overtaking below and inside of other aircraft within the circuit.
- Not following Over Head Join procedures.
- No taxiway.

8.6 As the Matamata Aerodrome is unattended, the join procedure, as shown below see Figures AD 1.6-1A, 1B, 1C must be used by aircraft arriving at the aerodrome.

8.7 Pilots must also be aware that the Matamata circuit direction varies.

8.8 At most aerodromes the circuit direction is to the left, but at Matamata there is a mix of left- and right-hand circuits. This is not uncommon.

8.9 The aerodrome operator (MPDC) determines the circuit direction.

8.10 Runways 04 and 28 are left hand, whereas runways 10 and 22 are right hand circuits.

[16] CAR Part 91.249(a)(3) Aircraft Call Signs

8.11 The normal left hand circuit direction is required when using runways 04 and 28 with right hand circuits for runways 10, 22.

8.12 This can become confusing to pilots who have not thoroughly briefed themselves on the procedures at Matamata, before arriving there and are used to a standard left hand circuit direction.

8.13 The aerodrome is also within the MBZ, and a radio call must be made at least every 15 minutes stating the aircraft registration, its altitude, position, and intentions. Landing lights should also be turned on when inside the MBZ to increase aircraft visibility.

8.14 The circuit direction varies between left hand and right-hand circuits depending on which runway is being used.

8.15 The circuit area around an aerodrome generally covers an area with a radius of 2 nautical miles from the aerodrome for light general aviation aircraft. This will depend on the size and speed of the aircraft within the circuit. A large or fast aircraft may take up considerably more airspace than a slower aircraft.

Figure AD 1.6-1A Aerodrome Traffic Circuit

Figure AD 1.6-1A
Aerodrome Traffic Circuit

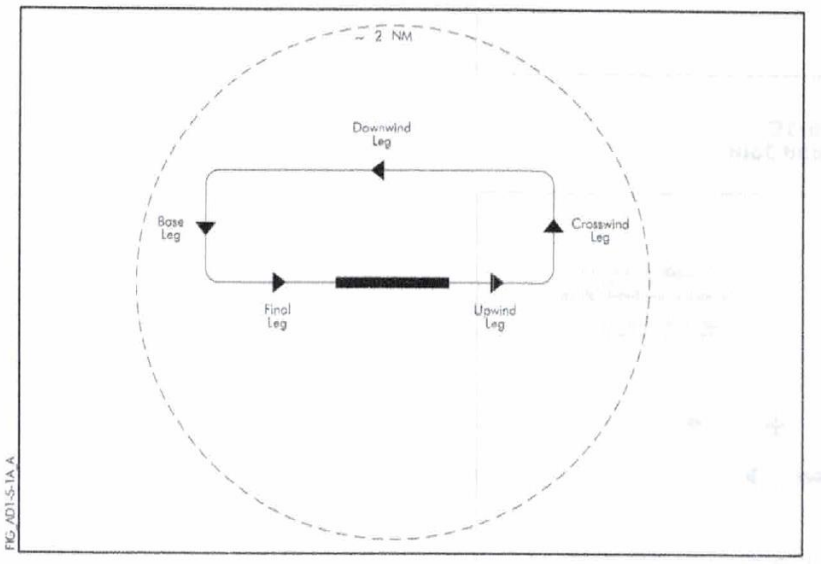


Figure AD 1.6-1B Direct-Joining the Circuit
Figure AD 1.6-1C Standard Overhead Join

Figure AD 1.6-1B
Direct-joining the Circuit

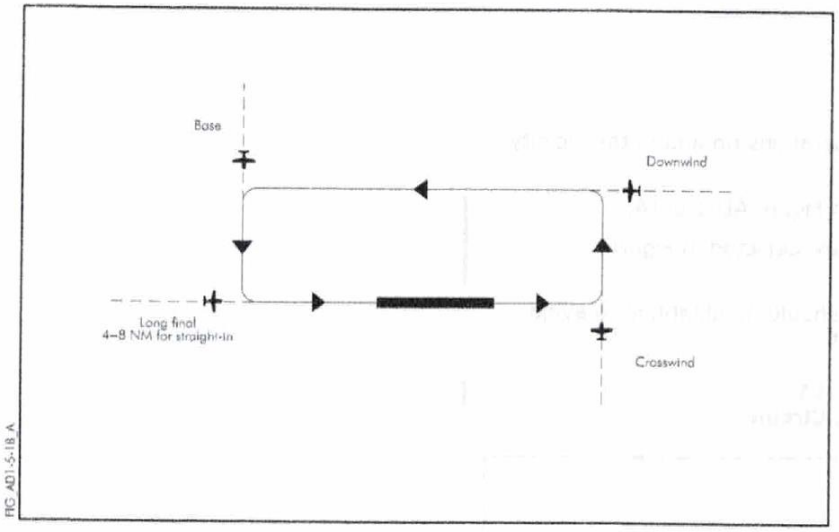
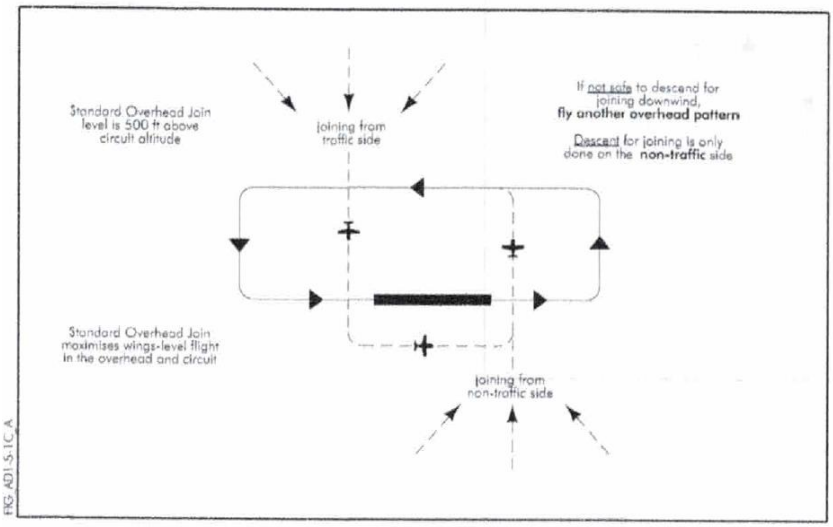


Figure AD 1.6-1C
Standard Overhead Join



Circuit Joining Procedures as per AIP AD1.6-3

2.1 Joining Procedures

2.1.1 The pilot of an aircraft intending to land at an unattended aerodrome, or one where aerodrome flight information service is being provided, may join the circuit via a standard overhead circuit joining procedure as outlined in Figure AD 1.6-1C, or direct into downwind, base leg, or long final as outlined in Figure AD 1.6-1B provided that:

(a) joining intentions are advised to aerodrome traffic or AFIS if the aircraft is RTF equipped; and

(b) the runway-in-use and aerodrome traffic are properly ascertained (be aware that some aerodromes have alternate circuit patterns for approved aviation activity); and

(c) when making a straight-in approach, or joining crosswind, downwind or base leg, the aircraft is sequenced without causing conflict in such a way as to give priority to aircraft already established in the circuit or established in the standard overhead circuit joining pattern; and (d) when entering or flying within the circuit, all turns are made in the direction appropriate to the runway-in-use.

2.1.2 VFR traffic in the circuit should be aware that IFR aircraft conducting instrument approach procedures may join long final. Circuit traffic retains right of way unless weather conditions dictate priority to IFR aircraft on the instrument approach procedure, or if the IFR aircraft is in the final stages of an approach to land. (In all these circumstances additional reporting by the IFR traffic of their position is advised, to ensure the VFR circuit traffic is situationally aware and can also safely sequence with the IFR traffic as it enters the aerodrome traffic circuit on final approach).

2.1.3 The principles of see and be seen apply at all times, and pilots are ultimately responsible for achieving and maintaining safe separation whilst joining and operating in an unattended aerodrome circuit.

2.1.4 Regardless of whether the flight is performed under IFR or under VFR, pilots must maintain a visual lookout so as to see and avoid other aircraft whilst joining and operating within an unattended aerodrome circuit.

<u>5.1 Standard Overhead Join Procedure</u>

5.1.1 The standard overhead joining procedure, which is depicted in Figure AD 1.6-1C, should be followed at unattended aerodromes (where no aerodrome control or AFIS is provided) and

at other aerodromes when a pilot is unfamiliar with the aerodrome or is uncertain of circuit traffic. The standard overhead joining procedure is a means of compliance with CAR 91.223(a)(2), which requires a pilot to conform with or avoid the aerodrome traffic circuit formed by other aircraft. This procedure is used to determine the runway-in-use and the position of traffic in order to sequence safely. It does not presume a right of way over existing circuit activity.

5.1.2 The following procedures should be followed by pilots:

(a) If the aircraft is RTF equipped, advise aerodrome traffic of joining intentions.

(b) Approach the aerodrome by descending or climbing to 1500 ft or above aerodrome elevation. If a circuit height other than 1000 ft is specified on the aerodrome chart, join at not less than 500 ft above circuit height, or if applicable, the specified joining altitude.

(c) (c) Pass over the aerodrome (keeping it on your left) in order to observe wind, circuit traffic and any ground signals displayed in order to establish the runway-in-use and sequence safely; if these cannot be fully ascertained, continue (wings level) to a point beyond the circuit area (approx. 2 NM) and turn left to return to the aerodrome at or above the joining height as specified in (b) to reassess circuit direction.

(d) Once the circuit direction is established, make all subsequent turns in the direction of the traffic circuit.

(e) Once the conditions in (c) are ascertained, cross to the non-traffic side, and descend to circuit height.

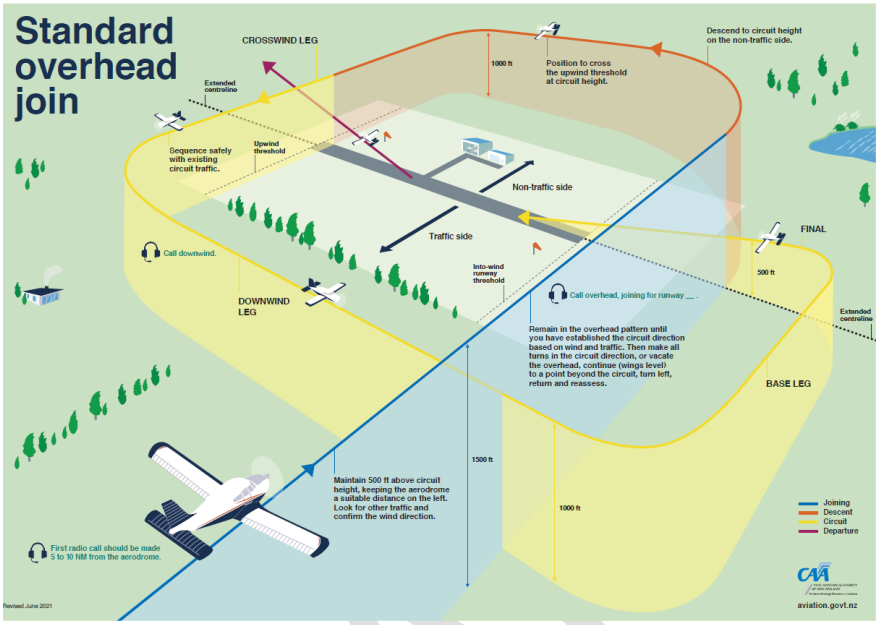
(f) Turn 90° across wind and pass sufficiently close to the upwind end of the runway to ensure that aircraft taking off can pass safely underneath.

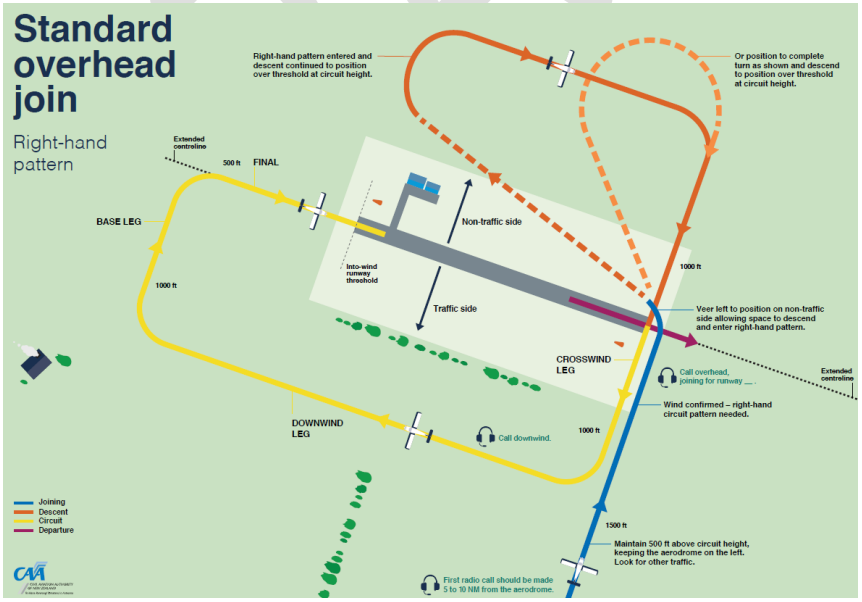
(g) Turn to join the downwind leg of the traffic circuit at a point that ensures adequate spacing with any aircraft in the circuit ahead or behind.[17]

[17] https://www.aip.net.nz/assets/AIP/Aerodromes-AD1/AERODROME/HELIPORTS-INTRODUCTION/AD_1.06.pdf

Aeronautical Study of the Matamata Aerodrome.

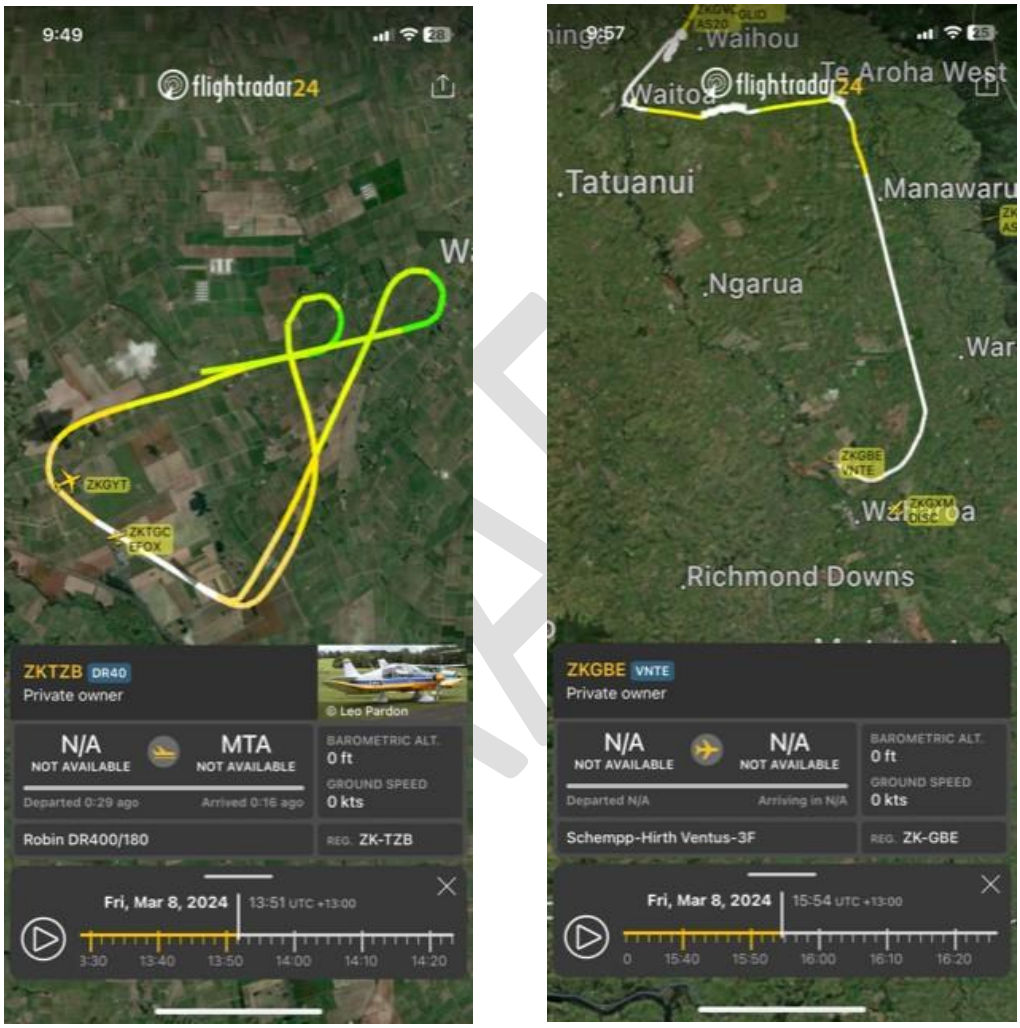
Map 9: Standard Overhead Join





Maps 10A: Examples of Non-Standard Circuit Behaviour at Matamata Aerodrome

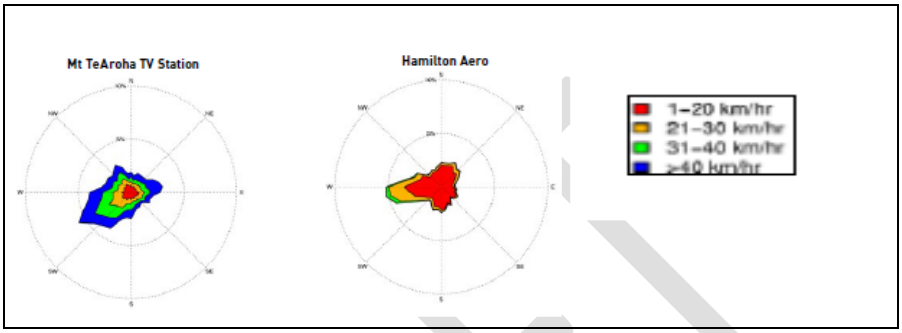
Maps 10B: Examples of Non-Standard Circuit Behaviour at Matamata Aerodrome



9 Matamata Weather

9.1 The weather at Matamata is not greatly affected by high hills or mountains as it is a sheltered inland area. Winds in the Kaimai Ranges tend to be stronger than down on the lowlands. Northerly and westerly airflows are common over most of the region.

9.2 The predominant winds come from the north and west[18]



9.3 The temperature Ranges from an average 20 to 25 degrees in the summer to a relatively cold 0-8 degrees in the winter.

9.4 With many different types of light aircraft using the Matamata Aerodrome, these aircraft all have differing limitations as to how much cross wind they can handle, and this goes hand in hand with the experience level of the pilot.

9.5 At different times of the day the wind can swing through many directions, so having multiple runways is of benefit to the pilots of these aircraft who can then select the most into wind runway to take off or land on.

9.6 Consideration should be given to installing an Automated Weather Information Broadcast (AWIB). This would then give more certainty to the pilot as to wind direction, speed, and the favoured runway at Matamata.

Recommendation:

That the MPDC consider installing an Automated Weather Information Broadcast (AWIB) on the aerodrome.

By tuning into the radio frequency for the AWIB pilots would be given the up-to-date wind conditions and the preferred runway in use. This allows pilots prior to arrival to make an informed decision as to which runway is in use, the wind strength and direction so that they can plan their arrival.

The system is automatic and requires no input from a third party.

[18] NIWA – Climate and Weather of Waikato

10 Aerodrome Users

Matamata Aerodrome

"Available for aerial work or air transport operations subject to prior agreement of the operator." [19]

10.1 As such the aerodrome is used by residents, locally based and itinerant aircraft transiting through the Matamata area, both fixed wing, gliders, and rotary wing aircraft.

10.2 The resident users occupy some 32 hangars on the aerodrome for which they pay an annual ground rental to the Matamata Piako District Council. The total number of aircraft based on the aerodrome is unknown.

10.3 Unfortunately, there are some users who, over time, have developed their own procedures for operating on the Matamata Aerodrome.

10.4 It appears that some organisations are working in silos and are not communicating with each other on operational matters.

10.5 Regardless of the type of aircraft being operated at the Matamata Aerodrome, all users have the same rights and are required to follow the same set of rules when operating to, from and around the aerodrome.

10.6 This then allows Gliders and Powered aircraft to operate together from the aerodrome.

10.7 As with any aerodrome the experience level of pilots operating to and from Matamata varies from very experienced to the new ab initio pilot.

10.8 Any operational requirements and rules should be such that they are easily understood by pilots of any level of experience, including the student pilot, whether in a glider or powered aircraft.

10.9 Generally, at small aerodromes, the rules and procedures are such that the student pilot when faced with a situation that they are not familiar with should go to the default procedure which they were trained to do. ie the standard overhead join procedure, or a simple procedure detailed in the AIP for that aerodrome, without having to deal with other sometimes more complex procedures.

10.10 Matamata is used as a training aerodrome for both glider and powered aircraft pilots, and as such, users will not know the experience level of the pilot of the other aircraft, so should always consider that the other pilot may be a student pilot, who being in a new environment, could possibly make a decision which is unpredictable.

[19] AIP New Zealand

10.11 With a high level of gliding activity on the aerodrome there is a feeling that the aerodrome is becoming a gliding only aerodrome.

10.12 It must be remembered that the Matamata Aerodrome is a facility which is available to many types of general aviation operations, and as such cooperation between the different types of operation is a very important part of a safe and smooth-running aerodrome.

10.13 The level of experience is varied as mentioned earlier, and as such the behaviours of the senior and more experienced pilots and instructors should be at a level where they set an example for the new or less experienced pilot.

10.14 There is evidence that some experienced pilots are not following the required procedures and have developed their own way of operating from the aerodrome, whether it is for commercial reasons or just trying to short circuit the system to avoid paying a landing fee. This is also unacceptable behaviour.

Walsh Memorial Flying School

10.15 The Walsh Memorial Scout Flying School is an annual event held in January of each year.

10.16 Scouts from all over New Zealand are given the opportunity to learn to fly in a very controlled and professional environment.

10.17 Instruction is given by senior flight instructors who volunteer their time to the school.

10.18 This flying school makes up the busiest time of the year for the Matamata Aerodrome with aircraft based on the aerodrome for the two-week duration of the school.

10.19 Airways New Zealand provide a mobile Control Tower to coordinate the flying activity during the two weeks stay. The airspace becomes controlled during this time.

Matamata Aero Club

10.20 The Matamata Aero Club has around 50 members and offers recreational flying and flight training for individuals who wish to either gain a Private Pilot's Licence or a Microlight Pilots Certificate.

10.21 The club owns a modern Tecnam aircraft which fits both the Light Sport Aircraft and Microlight categories.

10.22 The aero club is affiliated to Flying NZ (Royal New Zealand Aero Club) and to Recreational Aircraft Association of NZ. (RAANZ)

10.23 The club operates from their own club rooms situated on the Matamata Aerodrome.

10.24 The Aero Club is one of the major users of the Matamata Aerodrome

Parachuting

10.25 Parachuting takes place onto the Matamata Aerodrome when conditions suit.

10.26 There are no longer tandem parachute drops at Matamata, so all are sport jumpers.

10.27 There are two Parachute Landing Areas (PLAs). One to the western side of runway 10/28 near the aero club, and the other on the northern side of the runway 04/22.

10.28 Concerns have been raised as to how close the Clubhouse PLA is to the aircraft park and how close it is to other activities around the public area of the aerodrome.

10.29 If the procedures in the Memorandum of Understanding are followed the above concerns should not be an issue.

Matamata Piako Model Aero Club

10.20 This club operates from a small strip on the 04/22 runway.

10.31 The Runway 04/22 is closed when the modelers are flying with their aircraft flying within triangle between the two runways.

10.32 The small runway strip which the Model Aero Club use is well mown and kept for their type of activity.

10.33 Model aircraft are not flown closer to runway 10/28 than the Black and White marker board shown on the map below.

10.34 Nor do they fly above an altitude of 900 feet AGL. Transmitters from the aircraft indicate when the aircraft is at 750 feet AGL warning the operator of the aircraft to fly no higher.

10.35 White crosses are placed at the thresholds of runway 01/22 to indicate that the runway is closed for other traffic.

10.36 On several occasions the model aircraft club have been surprised when a full-sized aircraft has landed or attempted to land on the closed runway while the model club are operating.

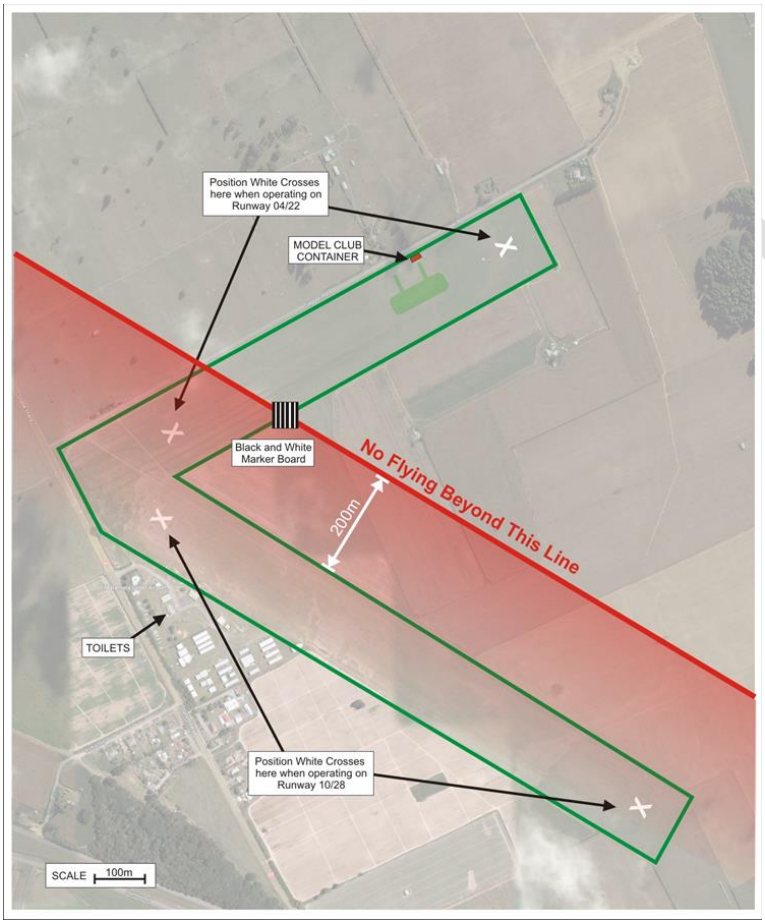
10.37 The club appears to be well disciplined and are inclusive in their approach with other operators operating on the Matamata Aerodrome.

Recommendation:

That the Model Aircraft club invests in a two-way aviation radio.

Presently, they have only a receiver with which they can hear the traffic but cannot communicate with them. By having a two-way radio, they would be able to communicate with the pilot of the aircraft attempting to land on the closed runway.

Map 11: Model Aircraft Area



Sky Ventures

10.37 Sky Ventures offer flight training and pilot competency checks using a variety of different aircraft.

Matamata Aerodrome User Group (MAUG)

10.38 MAUG is representative of all users along with the MPDC representatives. The CAA Safety Advisor also attends if they are available.

10.39 The regular meetings of this group double as a safety committee meeting where matters of operational safety are discussed.

10.40 There is a formal agenda with a wide range of topics relating to the aerodrome discussed including matters of safety.

11 Aerodrome User - PGC

Piako Gliding Club (PGC)

11.1 The Piako Gliding Club is affiliated to Gliding NZ as a CAA Part 149 Certificate holder which issues Glider Pilot Certificates

11.2 Matamata Aerodrome is also home to the Matamata Soaring Centre which has a club house and other facilities on the Aerodrome.

11.3 The Matamata Soaring Centre is made up of 6 gliding clubs from throughout the North Island and organises several competitions and events throughout the year.

11.4 The PGC has been operating from the Matamata Aerodrome for many years.

11.5 Matamata is a great aerodrome for which gliding activities can take place, as it is reasonably close to the Kaimai Ranges to the east which provide very good gliding conditions all year round.

11.6 The Gliding Club are a very proactive club and again a major user of the aerodrome.

11.7 There is some thought by other users that the Gliding Club consider that the aerodrome is theirs and that all other uses should fit around them when they are operating.

11.8 There has been a proposal put to the MPDC from the Gliding Club, to allow gliders returning from the Kaimai Ranges to join the circuit via a “right base” for runway 28 and a “left base” for runway 10.

11.9 This proposal has been discussed at the user group meetings for many months without resolution. The proposal in its current form, is unlikely to be approved by the CAA as it goes against the CAA accepted procedure for joining the current circuit direction at Matamata.

11.10 The CAA have been consulted on this proposal and have suggested that the MPDC as the aerodrome operator and the users of the aerodrome come to an amicable solution between themselves, showing there is a reduced risk to all users.

Gliding Operations-Use of Runways

11.11 Gliders operating from the Matamata Aerodrome are fortunate that they have a very wide runway from which to operate. This runway 10/28 can be split to accommodate winch as well as aerotow launching.

11.12 The runway split is delineated by buckets placed at regular intervals down the centre of the runway. For the local pilots the buckets appear to be acceptable, as they know they are there, but they are very hard to see and in some light impossible to see when on final approach to the aerodrome.

The AIPNZ states that ***"when runway 10/28 is being used for winch launching a row of cone markers will be placed along the centreline. In addition, there will be 3 white markers, 3.5 x 0.5 metres in size, placed at 20 metre intervals from the threshold of the runway in use, in line with the cone markers."***

11.13 The buckets which are currently used can be seen from ground level but are not easily seen from the air.

Using buckets instead of cones means that the aerodrome is non-compliant with what is stated in the AIPNZ.

Recommendation:

Use cones as stated in the AIP, as they stand higher and are more visible than buckets.

Place at regular intervals for at least the first third of the length of the cone markers, white strips between the cones, in line with the runway which will then allow aircraft on final approach to the runway a more visibility of the winch runway edge and the cone line.

11.14 Currently the runway threshold marker boards for runway 28 are less than the stated 130 metres from the southern fence, being only 80 metres from the boundary fence. This is causing congestion of gliders being stacked on the end of the runway with little room to manoeuvre around.

11.15 The runway is stated in the AIP as being 1089 metres long. If this was taken from the threshold markers at the end of runway 10, then it would give 200 metres of clear area

from the boundary fence and the end of the runway 28. These 200 metres allows ample room to stack gliders prior to launch either for a winch tow or aero tow.

11.16 By keeping the gliders that are being stacked for launch off the runway they do not become an obstruction to other aircraft using the runway. Also, cars belonging to gliding personnel can then be kept clear of the runway.

11.17 This also allows powered aircraft to use the runway unimpeded by the parked gliders which may have been stacked on the end of the runway.

11.18 By having the gliders parked before the runway threshold, the full runway on the southern side is available for any powered aircraft without having to negotiate their way to the runway end around gliders which are parked on the runway.

The tow plane can return to the aerodrome and attach a glider and use the full length of the runway.

11.19 Contrary to some opinion, both winch and aerotow are allowed to operate at the same time, so long as they are not simultaneous operations. A glider or a powered aircraft must not take off or land if there is an aircraft in the process of landing or taking off on the other runway.

11.20 Powered aircraft must not take off on the southern side of the runway while a glider is under winch tow. This is due to the cable from the winch still being in the air. Once the winch cable is back on the ground, the powered aircraft can commence its take-off roll.

Recommendation:

That the winch operator makes a simple call when the winch cable is on the ground following a tow. E.g. “Winch cable on ground.” At this point any aircraft about to take off will know that the winch cable is not still in the air and no longer a hazard.

Gliding Competitions

11.21 Gliding competitions are a busy time for the aerodrome. It is a popular venue for gliding being not far from the Kaimai Ranges, which in renown for being a good gliding area.

11.22 Often the competitors come from other gliding clubs around the country and are not resident of Matamata.

11.23 It is understood that the launching of gliders during a competition needs to happen within a very tight timeframe.

11.24 There is generally a communication from the Gliding club to other users on the aerodrome that the competitions are to be held. Also, if it is a major competition a Supplement in the AIPNZ is also published with details of when and where the competition flying is to take place.

11.25 The gliding club also publish a briefing paper for other airfield users. This briefing is targeted at those users that are resident on the Matamata Aerodrome and does not take into consideration the itinerant pilot arriving or departing for Matamata from another aerodrome.

11.26 This PGC document does not substitute a NOTAM. The NOTAM office can and have in the past refused to accept a NOTAM saying that there is an AIP Supplement in place. This supplement generally refers to the airspace, not what is happening on the ground at the aerodrome. To get Airways to publish a NOTAM they need to be informed by the MPDC, as the originator of the NOTAM, that the request is a matter of aerodrome safety.

11.27 By putting out a NOTAM there is a greater chance that more pilots would see it and be prepared before arriving at Matamata.

12 Aircraft Movements

12.1 The number of aircraft movements at the Matamata Aerodrome has risen considerably in the past two years. From nearly 10,000 in the year Jul 2021 to June 2022. Nearly 16,000 for the year Jul 2022 to June 2023, and over 18,000 for the current year Jul 2023 to April 2024.

12.2 Powered aircraft make up the majority of movements followed by Gliders, Helicopters and other types.

12.3 The Walsh Memorial Scout Flying School is the organisation which generates the greatest number of movements.

12.4 Excluding the Walsh Memorial Scout Flying School the most frequent user of the aerodrome is the PGC.

Aimm -Automated Intelligence Movement Management

12.5 MPDC has invested in Aimm (Aircraft Movement Monitoring), a radio and ADS-B based aircraft identification and monitoring system which records aircraft arrivals and departures, runway use, aircraft type and time of activity. This monitoring process allows the MPDC to record and collate accurately aircraft movements and to invoice the operator accordingly.

12.6 The aerodrome operator is required to submit annually to the CAA accurate movement data for the aerodrome.

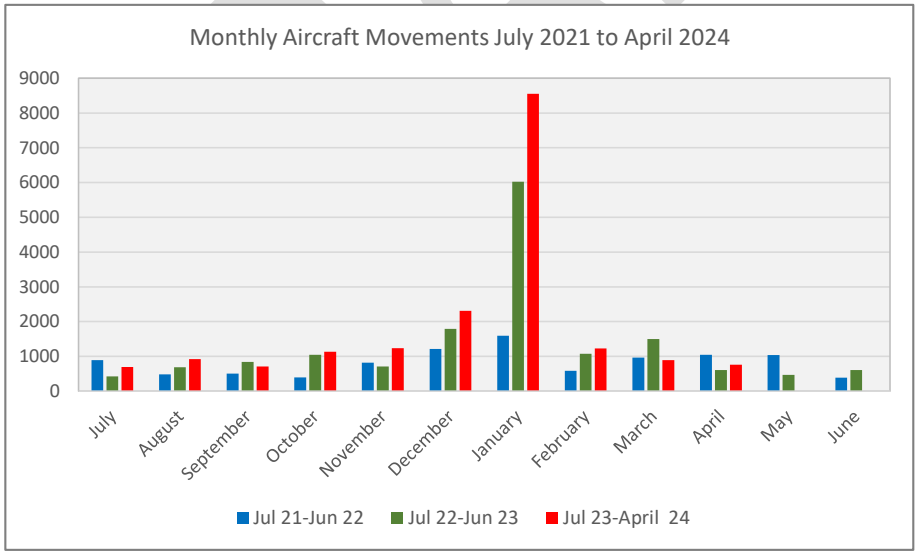
12.7 Some users of the aerodrome are blatantly trying to bypass the system by using only two letter callsigns or not making a radio call at all. This is non-compliant with the CAR Part 91.[20]

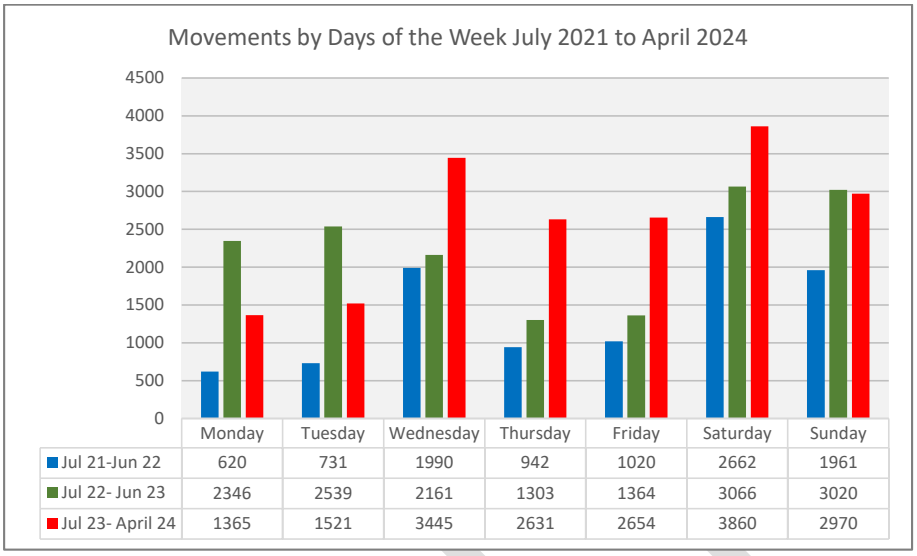
12.8 Evidence of the Data from Jul 2021 to April 2024 timeframe is displayed in the following graphs, this information is from the Aimm Dashboard and includes all aircraft types.

[20] CAR Part 91.249

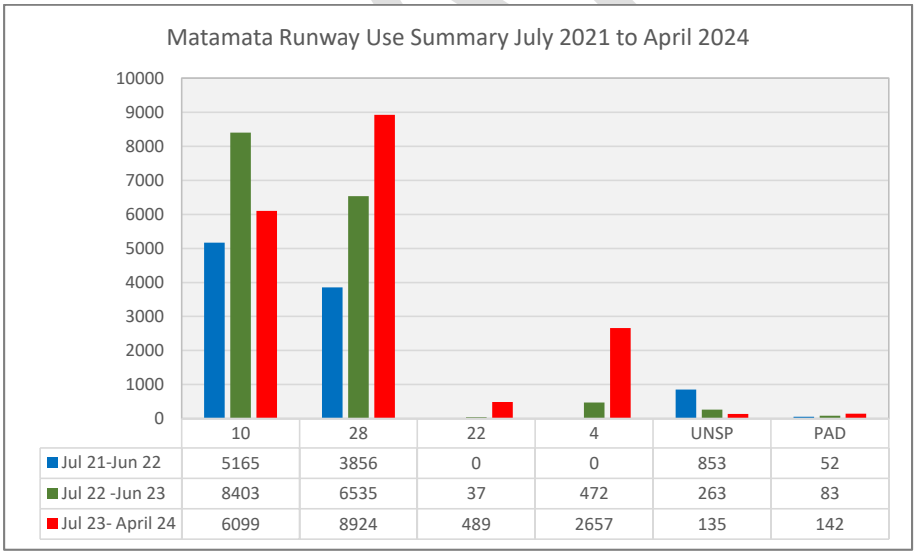
Aircraft Movements

Monthly Aircraft Movements July 2021 to April 2024			
	Jul 21-Jun 22	**Jul 22-Jun 23**	**Jul 23-April 24**
July	889	421	698
August	482	691	925
September	505	844	707
October	394	1045	1135
November	818	713	1235
December	1217	1793	2307
January	1595	6026	8551
February	588	1078	1232
March	968	1498	895
April	1044	609	761
May	1038	471	0
June	388	610	0
TOTAL	**9926**	**15799**	**18446**

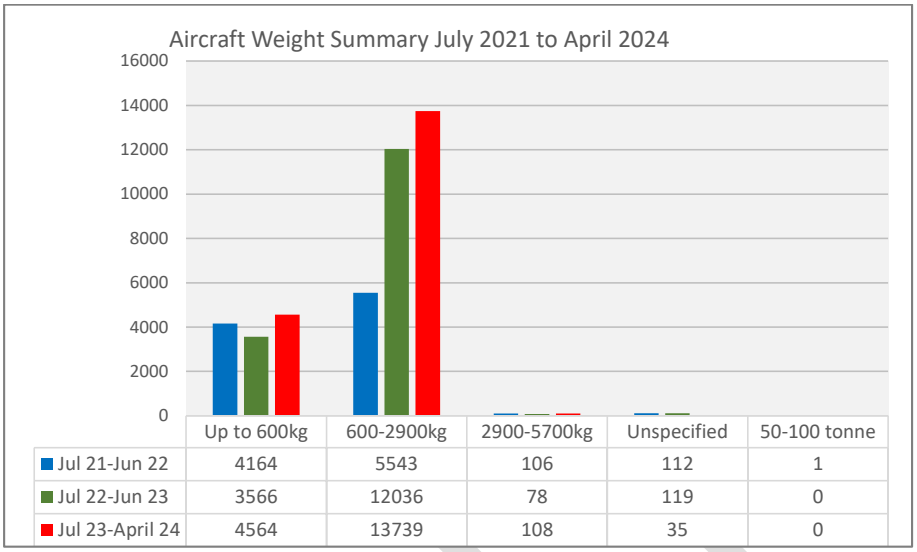




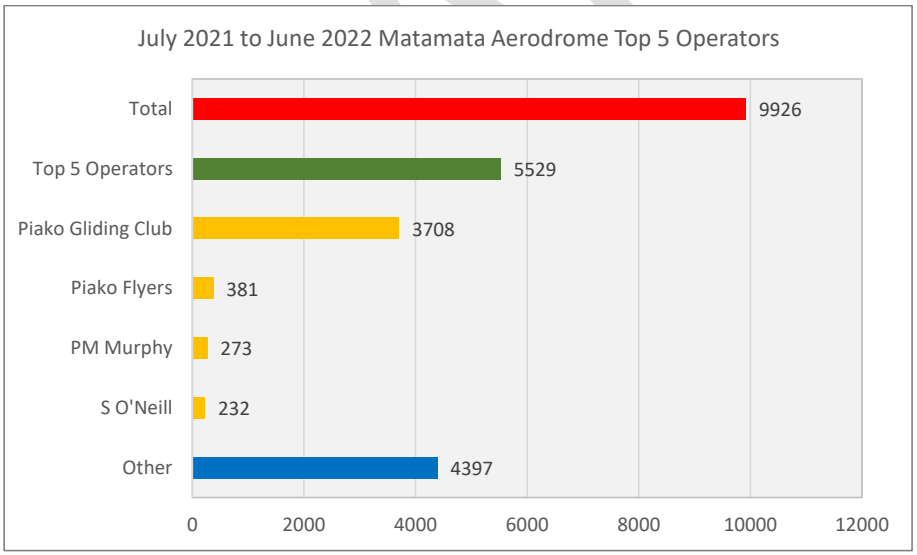
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Jul 21-Jun 22	620	731	1990	942	1020	2662	1961
Jul 22- Jun 23	2346	2539	2161	1303	1364	3066	3020
Jul 23- April 24	1365	1521	3445	2631	2654	3860	2970

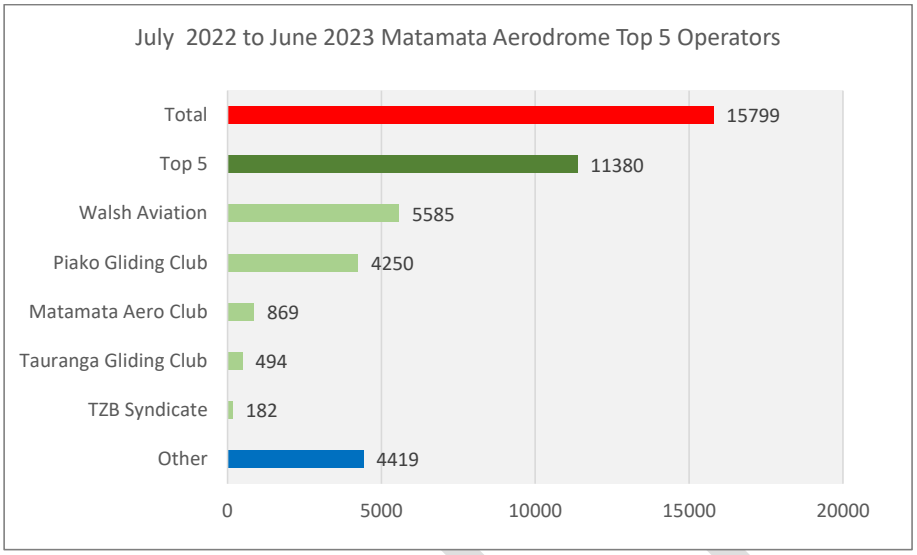


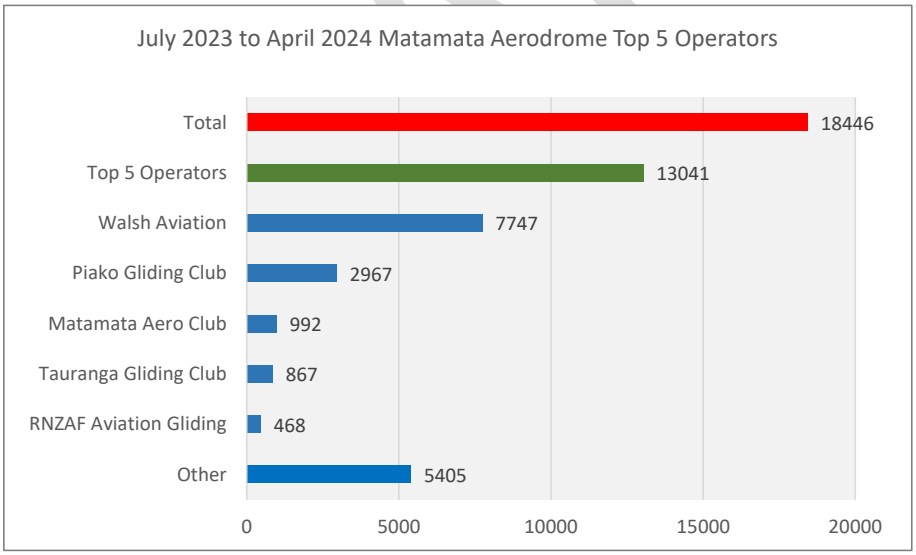
	10	28	22	4	UNSP	PAD
Jul 21-Jun 22	5165	3856	0	0	853	52
Jul 22 -Jun 23	8403	6535	37	472	263	83
Jul 23- April 24	6099	8924	489	2657	135	142



	Up to 600kg	600-2900kg	2900-5700kg	Unspecified	50-100 tonne
Jul 21-Jun 22	4164	5543	106	112	1
Jul 22-Jun 23	3566	12036	78	119	0
Jul 23-April 24	4564	13739	108	35	0




July 2022 to June 2023 Matamata Aerodrome Top 5 Operators
Total
Top 5
Walsh Aviation
Piako Gliding Club
Matamata Aero Club
Tauranga Gliding Club
TZB Syndicate
Other
15799
11380
5585
4250
869
494
182
4419
0
5000
10000
15000
20000


July 2023 to April 2024 Matamata Aerodrome Top 5 Operators
Total
Top 5 Operators
Walsh Aviation
Piako Gliding Club
Matamata Aero Club
Tauranga Gliding Club
RNZAF Aviation Gliding
Other
18446
13041
7747
2967
992
867
468
5405
0
5000
10000
15000
20000

13 Safety

Accidents and Incidents

CAR Part 12 Definitions

CAR Part 12 Definitions.[21]

Aircraft incident *means any incident, not otherwise classified, associated with the operation of an aircraft: Aerodrome incident means an incident involving an aircraft operation and-*

(1) an obstruction either on the aerodrome operational area or protruding into the aerodrome obstacle limitation surfaces; or (2) a defective visual aid; or (3) a defective surface of a manoeuvring area; or (4) any other defective aerodrome facility:

Airspace incident *means an incident involving deviation from, or shortcomings of, the procedures or rules for— (1) avoiding a collision between aircraft; or (2) avoiding a collision between aircraft and other obstacles when an aircraft is being provided with an Air Traffic Service:*

Bird incident *means an incident where— (1) there is a collision between an aircraft and one or more birds; or (2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot:*

Occurrence *means an accident or incident:*

Incident Reports

13.1 There is no formal system for reporting incidents and occurrences to the aerodrome operator.

13.2 Not all Incidents are reported to MPDC. The MPDC generally do not receive copies of CAA005 reports sent to CAA. Incidents are reported to the MAUG by someone who has witnessed or heard of the event.

13.3 Any incident which happens on or in the airspace around the Matamata Aerodrome must be reported to the MPDC as the aerodrome operator.

13.4 If the incident is one which falls under CAR Part 12.51 then it must be reported to the CAA. If the incident involves a glider, microlight aircraft, or a parachute then the incident must be reported to the relevant Part 149 organisation. These being Gliding

[21] Civil Aviation Rule Part 12 – Accidents, Incidents, and Statistics.

NZ Inc, Recreational Aircraft Association of NZ Inc, New Zealand Parachute Industry Association.

13.5 There is no evidence that investigations into any incidents are carried out.

13.6 The graphs below show the number of incidents that have been reported to the CAA. As there is no formal reporting system to the aerodrome operator there may be other incidents which have not been reported

13.7 There has been some suggestion that there is a certain amount of underreporting, and that the figures shown may not represent the true picture.

13.8 Organisations based on the aerodrome are required to report incidents as per CAR Part 12 or if operating under a CAR Part 149 Certificate are required to report incidents to the parent body.

13.9 Gliding NZ received 5 reports of near misses at Matamata in 2021/22, when there were only 2 reported to CAA. Yet in 2023 Gliding NZ received 0 reports of near misses at Matamata but the CAA received 2 reports.

13.10 The reported period covers from January 2021 to March 2024 (current year).

13.11 There have been 46 incidents reported to the CAA in this period and covers the aerodrome circuit, airspace, bird strikes, accidents, aerodrome incidents and aircraft defects.

13.12 As indicated in the graph below the greatest number of incidents happen within the aerodrome circuit, with the next highest being in the airspace around the aerodrome.

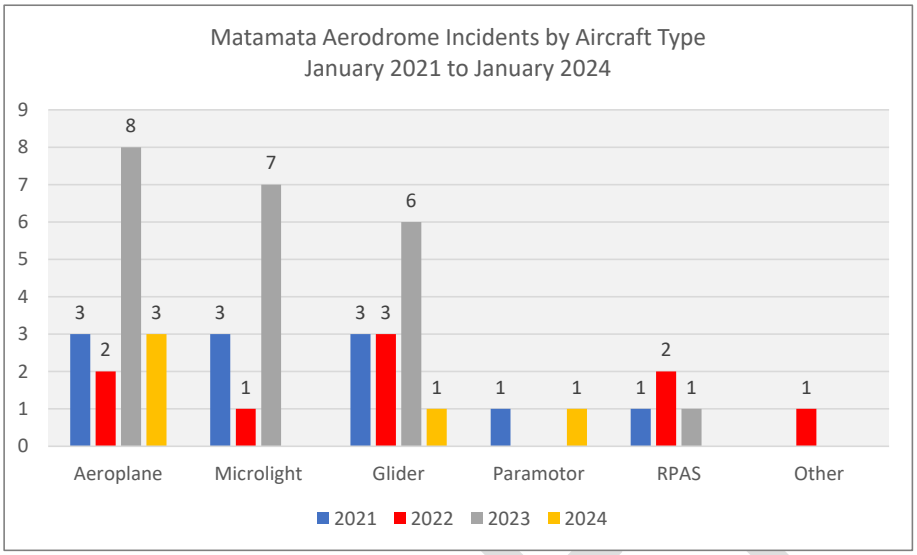
Of the 43 incidents, the following is a breakdown of the categories:

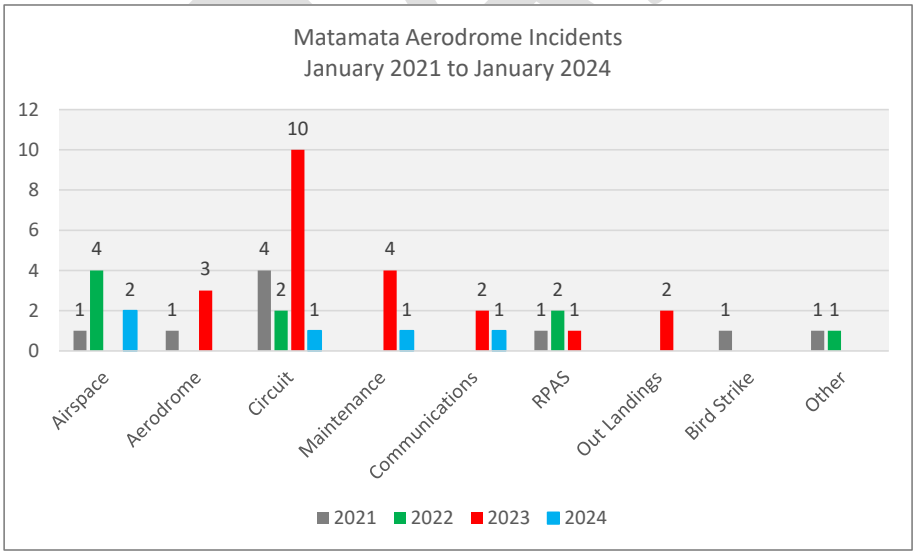
- *39% Aerodrome circuit*
- *18% Airspace*
- *7% Aerodrome Incidents*
- *2% Bird strikes*
- *9% Communications*
- *9% Aircraft Maintenance*
- *7% RPAS*
- *7% Other*

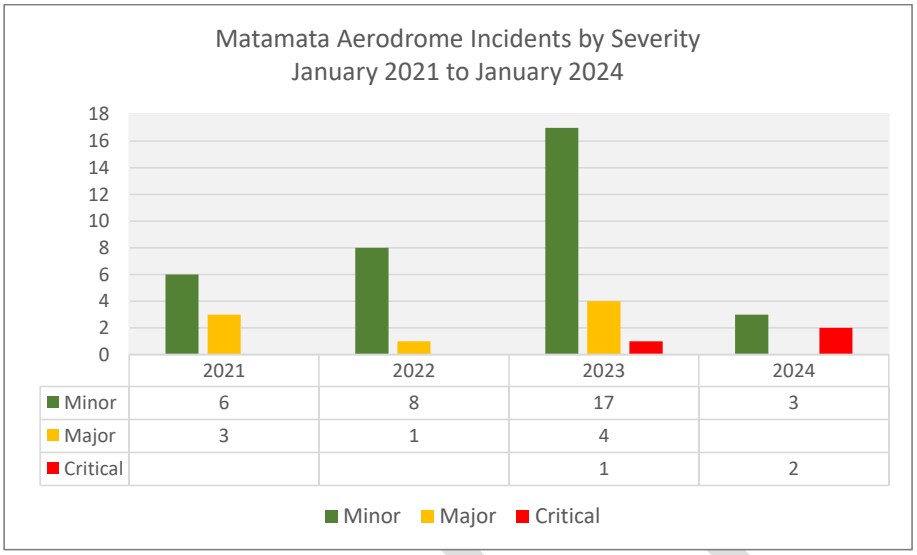
13.13 The severity is calculated as to how the CAA view each incident.

13.14 The incidents by aircraft type show the highest proportion being powered aircraft and Gliders with 16 reported incidents for each over the reported period.

Incidents


Matamata Aerodrome Incidents by Aircraft Type
January 2021 to January 2024
Aeroplane
Microlight
Glider
Paramotor
RPAS
Other
2021
2022
2023
2024


Matamata Aerodrome Incidents
January 2021 to January 2024
Airspace
Aerodrome
Circuit
Maintenance
Communications
RPAS
Out Landings
Bird Strike
Other
2021
2022
2023
2024



Regarding the severity, the following are actual events from Matamata Aerodrome as reported to CAA.

Critical

- A near miss between two gliders.
- An out landing
- Injury starting engine.

Major

- Near collision between two gliders.
- Landing on closed runway.
- Near miss between glider and powered aircraft.
- Near miss between tow plane and a powered aircraft.
- Tow plane and glider carry out non-standard circuit procedures.
- Loss of separation between glider and powered aircraft.
- Structural issue with glider.

14 User and Stakeholder Meetings

14.1 A number of "zoom" meetings have been held between with Avsafe Consultants Ltd, MPDC Community Facilities Operations Manager, and the Facilities Support person.

14.2 One on one meetings have been held with the Matamata Aero Club, Piako Gliding Club, Sky Ventures, Matamata Piako Model Aero Club, Skydivers (Eric Pemberton) plus, phone meetings with Walsh Memorial Flying School.

14.3 Discussion have been had with the Civil Aviation Authority.

Stakeholder Consultation

Name of Stakeholder	Description of their interest or potential involvement	Consultation required Yes/No	Communication Yes/No
Matamata Piako District Council (MPDC)	Oversight and Management of Matamata Aerodrome facilities and activities is the MPDC Community Facilities Operations Manager	Yes	Yes
CAA	New Zealand Aviation Regulator	Yes	Yes
Matamata Aerodrome User Group (MAUG)	Users and lessees at Matamata Aerodrome	Yes	Yes
Matamata Aero Club	Represents the microlight aircraft activities and flight training at Matamata Aerodrome.	Yes	Yes
Piako Gliding Club	Represents the Gliding fraternity on the Matamata Aerodrome	Yes	Yes
Walsh Memorial Flying School	Holds an annual Scouts flying school at the Matamata Aerodrome	Yes	Yes
Model Aircraft Club	Operate model aircraft on the Aerodrome	Yes	Yes
Skydiving Organisation	Carry out Skydiving onto the Matamata Aerodrome	Yes	Yes
Sky Venture	Flight training	Yes	Yes
Civil Aviation Authority	Aeronautical Services Flight Operations and Standards Aviation Safety Officer	Yes	Yes

15 Fees and Charges

15.1 One of the most contentious issues on any aerodrome are the fees and charges, particularly when the aerodrome is owned and operated by a local council.

15.2 Some recreational pilots do not accept that there should be landing fees at any aerodrome.

15.3 The users, many of whom are ratepayers are of the opinion that the aerodrome is just like any other park or facility in town and that the cost of running that facility should be carried by the ratepayer not by the user of the facility.

15.4 Just like any public amenity the cost of running a council owned facility is generally a lot greater than the user thinks it is.

15.5 The apportioning of cost can be weighed up as to whether it is “public good” or “private good”.

15.6 In general terms any capital expenditure can be seen as “public good” as the community as a whole is benefiting, in this case, the Matamata Aerodrome is a strategic asset to the region.

15.7 Whereas most of the operational costs of running the aerodrome would be “private good” and therefore some or all of the cost should be passed onto the user.

15.8 Apart from the known annual income from land rental, there is a very large variation in income from landing fees at Matamata.

15.9 The $10.00 per day per aircraft fee, for recreational aircraft is in line with similar country aerodromes around the NZ.

15.10 For resident operators the MPDC charges a bulk annual rate.

15.11 At this level of charging, it shows that the MPDC is subsidising users to a great extent which is a policy that the MPDC has accepted.

Casual Landing Fees – Matamata.

15.12 Charges

Type of Charge	Fees
Recreational operator – direct credit - per landing/movement (paid within the month, Maximum of $10 per day)	$10
Recreational operator – cash - per landing/movement (Maximum of $20 per day)	$20
Recreational operator – invoiced - per landing/movement (Maximum of $40 per day)	$42
Commercial operator – cash/ direct credit- per landing/movement (paid within the month if by direct credit, Maximum $15 per day)	$20
Commercial operator – invoiced - per landing/movement (Maximum of $40 per day)	$42
Note: The first of any of the following types of movements are charged at landing rates: landing, touch and go, approach, and go	
Annual Landing/Movement Fee - recreational users (non-commercial, per year)	$141
Aircraft parking (per day / 24 hours)	$6

15.13 But the reality is it is not just the wear and tear on the runway, but all the other costs associated with the running of the aerodrome, that need to be considered. i.e.

- Insurance
- Aerodrome Mowing
- Runway maintenance
- Electricity
- Water
- Sewerage
- Telephones
- General Expenses
- Health and Safety and Compliance

16 Risk Management

Background

16.1 MPDC has initiated an Aeronautical Study for the Matamata Aerodrome, which due to the different requirements and complexities of users, the CAA noted increase in the number of incidents, the request from a user for different operating procedures.

Objectives

16.2 The objective is to evaluate the aerodrome operations and layout, identify the risks associated with the current mix of aviation activities and the overall impact on airspace and aerodrome facilities. Specifically, its impact on current aviation activities and airspace safety, conformity to the current MPDC District Council plan/policies and conformity to current applicable CAA Rules (CAR's) and Advisory Circulars (AC's).

Purpose

16.3 The purpose of this operational risk management plan is to identify the potential risks associated with the proposed development plan and to identify current and future risks, associated with aerodrome and airspace safety.

Depth of Analysis

16.4 The depth of risk management planning and practice is demonstrated by:

16.5 The risks were assessed against the Avsafe Risk Matrix.

16.6 This plan was conducted by Avsafe in accordance with ISO 31000:2009

Risk Decision

16.7 The operational risk management plan as presented to the MPDC Community Facilities Operations Manager was developed to evaluate the risks associated with operations and the potential impact on aerodrome and airspace safety and aerodrome security.

Environmental Activity

16.8 The Matamata Aerodrome, due to its location has a low environmental footprint.

16.9 Noise from aircraft operations would be the biggest single factor.

16.10 Aircraft noise is minimal compared with other aerodromes as it is well away from towns and built-up areas and the activity mainly takes place over rural farmland.

16.11 The type of aircraft operating from it, gliders, low powered microlights and some general aviation aircraft generally have a low noise footprint.

16.12 The busiest time would be at the Walsh Memorial Flying school, when concentrated flight training is undertaken for a two-week period.

Matamata Aerodrome Operational Risk Matrix

No	Risk Area/Statement	Impact on Ability to Deliver Objectives	Consequences	Likelihood	Risk Level	Risk Treatment Strategy	Residual Risk
1	**Aerodrome Management**. The Community Facilities Operations Manager has inherited the role as that is where it has sat in the past.	The Community Facilities Operations Manager is effectively the Aerodrome Manager, has limited knowledge of aviation and the idiosyncrasies that go with it. Not having intimate knowledge of the Civil Aviation Rules. Not being on site regularly to observe activity on the aerodrome	**Major**	**Likely**	High 15	The MPDC needs to appoint a part time Aerodrome Manager, reporting to the Community Facilities Operations Manager Their role is to monitor activities on the aerodrome, report incidents and occurrences to the appropriate authorities, carryout maintenance and importantly build a relationship and to liaise with all residents and users of the Matamata Aerodrome.	**Medium** **6**
2	**Financial Management**	Substantial financial contribution input required from MPDC.	**Major**	**Almost Certain**	Very High 20	Long term development plan required to allow for early adjustments to budgeting requirements. Review of user charges and fees	**High** **12**
3	**Incident Reporting**	There is no formalised system for reporting incidents to the MPDC	**Medium**	**Likely**	High 12	Develop a system for reporting incidents to the MPDC. Suggest on the MPDC Aerodrome website	**Medium** **8**
4	**Aerodrome Taxiways**	There is no defined taxiway from along the southern side of runway 10/28. Causes aircraft to backtrack on the active runway toward oncoming traffic. Runway becomes obstructed when gliders are stacked across the runway not allowing easy access to the end of the runway.	**Major**	**Likely**	High 16	Create a 35m wide taxiway on the southern side of runway 10/28.	**Medium** **5**

No	Risk Area/Statement	Impact on Ability to Deliver Objectives	Consequences	Likelihood	Risk Level	Risk Treatment Strategy	Residual Risk
5	**Multiple Runways & Vectors**	With Runway 10/28 split due to winching towing. There can be confusion as to where powered aircraft and Gliders can land.	**Major**	**Possible**	High 16	Pilots to make themselves aware of the procedure by reading the AIPNZ. Powered aircraft including a glider under tow from the tow plane can use the southern side of the runway.	**Medium** **8**
6	**Winch Cable in the air**	Winch cable is very difficult to see following release from glider. Cable can drift from the centreline following release.	**Catastrophic**	**Unlikely**	High 10	Following release from the Glider the winch operator makes a radio call stating the cable is on the ground	**Medium** **8**
7	**Buckets Used to Delineate the Split Runway**	The use of small white buckets is not ideal for showing the split between the two runways. The buckets are very difficult to see when on final approach for the runway. Pilots could become confused as to where the runway centreline is.	**Major**	**Likely**	Very High 20	Gliding club to use larger red cones which are easie to see from the air. Put white makers at intermittent intervals between the cones to show the runway split easier.	High 12
8	**Gliders obstructing the runway**	Gliders obstructing the runway by being stacked on the runway and not at the end of it.	**Major**	**Likely**	Very High 20	Gliders to stack in the areas prior to the threshold of the runway	**Medium** **6**
9	**Vehicles on Aerodrome and Security**	Vehicles are being driven around the manoeuvring area coming close to aircraft taxing in the vicinity, Vehicles being parked close to the runway. Poor fencing allowing easy access by unauthorised persons to the operational area of the aerodrome.	**Moderate**	**Likely**	High 16	Allow only authorised vehicles airside. Vehicles to be parked against the fence on the threshold of runway 28 or to the southern side of runway 10. Upgrade fencing and install gates onto the operational area of the aerodrome.	**Medium** **8**

No	Risk Area/Statement	Impact on Ability to Deliver Objectives	Consequences	Likelihood	Risk Level	Risk Treatment Strategy	Residual Risk
10	Aerodrome Circuit	Risk of a Mid-Air collision between two aircraft.	Catastrophic	Likely	High 20	Pilots to be fully brief on the procedures and the layout of the Matamata Aerodrome and applicable CAR procedures before arriving or departing. Better training and oversight of recreational users.	High 12
		Aircraft joining the circuit incorrectly causing conflict. Gliders arriving back from the Kaimai Ranges and joining the circuit from the east rather than joining overhead.	Catastrophic	Likely	High 20	Pilots to follow the CAA published Standard Overhead Join Procedure when joining overhead. Consider changing the circuit direction to the east for both runways 10/28	High 12
		Poor radio Communication. Aircraft on the wrong frequency or radio's turned off. Gliders still being on the Chat frequency not on Matamata	Major	Possible	High 12	All pilots to make clear and concise radio calls stating their intentions prior to arriving or departing. All pilots and organisations to ensure that they are trained and aware of CAA CARs published communication procedures for operating in an MBZ.	Low 4
		Lack of knowledge of the CAA rules by some elements on the aerodrome. Part 91, 149 and Part 103 microlights.	Moderate	Possible	High 12	Training organisations need to put more emphasis on and the application of the CAA Part 91 rules and the applicable rules on or near an aerodrome.	Low 4
		Certain groups think the rules do not pertain or apply to them. Some aircraft operators are very lax in following the correct procedures.	Moderate	Possible	High 15	A change in safety culture amongst those using the aerodrome, in particular it is a General Aviation aerodrome in an MBZ.	High 9
		Two aircraft on the runway at the same time	Moderate	Possible	High 9	Pilots to be trained and become more situationally aware of aerodrome traffic, also to follow the correct aerodrome procedures.	Medium 6
		Aircraft cutting in on other aircraft while in the circuit	Major	Possible	High 12	Educating pilots in correct published circuit procedures and etiquette. Following CAR requirements for circuit joining and procedures	Medium 6
		Erroneous information from ADSB equipment in MBZ.	Moderate	Possible	Low 4	ADSB is an aid which is only really effective if the aircraft is fitted with ADSB In and Out.	Low 3

No	Risk Area/Statement	Impact on Ability to Deliver Objectives	Consequences	Likelihood	Risk Level	Risk Treatment Strategy	Residual Risk
11	Aircraft Activity	Pressure on the runways and taxiways due to extra aerodrome ground movements when gliding and powered aircraft operating together.	**Major**	**Almost certain**	High 16	Instigate procedures for utilisation of taxiways and runways.	**Medium 6**
		Increase in aircraft movements causing a greater risk in the circuit.	**High**	**Possible**	High 12	Peak periods are the Walsh Flying School and Gliding Competitions	**Medium 6**

Determining the Level of Risk

			Determining the Level of Risk				
			Consequence Criteria				
			1 – Insignificant	2 – Minor	3 – Moderate	4 – Major	5 – Catastrophic
Likelihood	5	The consequence is almost certain to occur in most circumstances	Medium (M)	High (H)	High (H)	Very High (VH)	Very High (VH)
	4	The consequence is likely to occur frequently	Medium (M)	Medium (M)	High (H)	High (H)	Very High (VH)
	3	Possible and likely for the consequence to occur at some time	Low (L)	Medium (M)	High (H)	High (H)	High (H)
	2	The consequence is unlikely to occur but could happen	Low (L)	Low (L)	Medium (M)	Medium (M)	High (H)
	1	The consequence may occur but only in exceptional circumstances	Low (L)	Low (L)	Medium (M)	Medium (M)	High (H)

Matrix* from page 55 of HB 436:2004 issued by Standards Australia to support the Australia / New Zealand Standard for Risk Management (AS/NZS 4360)

17 The Piako Gliding Club Proposal

17.1 The Piako Gliding Club have developed a practice of returning to the aerodrome from the east via either a right turn onto Runway 28 or a left turn onto Runway 10.

17.2 This practice is against the Civil Aviation rules and the procedures as required by the MPDC and published in the AIPNZ for joining the circuit at an unattended aerodrome.

17.3 Although this practice is not used every time gliding is in progress, it is happening more frequently. This is seen as a high risk to safety within the circuit, due to two aircraft approaching head on for the same piece of airspace and that a glider has a very small profile signature when approaching head on and can be very difficult to see.

17.4 The circuit direction at Matamata involves both a left and right-hand circuit which is different to most aerodromes where the circuit direction is left hand regardless of the runway in use.

17.5 The circuit direction is set by the aerodrome operator, and in this instance the operator is the Matamata Piako District Council.

17.6 The council has the right to change the aerodrome rules at any time, but good aviation practice would suggest that they consult with the users of the aerodrome and other interested parties to assess the risk before making the change, and then having the change approved by the CAA. The reason for the change should be safety related not for commercial or operational convenience.

17.7 There has been some disagreement between some users and the gliding club regarding the gliding club practice.

17.8 The CAA have suggested that the issue be resolved amicably by the users of the airfield, and then a proposal mitigating the risk to be put to the CAA for approval.

17.9 As such the Gliding club have submitted a proposal to the Matamata Piako District Council via the Matamata Aerodrome User Group. This proposal is included in this document and is yet to be agreed.

Proposal

Piako Gliding Club proposes to add a note to the AIP plate for Matamata Aerodrome saying:

"Gliders and tugs may turn right after departing from RWY 28 and may join on right base when returning to RWY28".

Reasons (not in order):

- *Gliders returning from the ridge occasionally arrive too low to circumnavigate all the way around the airfield for a left-hand circuit and need to join on right base for RWY 28. It is important for other users to be aware of this possibility and it should be published in the AIP for the benefit of visiting pilots.*
- *Better separation between departing tug and glider combination from other traffic established in the circuit.*
- *Better separation between aircraft heading to the ridge and others who may be returning to the airfield from the same area.*
- *With a left turn out from RWY 28 to normal release height, the glider may be too far from the Kaimai Ranges to safely reach the ridge lift.*
- *Reduces repeated aircraft noise over neighbours in the normal circuit areas.*
- *The amendment provides a better descent profile for the tug in stronger wind conditions and a more efficient operations cycle. The tug may complete dozens of glider launches on a typical ridge day.*

17.9 It is understood that this proposal has merit when a glider returning to the aerodrome is losing altitude and may not have the height to overfly the aerodrome to carry out a standard join. The Glider would need to make clear its intentions early to warn other aircraft.

17.10 The risk to aircraft already in the established circuit, is that a radio call from the glider or powered aircraft stating their intentions may not be heard, or not even made, or transmitted on the wrong frequency.

17.11 It is well known that the AIPNZ is not read completely by pilots, who pick out of it what they want to see, i.e. the circuit direction, and do not read the notes to the plate.

17.12 There have been reported incidents of conflict between gliders, the tow plane and other users of the aerodrome. These conflicts have been due to poor radio procedures, radios on the wrong frequency, and a lack of situational awareness by pilots of other aircraft within the circuit area.

17.13 The major risk is that if this proposal was to be approved then this would become the normal procedure. It would then become difficult to argue with the glider pilot that he/she was running out of altitude when approaching the aerodrome.

17.14 Note number 4 in the AIPNZ plate for the Matamata Aerodrome states" All *pilots should avoid using the overhead join procedure at Matamata Aerodrome due to parachute and gliding operations."*

17.15 The word "should" does not mean it is a mandatory requirement but is used for actions/ responsibilities/ duties that is best for the situation.

17.15 This suggests that when gliding and or parachuting are in progress there should be no joining overhead the aerodrome.

17.15 This raises a question:

- Does this mean when gliding or parachuting are in progress, no aircraft should join overhead. Instead, gliders and other aircraft should join either downwind, base, or finals. This would negate the overhead join requirement.

Possible Solution

That the Matamata Piako District Council consider changing the circuit direction to a right-hand circuit off runway 28 and a left-hand circuit off runway 10.

Explanation.

This would then have all traffic, both gliders and powered aircraft, turning in the same direction reducing the risk of a head on conflict.

The tow plane towing a glider would then turn right off runway 28 and head toward the Kaimai Ranges departing the circuit from the crosswind position. And on returning for the next tow, would join a right base for runway 28.

Any other powered aircraft would also turn right after taking off and if remaining in the circuit, would then turn right into the downwind before turning onto a right base for runway 28.

With the departure off runway 28, aircraft should not turn before reaching Highway 27. This then gives good separation between aircraft of differing performance.

If a glider was returning from the Ranges, it would then be able to join the circuit via a right base for 28 without having to fly overhead for the rejoin. (AIPNZ Note 4 Matamata Aerodrome)

The same would apply if departing off runway 10. A left turn to the Kaimai Ranges via the crosswind leg or remaining in the left-hand circuit.

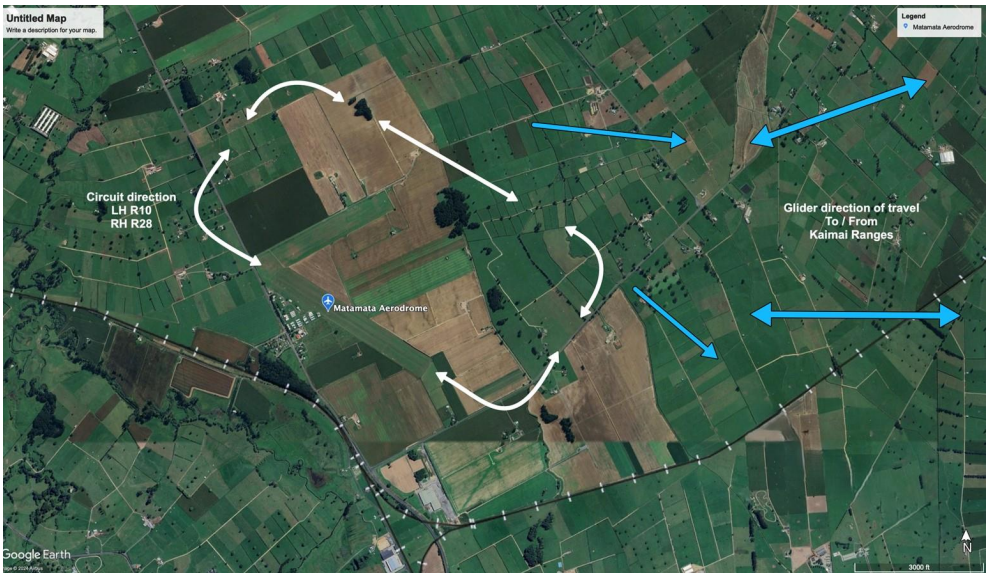
For an aircraft going down wind it would have a better view of a glider approaching for the base leg as the glider would be more side on and easier to see than if it were coming head on.

This change would also mean that gliders returning from ranges do not need to join the circuit by flying overhead the aerodrome.

The change in the circuit direction would also take aircraft traffic away from the towns of Walton and Waharoa reducing the noise footprint of the aerodrome.

The writer, having had discussions with the CAA, understands that this proposal would be acceptable to the regulator.

Map 12: Suggested Change of Circuit Direction



Appendix 1: Rule Part 91.229 Right-of-way rules

Civil Aviation Rule 91.229 Right-of-way rules

(a) A pilot of an aircraft—

(1) must, when weather conditions permit, regardless of whether the flight is performed under IFR or under VFR, maintain a visual lookout so as to see and avoid other aircraft; and

(2) that has the right of way, must maintain heading and speed, but is not relieved from the responsibility of taking such action, including collision-avoidance manoeuvres based on resolution advisories provided by ACAS, that will best avert collision; and

(3) that is obliged to give way to another aircraft, must avoid passing over, under, or in front of the other aircraft, unless passing well clear of the aircraft, taking into account the effect of wake turbulence.

(b) A pilot of an aircraft must, when approaching another aircraft head on, or nearly so, alter heading to the right.

(c) A pilot of an aircraft that is converging at approximately the same altitude with another aircraft that is to its right, must give way, except that the pilot operating—

(1) a power-driven heavier-than-air aircraft must give way to airships, gliders, and balloons; and
(2) an airship must give way to gliders and balloons; and
(3) a glider must give way to balloons; and
(4) a power-driven aircraft must give way to aircraft that are toother aircraft or objects; and
(5) all aircraft must give way to parachutes.

(d) A pilot of an aircraft that is overtaking another aircraft must, if a turn is necessary to avoid that aircraft, alter heading to the right, until the overtaking aircraft is entirely past and clear of the other aircraft.

(e) For the purpose of paragraph (d), an overtaking aircraft is an aircraft that approaches another from the rear on a line forming less than 70 degrees with the plane of symmetry of the latter.

(f) A pilot of an aircraft in flight or on the surface must—

(1) give way to any aircraft that is in the final stages of an approach to land or is landing; and

(2) when the aircraft is one of 2 or more heavier-than-air aircraft approaching an aerodrome for the purpose of landing, give way to the aircraft at the lower altitude; and

(3) not take advantage of right-of-way under subparagraph (2) to pass in front of another aircraft, which is on final approach to land, or overtake that aircraft.

(g) A pilot of an aircraft must not take off if there is an apparent risk of collision with another aircraft.

(h) A pilot of an aircraft taxiing on the manoeuvring area of an aerodrome must—

(1) give way to aircraft landing, taking off, or about to take off; and
(2) when 2 aircraft are approaching head on, or nearly so, stop or, where practicable, alter course to the right so as to keep well clear of the other aircraft; and
(3) when 2 aircraft are on a converging course, give way to other aircraft on the pilot's right; and
(4) when overtaking another aircraft, give way and keep well clear of the aircraft being overtaken.

(i) A pilot of an aircraft must give way to any aircraft that is in distress.