

# AGENDA

## Motueka Aerodrome Operations and Safety Meeting

Wednesday 13 March 2024, 10.00 am – 12.00 pm

### Motueka Aero Club

1. Welcome, Opening Karakia

2. Apologies

That the apologies be received.

Move:

Second:

3. That the minutes of the Motueka Aerodrome Operations and Safety meeting held on 11 October 2023, be confirmed as a true and correct record of the meeting.

Mover:

Second:

4. Action items from the minutes of the previous meeting

Action	Status	Assigned to:
Sealing parking verge outside Aeroclub and drainage issues.	In Progress	Stephen Batt
AIP for Motueka to be updated with Taxiways and protocols- <a href="#">Bring draft AIP to next meeting.</a>	Ongoing – <a href="#">Mark Woodhouse will give Stephen Batt some suggestions. Work in progress.</a>	Stephen Batt/Mark Woodhouse
MOU to be updated with current users and reflect any other necessary changes	<a href="#">Has been recirculated with separate back sign off sheet, waiting on some signatures.</a>	Completed
Speak to Council planners regarding is it possible to have a noise plan boundary for the aerodrome.	Ongoing	Stephen Batt

5. Motueka Aerodrome Managers' Report

That the Motueka Aerodrome Operations and Safety Committee receives the Motueka Aerodrome Managers' report.

Move:

Seconder:

6. Noise Management - Inflite

7. Runway Strength Test

8. Health & Safety – NDRA Incident

9. Drag Racing Discussion

10. General Business

11. Closing Karakia

Meeting ended:

# Motueka Aerodrome Operations and Safety Committee

## Tasman District Council

**Date and Time:** Wednesday, 11 October 2023

**Venue:** **Motueka Aero Club**

**Present:** Giles Whitney, Stuart Bean (Chair), Mark Stagg, Ian Palmer, Mark Woodhouse, Jackie Day, Greg Wood and James Meldrum.

**In attendance:** Nick Chin, Kathy Ktori (Scribe)

Meeting opened at 10:07 am.

### 1. **Welcome**

The Chair welcomed everyone to the meeting and Nick Chin provided the opening Karakia.

### 2. **Apologies**

John Richards and Brad Key

**Moved:** Jackie Day      **Seconded:** James Meldrum

**That the apologies be received**

**Carried**

### 3. **Minutes of the last meeting**

**That the minutes from the 12 July 2023 meeting be accepted as a true and correct record.**

**Moved:** Jackie Day      **Seconded:** Greg Wood

**CARRIED**

#### 4. Action items from the previous meeting

The action items as per last meeting minutes.

Action	Status	Assigned to:
Sealing parking verge outside Aeroclub and drainage issues.	Discussions have progressed with roading, budget seems to be available. (Concept design attached)	Christina Ewing
AIP for Motueka to be updated with Taxiways and protocols- Bring draft AIP to next meeting.	Ongoing – Mark Woodhouse has given Stephen Batt some suggestions. Work in progress.	Stephen Batt
MOU to be updated with current users and reflect any other necessary changes	Has been recirculated with separate back sign off sheet, waiting on some signatures.	Christina Ewing
Speak to Council planners regarding is it possible to have a noise plan boundary for the aerodrome.	Ongoing	Stephen Batt

#### 5. Motueka Aerodrome User Group Report & Health and Safety

The Committee receives the Motueka Aerodrome User Group Report and Financials. Discussion was had on the gate on the western access being damaged. Users are not closing the gate and it was agreed to install a sign about closing the gate.

The grassed runway can be moved an extra metre wider on each side according to the OLS survey. There was also concern over the safety risk of leaving grass too long. Jackie Day will contact TDC staff if she thinks the grass needs to be mowed.

Discussion on Green Lane and incorrect information regarding building height given to CAA resulting in CAA determining that it was not a hazard to aircraft.

Nick discussed the re-sealing of the runway for next year, along with NZ Post's new premises. It was questioned where the driveway will be for this.

## **Health & Safety Inspection Report**

It was mentioned that visiting aircraft performance and behaviour needs to be looked at after a recent visit by some tiger moths.

It was mentioned that the windsock was repaired.

## **General Business**

Discussion on improving the drag racing recreational use. Suggestion to improve communication when the airfield is not in use and plan for this. It was mentioned that the communication previously had not been good. There was evidence provided that the dates on the drag racing board do not match email dates Christina sends out. A reminder to email a few weeks before an event would be a good idea it was suggested. Mark Woodhouse will discuss with Jim.

Confirmation of NDRA racing dates:

- Saturday 11 November 2023
- Saturday 13 January 2024
- Saturday 3 February 2024 – Rain date Sunday 4 February
- Saturday 30 March 2024 - Rain date Sunday 31 March

Nick mentioned that Tasman District Council will be installing a touch and go swipe card system for casual users. There was discussion about where it will be positioned and there was concern raised about it being near the re-fuelling station.

Discussion on the boards needing to be updated with the landing charges and that this amount needs to be consistent with the fees on our Tasman District Council website.

Nick mentioned he is in discussion with MET service regarding moving the lightning monitor.

There was no more discussion and the meeting closed at 10.50 am.

**Moved:** Greg Wood

**Seconded:** Mark Stagg

**Closing Karakia Nick Chin.**

**The meeting closed at 10:50 am.**

**Next meeting: – March 2024**

## **Motueka Operations and Safety Committee Manager's Report March 2024**

### **Motueka Aerodrome**

#### **Health and Safety**

- 1.1 Monthly inspection reports have been received by NAC staff. These have been passed to Tasman Bay Contracting. They have been asked to rectify signage and gate issues. Grass mowing and spraying has been completed.
- 1.2 Post strength report – Downer have been asked to supply a plan to efficiently manage the seal and provide a recommended timeline for replacement.
- 1.3 Downer have been instructed to repair the Drag racing gouge in the runway and sealing cracks between asphalt and concrete joins on runway. Once runway has been repaired line markings will be reinstated due to residual rubber from drag racing covering these.

#### **Operations**

- 1.4 Mowing and maintenance – as above contractor has been asked to prioritize aerodrome repairs identified by regular inspections.
- 1.5 Works are underway for the College Street footpath, carpark and street frontage. These works are due for completion in March 2024.

#### **Risks**

- 1.6 AIP is currently being updated between Mark & Stephen. Mark has tabled draft changes. Discussion with group before lodging with Aeropath.
- 1.7 CAA Part 157 – we note that CAA have stated that they will be reaching out to users to obtain feedback on changes made at the aerodrome as per letter sent to the CAA.
- 1.8 Simon Lockie has been concluded his compliance audit and provided positive feedback on the way that the aerodrome is managed. A full report is forthcoming and will be tabled within this forum.
- 1.9 The aerodrome operator has sent a second letter to the CEO of TDC emphasizing that the public hearing has still not been scheduled for 54 Green Lane.
- 1.10 Seek confirmation for all users that current AIP and circuits are fit for purpose and that there are no outstanding issues.
- 1.11 Drag racing complaints – complaints of rubber and debris left on the runway after the February event – discussion required.

#### **Noise**

- 1.12 There have been several more noise complaints around aircraft operating out of Motueka aerodrome. It is noted that local elected officials have acknowledged this and want to see action to reduce the impact on local residents.

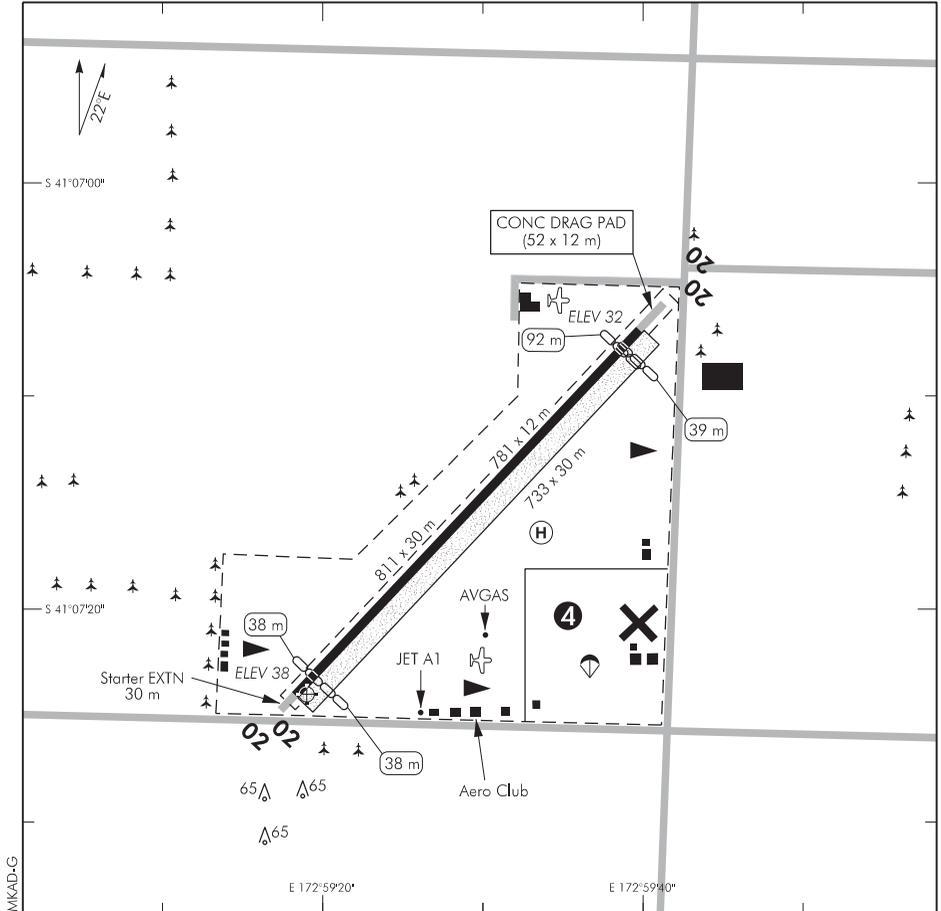
ELEV 38

NZMK

NON-CERTIFICATED

**MOTUEKA  
AERODROME (1)**

UNATTENDED: 127.3



Changes from 22 APR 21 - Gr RWY 02/20 depiction — gap between sealed and grass RWYs removed.

1. Arrivals are to be in accordance with standard joining procedures; however, pilots should avoid using the overhead join procedure while parachuting is in operation. Joining traffic must remain clear of the overhead until all canopies have landed or join via another procedure.
2. Extensive aircraft training occurs at the airfield and in the surrounding airspace.
3. Simultaneous operations on parallel paved and grass runways prohibited.
4. Parachute landing area. Parachute operations daily.
5. Aerodrome closed periodically to all aircraft, other than approved operators due to drag racing — Refer NOTAM.
6. **CAUTION:** High trees on northern end of runway on approach to RWY 20.  
Mowing of runways and operational areas may take place at any time.  
Large buildings NE of boundary may cause turbulence.  
High trees and power poles on southern end of runway on approach to RWY 02.

(continued)

S 41 07 24 E 172 59 19

**Effective: 1 DEC 22**

© Civil Aviation Authority

**MOTUEKA  
AERODROME (1)**

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**MOTUEKA**  
**AERODROME (2)**

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7. Local Airspace: local operators have a Memorandum of Understanding for the use of the Motueka aerodrome and surrounding airspace. A copy of the MOU may be obtained from the Tasman District Council website at [www.tasman.govt.nz](http://www.tasman.govt.nz).

All charted routes outside of controlled airspace are aligned with the local operators' MOU for preferred routing to avoid conflicts.

# Motueka Aerodrome Runway Bearing Strength

**CLIENT**

Tasman District Council

**Report prepared by:**

Joe Borne, Senior Data Collection Technician

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### 1. Introduction

Road Science was approached by the Tasman Alliance to determine the bearing strength of the Motueka Aerodrome sealed runway on behalf of the Tasman District Council. Motueka Aerodrome is 729m in length and 11 metres wide. It does not currently service any commercial passenger flights and is used exclusively by private operators and businesses. It’s current published operational data gives a runway strength of “ESWL 1020”.

### 2. Methodology

The pavement bearing strength of a runway is typically expressed by ACN (Aircraft Classification Number) – PCN (Pavement Classification Number). Simply put, ACN is a number that expresses the effect of an aeroplane on a pavement structure. PCN is a number representing the bearing strength of a given pavement section. If the PCN is greater than the ACN, then that particular aircraft can use the runway, under normal conditions, without damaging the pavement. However, in New Zealand runways that are not sealed or only service aircraft below 5700 kg MCTOW have their bearing strength expressed in ESWL (Equivalent Single Wheel Load). The ESWL is a simplified way of accounting for the actual weight of an aeroplane and its landing gear configuration. The ESWL for an aeroplane with one wheel per main landing gear leg is fixed at 45% of the actual weight of the aeroplane. The current published ESWL for Motueka runway is 1020kg. This means that currently, only aircraft with an ESWL of 1020kg or less are able to use the runway without potentially inflicting damage to the pavement. Our methodology for updating the published ESWL value was to perform FWD (Falling Weight Deflectometer) testing on the runway. An FWD measures the pavement surface deflections generated by a dropped load that simulates the effect of a moving wheel on the pavement. Deflections are recorded by geophones spaced along the FWD trailer. The resultant deflection bowl is analysed using numerical modelling software, allowing the calculation of ACN/PCN values.

On November 2<sup>nd</sup> 2023, FWD testing was carried out at 25m intervals staggered across both sides of Motueka runway. A load of 40kN was chosen for testing as, upon trial, this gave central deflections of roughly 1mm.

Upon completion of testing, ACN/PCN values were calculated for each test point. Dynatest’s ELMOD software was used for this pavement bearing strength analysis. This requires pavement structure and traffic information. A single test pit was dug on the edge of the runway revealing the following pavement structure:

Pavement Layer	Thickness (mm)
Asphalt	35
Well compacted, medium sized gravel	85
Moderately compacted, coarse gravel	150
Soft clay subgrade	-

Aircraft traffic data supplied by the council was as follows:

### Aircraft Weight Summary

Weight	Movements
Up to 600kg	41
600~2900kg	1752
2900~5700kg	2
Unspecified	7

These movements cover the month of September 2023, and can be multiplied to give an assumed total movements for a 12 month period.

For ACN/PCN calculation the total runway movements of only the heaviest, and therefore most damage inflicting, aircraft are required. This is known as the “Critical Aircraft”. We conservatively assumed that the critical aircraft weighs 5700kg and has a single-single wheelbase design. The ESWL for such an aircraft would be 2565kg. Within the ELMOD software, a McDonnell Douglas DC-3, with an ESWL of 5143g is nearest approximation. The wheelbase setup of single-single and a tyre pressure of 0.31MPa (45 PSI) is also suitable. The DC-3 is therefore the aircraft that was used for our ACN/PCN calculation.

By multiplying the movements of our 5700kg aircraft by 12, we get 24 total movements per year. To account for worse case scenario, this was roughly doubled to 50 total movements per year.

Subgrade stiffness values were back-calculated for each of the 29 FWD test points. Calculated stiffness at 4 of the 29 test points was found to be high or medium, but was otherwise consistently low to very low. To account for worse case scenario, a subgrade stiffness of very low was assumed for ACN calculation.

Summary of key inputs:

- FWD testing performed at a load of 40KN
- Pavement thickness of 270mm
- Simulated critical aircraft ESWL = 5143kg
- Total critical aircraft movements = 50 per year
- Subgrade has very low stiffness

### 3. Results

The PCN value exceeds the ACN value at all 29 test points along Motueka Runway. Average PCN is 12.1, whereas ACN is 9.2. Therefore, under the simulated conditions of an aircraft with an ESWL of 5143kg carrying out 50 movements per year, no pavement damage would be expected.

#### 4. Conclusion

The current published ESWL value of 1020kg is conservative. FWD testing and theoretical modelling has shown that an aircraft with an ESWL of 5143kg would not be expected to damage the runway pavement under normal conditions.

Note that this report is a pavement structure response analysis only and does not relate to the remaining life of the thin asphalt surfacing. All bituminous surfacing, such as chip seals and asphalt, become stiffer and eventually crack due to oxidation caused by UV expose. An assessment of the runway's surfacing to predict the remaining life has not been included in this report. Extending the life of the surfacing is part of sound whole of life asset management principles and not in the scope of this report. Road Science has access to Downer's Transport and Infrastructure Engineering Services Team resources that can provide additional advice on appropriate asset management treatments.

#### 5. Attachments

##### PCN/ACN

Test Point	PCN	ACN
1	11.6	9.2
2	12.6	9.2
3	14.3	9.2
4	11.6	9.2
5	13.9	9.2
6	16.6	9.2
7	12.8	9.2
8	11.3	9.2
9	12.5	9.2
10	16.5	9.2
11	12.5	9.2
12	15.7	9.2
13	15.4	9.2
14	10.6	9.2
15	18.9	9.2
16	10.9	9.2
17	15.9	9.2
18	24.3	9.2
19	9.5	9.2
20	12.3	9.2
21	46.3	9.2
22	14.8	9.2
23	15.2	9.2
24	12.7	9.2
25	12.2	9.2
26	15.3	9.2
27	13.2	9.2
28	13.6	9.2
29	10.4	9.2

Debris – Motueka Aerodrome

Items found – 5<sup>th</sup> Feb 2024



Items found – 15<sup>th</sup> Jan 2024

