Kapiti Aeromodellers Club Inc.

(Full Name of Club)

HEALTH AND SAFETY PLAN

FOR OPERATING MODEL AIRCRAFT

AT

Queen Elizabeth Park. Paekakariki MacKay's Crossing Entrance

(Full address of flying location)

14/09/2021

(Date)

Kapiti Aeromodellers Club Inc Committee

Date: *14th September 2021*

Introduction

Kapiti Aeromodellers Club Inc. conducts model aircraft flying activities at Queen Elizabeth Park, Paekakariki, for club members and invited members of other clubs affiliated to Model Flying New Zealand.

Whilst flying model aircraft at this location does not constitute a public event, spectators are welcome to attend and observe.

Safety is of paramount importance in all of the flying conducted at this airfield.

Rules and Procedures

Rules governing the safe operation of radio-controlled model aircraft at this location are listed in the following publications:

1. CAA Regulations Part 101
2. Model Flying New Zealand Members Manual
3. NZJMA's Jet Turbine Code of Practice
4. Large Model SIG Code of Practice
5. This Club's safety rules and guidelines

MFNZ and NZJMA have approved this site for the flying of all types of model aircraft including turbine powered jets, helicopters, and fixed wing turboprop models in terms of the above listed publications.

Hazards and Risks

A Risk Assessment has been undertaken and a Register of Hazards established. Both the severity of a risk and the frequency of the risk occurring are taken into account to

give a final score by using the methodology recorded in MFNZ's "Risk Assessment Procedure".

Mitigation of identified risks is undertaken by a number of control methods to lower the final score to an acceptable level.

Should a serious accident occur, a post-accident audit will be conducted to capture any additional actions to make model flying at this site even safer.

Any queries regarding this document should be directed to the Club's President.

Proximity to Personnel

The approach adopted to ensure the safety of members, observers and nearby residents is one of lateral separation and flight direction limitations. This is a similar approach to that taken when considering safety at full size aviation locations and events. The logic is based on accepting a low risk of an aircraft accident, and following this occurrence, trying to ensure the aircraft is as far away from any people as possible.

The layout of the airfield and establishing safety lines makes best use of this approach.

First Aid

A comprehensive first aid kit is located on site and some members also carry their own first aid supplies.
A Defibrillator is part of the Club's 1st aid equipment is regularly maintained, and is available in the club house.

Fire Hazard

Radio controlled model aircraft generally fall into three categories: -

Diesel, Methanol and Petrol fueled Aircraft
These types of model aircraft have been flown internationally for several decades with a very low incidence of fire.

Electric Powered Aircraft

Electric aircraft are powered by Lithium Polymer batteries which may combust in the event of a crash or use of incorrect charging procedures. The fire is of a very short duration and risk of environmental damage is low.

Turbine Powered Aircraft

Jet turbines use Diesel, Kerosene or Jet A1 fuel for their operation. The small fuel loads carried and the temperature of exhaust gases pose a small risk to the surrounding area.

Fire Mitigation

A commercial sized dry power fire extinguisher is located on site and is readily accessible to all club members.

A 16-litre water pump extinguisher on a trolley is available in the club house.

Members charging batteries at the strip do so in a safe manner away from buildings and combustible materials. Members are encouraged to charge and store batteries, in fireproof containers.

Each turbine powered model pilot will have his personal CO^2 fire extinguisher when flying at this location.

Attachments:

1. Key Contacts List
2. Hazards Register
3. Flight Line Guidelines

Attachments: Separate Electronic Documents

4. Risk Assessments and Control Measures
5. Aircraft Inspection Form
6. Club Safety Rules and Guidelines

Attachment 1: Key Contacts List

List of Contacts	(List name of contact)	(List phone numbers)
Club Committee	Steve Hutchison – President	021 644595 04 2973097
Safety Officer	Neil Upton	021 434 999
Paraparaumu Fire Station		111
Wellington Free Ambulance Paraparaumu		111
Greater Wellington Regional Council	Brendan Bulliffe – Ranger Gary - Ranger Wayne Boness Parks Controller	027 2445319 027 2237115 021 667321
Model Flying New Zealand	Paul Clegg	021 986 566
CAA		04 560 9400

Attachment 2: Hazards Register

Environmental		*(The following are examples of type of information to be recorded)*
Airspace		CAA has a registered "Danger Zone" covering our airspace. Danger Area designation: D620
Airfield	Runway	North/South alignment. 155 metres Unrestricted approach from North and South. Hazards to the North of strip. Cycleway 50 metres from Northern end and uncontrolled environment beyond. Hazards to the South of the strip. Sandhills, Farmland. Public access road 400 metres from south end of strip
Flight Envelope		*The flight envelope extends to the north, east and south.* *No flying West of a line drawn north south of the pilots' box. (Exception. Is powered gliders over the driveway access area as defined in club rules).* *Aircraft to be within line of sight at all times.*
Surrounding Area	Public Road Public Park access road Cycle/Walking track Horse riding business. Stables at the Park	• *Motorway to the East – 1.5kms from pilots' box.* • *500 metres from South end of runway* • *50 metres from Northern end of strip* • *1km to the East of the strip*

Grounds Layout	Airstrips Pilots' Box Area to the North. Pits Area Spectators	Grassed area – fire hazard Personnel close to runway Scrub-land – fire hazard Behind Safety fence Spectators only allowed in pits area by invitation. Spectator area 30 metres from runway
Radio Spectrum		Use of MFNZ approved frequencies.
Meteorology		Wind vanes. In house anemometer mounted on club house. In house weather station with remote access.
Fire		Spread of fire through undergrowth.
Mechanical		
Aircraft		Failure of aircraft
RC system		Failure of communications system
Fuel		Fire Hazard – covered above
Accident/Failure		On airstrip Off airstrip
Collision		On circuit
Human		
Pilot Qualification		Control of aircraft
Operational Limitations		Operating within airspace and geographical limits.
Pilot Awareness/Co-ordination		Loss of awareness of operating environment
Safety Management		Co-ordination of safety response.
Medical		Unexpected medical event affecting ability to control aircraft. Sunburn. Minor and/ or major injuries.

Attachment 3: Guidelines

FLIGHT-LINE GUIDELINES FOR FLYING AT

Kapiti Aeromodellers Club

When more than one pilot is present, the following matters are to be discussed and agreed: -

Runway:

- In Use
- Circuit Direction
- Entry
- Exit
- Queuing

Startup Area

- Positioning
- Turbine powered models - fire extinguishers present

Take Off

- Once airborne move to Pilots' Box
- Do not takeoff to the North if track in use opposite end of runway.

Circuit:

- Limitations 500 ft AGL North of the Whareroa Stream. 650 ft AGL South of the stream.
- All flying to the East, North and South of the runway.
- No direct turns or maneuvers directly towards any occupied areas.
- No over-flying of residential properties.

Emergencies:

- Turbine powered model pilots – personal fire extinguishers on hand.
- Club Fire extinguishers are located in the Clubhouse and tractor shed.
- Anyone going to recover aircraft MUST have approval of active pilots.
- No one on the active runway unless specifically cleared by active pilots.

Engine outs:

- Verbally communicate immediately
- Control aircraft to runway, or if not possible, to the most appropriate safe area to the North/East/South side of the runway onto farmland if possible.

Attachment 4: Club Rules.

KAPITI AEROMODELLERS' CLUB INCORPORATED

CLUB OPERATIONAL RULES AND PROCEDURES 2019

These Kapiti Aeromodellers Club Inc. (KAMCI) **Operational Rules and Procedures** are supplementary to those published by NZ Civil Aviation Authority (CAA), Model Flying New Zealand (MFNZ) and Greater Wellington Regional Council (GWRC)

Model Flying at Queen Elizabeth Park is a privilege; not a right.
The club cannot allow anything to prejudice that privilege as it may result in termination of our right to occupy.
All Rules apply to all Pilots and Visitors regardless of model type being flown.
It is everyone's responsibility to speak up if anyone is contravening or about to contravene these rules.

All members are urged to foster our hobby by helping and encouraging fellow Pilots and new members learning to fly

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The **Safety Manual** is available on the MFNZ website:
https://www.modelflyingnz.org/docs/general/MFNZ_Members_Manual_2018_Rev_0.pdf

The **Risk Assessment** and **Safety Plan** are available on the KAMCI website:
https://kapitiaeromodellersclub.wordpress.com

RULES

Pits & Preflight

1. All models, new or repaired, must be inspected by a MFNZ Wings Badge holder with requisite endorsement prior to being flown for the first time.
2. All models must be restrained prior to engine/motor starting either by an assistant, some form of tether or restraining poles in front of the wings.
3. Mufflers must be fitted to all engines that are designed to be so fitted.
4. All models must conform to MFNZ noise restriction requirements (<95 dB at 7 m) and must seek to operate at minimum noise level.
5. Engines must not be run at high revs in the Pits area.
6. Models must not be taxied in the Pits area.
7. A Pilot using non-2.4 GHz radio equipment must establish the safety of the frequency they intend to use.

Flightline

8. No more than 5 (five) models are to be airborne at any one time.
9. A Pilot without appropriate MFNZ Wings Badge certification must have a dedicated Observer capable of flying the model in an emergency.

10. A Pilot must ensure all requirements for the use of Observers will be met prior to becoming airborne (Refer Observer Procedure below).
11. A Pilot must request clearance from those in the Pilots Box before entering onto the runway in person or taxiing their model onto the runway.
12. Pilots must not commence take-off to the North if there is activity on the track opposite the end of the runway.
13. All pilots must fly from the Pilots Box. (see notes)
14. All Pilots must conform to the height restrictions as directed by CAA. (Refer Boundaries Diagram below).
    North of the Whareroa stream - 500 ft. AGL
    South of the Whareroa stream - 650 ft. AGL
15. Models must not be intentionally flown in the area designated OUT OF BOUNDS (Refer Boundaries Diagram below).
16. Only lightly loaded, slow flying models are permitted in the RESTRICTED AREA. (Refer Boundaries Diagram below)
17. In the RESTRICTED AREA low flying below the ridgeline is not permitted.
18. Aerobatics must be flown to the East of the eastern runway fence line.
19. Pilots flying models in the Normal Flying Area must adhere to the established circuit direction unless flying alone.
    Right hand on the Northerly vector and
    Left hand on the Southerly vector.
20. The Pilot of a model that experiences any unusual characteristics during flight, e.g. control flutter, erratic response etc., must land as soon as possible.
21. A Pilot must announce his/her intentions with respect to the runway to others in the Pilot's Box. (e.g. Landing, Dead Stick, Going Around, Low Pass, Approaching from Restricted Area).
22. All Pilots must give priority to any model making a 'Dead Stick' or emergency landing.
23. A Pilot must request clearance from those in the Pilots Box before entering onto the runway in person to retrieve a model and advise when the runway is clear.
24. Pilots utilising First Person View (FPV) must have a dedicated Observer capable of flying the model in an emergency and must not fly outside the visual range of the Observer.
25. Models utilising 'Autonomous flight' are not permitted.

General

26. Children must be kept under close supervision.
27. No animals are allowed.

EXEMPTIONS

Vintage models and One-design competitions, such as Tomboys, provide a lot of fun and enjoyment to those taking part. However, for all to enjoy, certain additional rules must be observed and, where explicitly stated below, exemptions to standing rules are granted.

- A westerly take-off is permitted providing the northern parking area is not in use and must be executed from the northern end of the runway well clear of the clubhouse.

- When a westerly take-off is used; a right turn must be initiated such that the model does not cross the boundary fence. (Refer Boundaries Diagram below)

Tomboy and similar events take little elapsed time so the airspace should be the preserve of the Pilots for the 5 or so minutes the flight takes.

- Other Pilots must be made aware that the flight is about to happen (so that they do not attempt a flight themselves).
- Simultaneous hand launching by all Pilots from within the field is allowed.
- Pilots, once launched, must clear the runway to the Pilots Box.
- For the purposes of the competition and the nature of the flight, normal circuit rules do not apply.
- Given the nature of the event and how it is flown, it is deemed acceptable to have the timekeeper and only one other observer.
- Another 'flight' should not immediately take place unless other Pilots agree.
- From time-to-time other special flying events may take place and rules for such will be promulgated as necessary.

Helicopters and multi-rotos (drones).

- Can be flown to the north of the clubhouse when the area is not in use for car parking.
- Models must remain within the western and northern boundary fences (same as used for Westerly take-offs), the western side of the runway and must be well north of the clubhouse.
- Pilots using the dedicated area, specified above, or with sole occupancy of the runway are exempt from using the Pilots' Box.

Note: Pilots operating under these exemptions are not exempt from any other flight boundary rules.

PROCEDURES

Observer Procedure

Role of the Observer

To ensure at all times the safety of the Public, air traffic and other members by:-

- Actively scanning the aerial area (visually/audibly) for full size aircraft.
- Advising pilots what is happening in the sky and on the periphery.
- Relaying to pilots other pilot's calls (landing/dead-stick etc.).
- Advising of other hazards that may appear (people on the runway or adjacent walking track etc.)
- Assisting pilots to not exceed height restrictions and appropriate model separation.

Qualified Observers

- All MFNZ Wings Badge holders are qualified Observers.

Minimum Observers Requirement

Below 400 ft.:

ALL models MUST remain below 400ft.

Number of airborne Models	1	2	3	4	5
Minimum number of Observers	0	0	0	1	2

Above 400 ft.

ANY model OVER 400ft.

Number of airborne Models	1	2	3	4	5
Minimum number of Observers	1	1	1	2	3

Additional Observers

- If a pilot would like to be accompanied by their own personal Observer, then they are encouraged to ask that person to join them in the Pilots' box.

Pilot Providing Instruction

- Pilots operating as an Instructor cannot act as an Observer for another Pilot in the air at the same time as the trainee Pilot. The Instructor has specific responsibilities for the trainee Pilot they are coaching.

Discipline Procedure

The committee will sanction any member who deliberately or frequently flouts these rules. Authority for such action is in the Discipline procedure within the Constitution.

Visitor Procedure

The public and visitors from other clubs are always welcome on a casual basis.

a) If a visitor from another club arrives and wishes to fly, they are to be introduced to a MFNZ Wings Badge qualified KAMCI club member present at the time. The club member must sight the visitor's MFNZ membership card and MFNZ Wings Badge competency before explaining local rules etc., and before the visitor can fly. If the visitor has MFNZ membership but not an appropriate Wings competency they may still fly but must have an Observer and, for the first flight, an Instructor observing.

b) Any member of the visiting public who wishes to 'have a go' should be introduced to a MFNZ Wings Badge qualified KAMCI club member present so appropriate arrangements can be made.

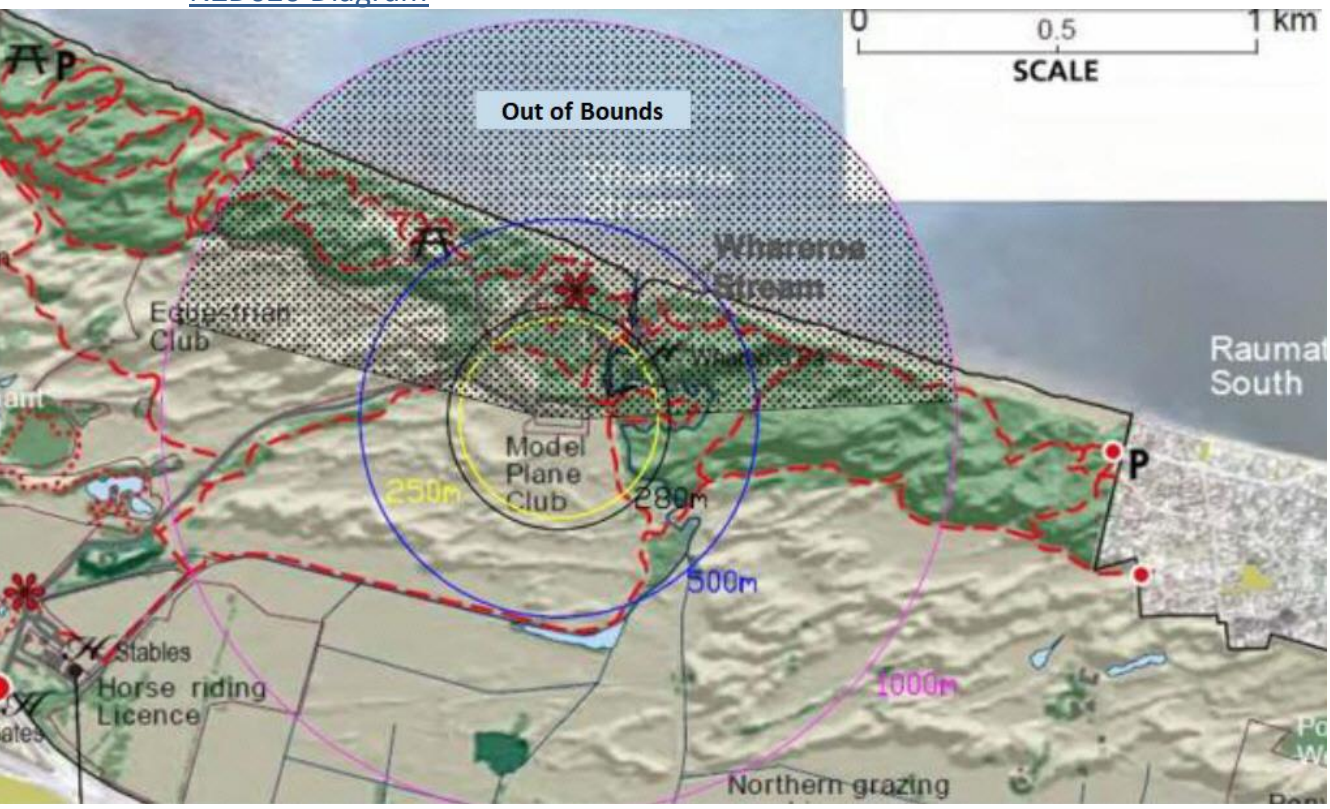
c) Members who bring along a visitor are responsible for ensuring all rules and protocols are followed.

d) It is expected that if a member of another club wishes to fly regularly with KAMCI they take out full or Associate membership.

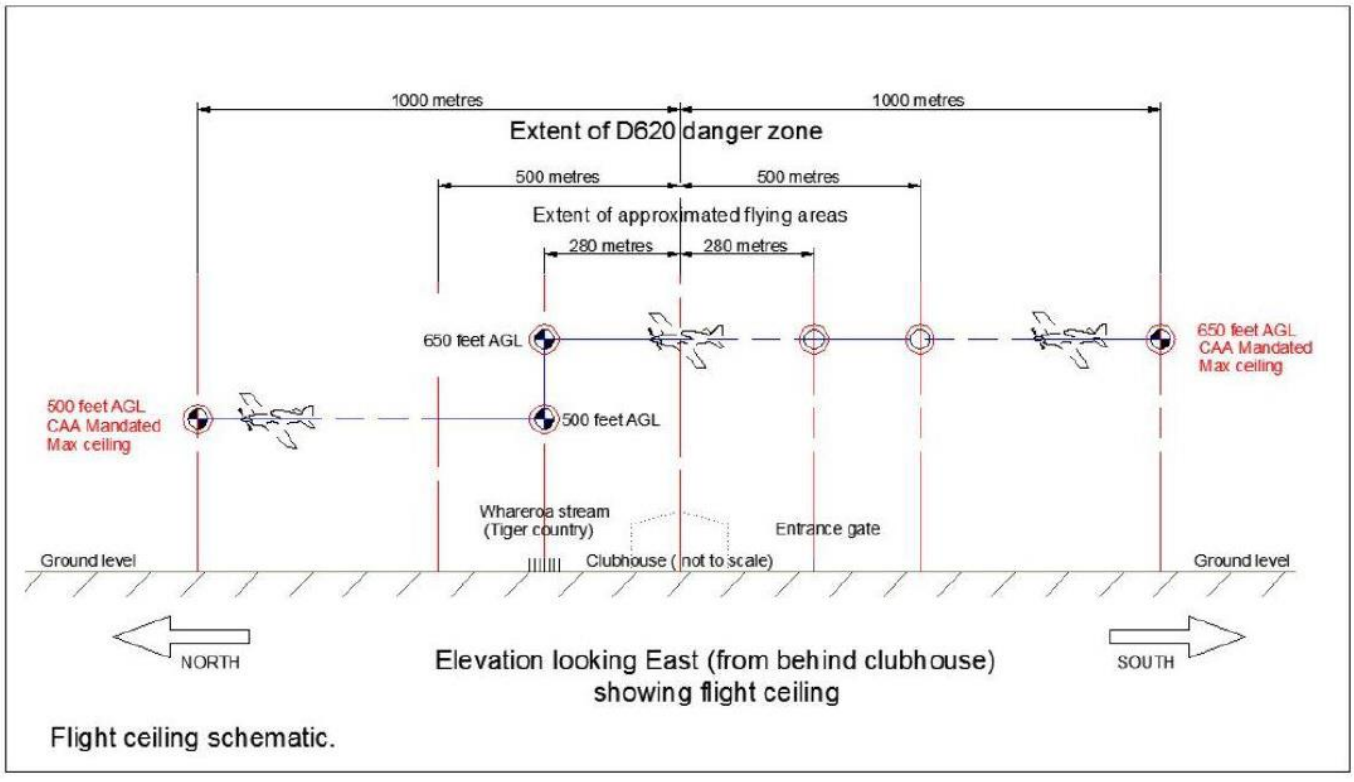
e) It is expected that any visitor who has flown more than 3 times with the club will take out full KAMCI membership.

Note: The Membership requirement identified in (d) and (e) are a guideline only and each case will be judged on its merits by the committee.

NZD620 Diagram

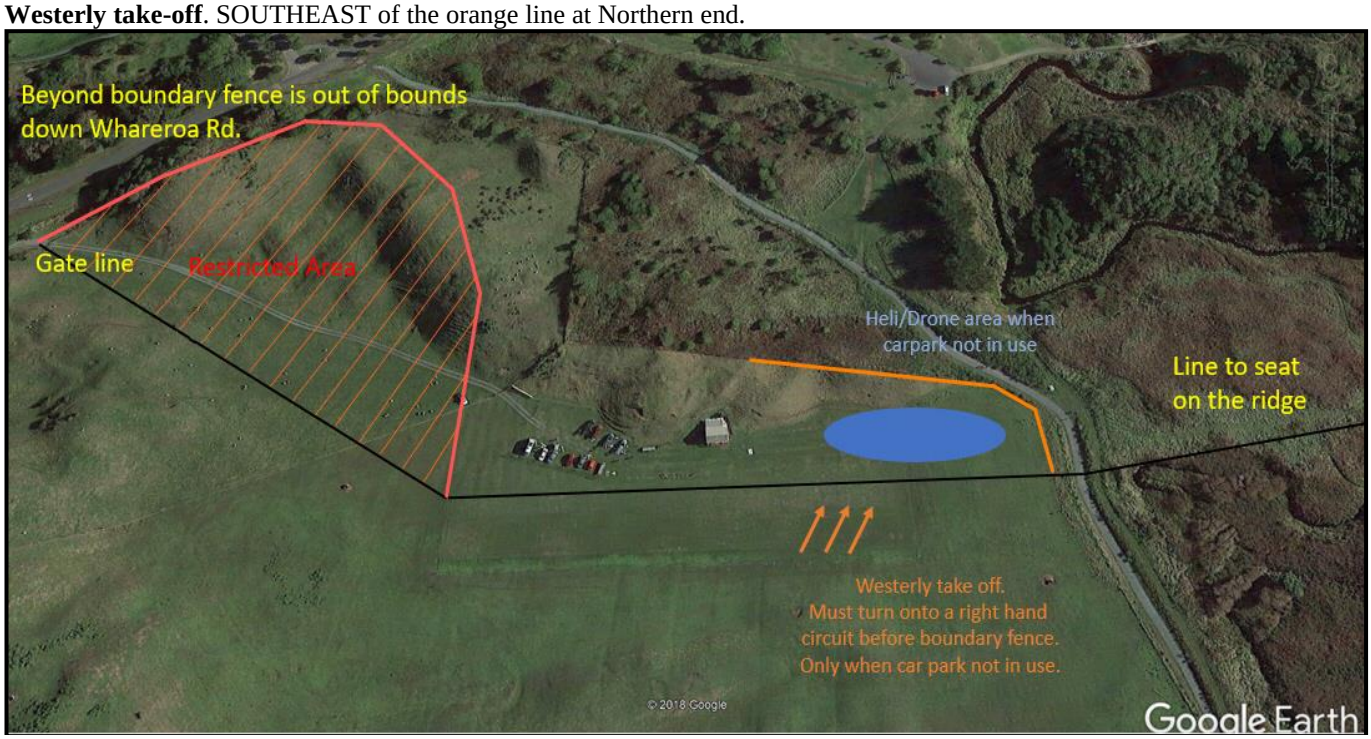


Boundaries Diagram



Out of bounds. WEST of the black demarcation line. Line is from the South end of the runway to the gate and continues down Whareroa Rd. To the North, follows the line of the runway edge across the cycleway and bridle track and angles slightly west to the seat on the ridge.
Restricted area. The red shaded area from South West corner of strip around the inside of the ridge.

Westerly take-off. SOUTHEAST of the orange line at Northern end.



Operational Rules Supplementary Information

A simple justification of 'Common Sense and to Mitigate Risk' applies to all KAMCI rules but has not been stated.

The information provided below are not Rules … only supplementary information to the rules and often state the obvious.

Rule	Explanation
1	Inspection by another set of eyes may just pick up on something that has been missed. Better to save the model on the ground than go home with a bag of bits. Besides, a model that fails in the air presents a risk to everyone. Inspections are guided by the KAMCI Club Aircraft Inspection Form available on the website under: Club Stuff/Documents
3 4	Noise levels not exceeding 95 dB at 7 m radius anywhere around the model are regarded as acceptable. Noise in excess of this is liable to bring complaints from the public and put at risk our continued occupancy. Prop tip speeds can contribute to excessive and unpleasant noise. In such cases, re-propping options should be examined.
5	If it is necessary to run an engine at high revs for a period, this should be done away from the pit area and preferably North of the clubhouse. *Ensure that no one is standing in line with the propeller or in front of the model during run up*. Propellers or propeller blades do sometimes become dislodged and can cause considerable harm.
6	If, for any reason, a taxiing model were to 'get away' in the pit area there is a high probability of personal injury to other members, the public and/or property e.g. cars and other models.
7	Non-2.4Ghz radio equipment while still legal is largely superseded.. *The use of a Frequency Management Board at KAMCI has been discontinued.* Pilots can and still do use this equipment however the onus of responsibility rests entirely with the Pilot to ascertain the frequency they are using is not in conflict with another pilot.
10	The Observer Procedure sets out the minimum number of Observers for the number of models airborne at the time. This does not preclude you from requesting an Observer accompany you when you fly.
11	Do not be offended if permission is denied. Circumstances may mean that those already airborne are uncomfortable with another model in the circuit or may be under pressure to land. Keep the time on the runway to the minimum possible - you never know when an emergency landing may be needed.

12	Take-off toward people is a high risk activity. If during the take-off run anything should go wrong there are few options except to continue straight ahead placing anyone on the path in danger. However, the rule does recognise that once committed to a take-off there is little that can be done should someone subsequently move into the danger area. This is especially so for cyclists who can move quite quickly.
13	This facilitates communication between pilots and observers. It is accepted that when landing a pilot may wish to improve their field of vision by moving to one end or another bay. To accommodate this, the pilots' box has been designed with larger bays at both ends. Pilots using the Heli/Drone area are exempt from this rule.
14	Model flying at KAMCI takes place within CAA Gazetted Danger Area D620. The Area has a 1km radius and 800ft ceiling. Under normal practice model flying would be permitted to 600ft however, due to proximity to Paraparumu airport special conditions have been imposed by CAA. The Whareroa stream (approx. 280 m North of the clubhouse) forms the landmark reference for the height restrictions. **North of the Whareroa stream - 500 ft. AGL** **South of the Whareroa stream - 650 ft. AGL** Under most circumstances the Northern 500ft ceiling presents little limitation on activities. *However, the KAMCI Observer Procedures dictate that when operating without an Observer pilots must not exceed 400 ft. AGL. This provides for even greater separation from full-size aircraft.*
15	Much of the area to the west of the club house is open to the public. The area is crossed by many roads, footpaths and cycleways and there are several car parks, picnic areas and public facilities. For this reason, the area is strictly OUT OF BOUNDS. *No model may be intentionally flown in this area.*
16	Small light models do not coexist easily with larger faster and heavier models. The Restricted Area allows these models to vacate the established circuit thus reducing the risk of mid-air collision.
17	Vehicles and people transit the Restricted Area to access the general flying area. Low flying elevates the potential risk and must be avoided.
18	Aerobatics place additional stresses on the model airframe and in some attitudes contribute to the possibility for disorientation. The area to the east of the runway is open land where personal and/or property damage is unlikely should an accident occur. *Absolutely no aerobatics are to be performed above the runway or pits area.*
19	*At no time when over the runway should a pilot turn toward the pit/club house area.* This means, for example, if flying a circuit whereby you are flying from South to North (clockwise circuit) you should not turn left towards the Pits. Lookout and listen for calls from Pilots re-joining the circuit from the Restricted Area. Landings from the South will be 'straight in' while a landing from the North will require joining down-wind to the east of the runway.

20	Unusual flight characteristics e.g., control flutter, erratic response etc., may be the forewarning of a more serious failure which in turn presents a risk to all members, public and property in the vicinity. Further, immediate attention to the problem may mean the model can be saved from an ignominious end. *A thorough check must be made before attempting to fly again.*
21	Flying and associated activities must be carried out in a safe and considerate manner. ALWAYS advise other pilots when you are going to land, and, if you need to "go around" advise other pilots. Once you have landed, taxi or remove your model from the runway as soon as possible and notify any pilots still flying that the runway is clear. If intending to make a low pass, check that the runway is clear and make your intentions known to other pilots. If flying with others, avoid making repeated low passes as this is distracting to other pilots. *As with full-size aviation, one of the cornerstones is 'Communication'*
22	If a model has engine failure and a "Dead stick" call is made, then the pilot has no option other than to land. On such occasions other pilots MUST give landing priority to the affected model.
23	You never know who may be landing after you. Please consider your own safety and that of others at all times.
24	Flying FPV utilises a lot of technology and while it is very reliable it is not infallible. NZ CAA have assessed the risk and legislated that models must remain within line-of-sight. The field of view provided by FPV is often limited and the Observer in this instance should provide the pilot with information about what is happening in the vicinity. The ability of the Observer to fly the model is regarded as prudent should the Pilot need to deal with a loss of vision situation.
25	Requirement as set out by CAA
26 27	Because we are flying on farmland and within a wildlife area GWRC have imposed a restriction on Domestic pets (e.g., Dogs). Leave the dog at home and put the leash on the kids ….