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Property #	N/A

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Name of Submitter: **NZTE Operations Limited**

SUBMISSION ON PROPOSED WAIKATO DISTRICT PLAN

- 1 This is a submission on Stage 1 of the proposed Waikato District Plan (*pWDP*).
- 2 NZTE Operations Limited (*the Submitter*) could not gain an advantage in trade competition through this submission.
- 3 NZTE Operations Limited wishes to be heard in support of its submission.

Background

- 4 The Submitter owns the Te Kowhai aerodrome (*the Airfield*) and surrounding land (*the Property*), located off Limmer Road, near the settlement of Te Kowhai. The existing Airfield consists of a grass runway 983 metres long and has a number of hangers that are leased for the storage of aircraft and aviation related commercial activities. The Airfield is a non-certificated aerodrome which operates under a Visual Flight Rule (*VFR*) basis. The balance of the land owned by the Submitter surrounding the Airfield consists of paddocks.
- 5 The Airfield and surrounding land are proposed to be zoned Te Kowhai Airpark Zone (*TKAZ*) under the *pWDP*. The *TKAZ* recognises existing Airfield infrastructure and enables the establishment of a complementary residential 'airpark'. The airpark comprises four precincts that variously provide for aviation, commercial and residential activity. Central to the airpark concept is the ability to taxi aircraft from residential and commercial precincts onto the existing runway. It is this unique characteristic which differentiates airpark residential from conventional residential elsewhere in the Waikato region. The airpark is intended to be used solely for people who have an interest in aviation and wish to utilise the Airfield facilities as part of their day-to-day living environment. Notwithstanding that, the Airfield operates separately as an existing piece of infrastructure and, while being part of the *TKAZ*, needs to be protected through the provision of appropriate development controls to ensure that safe operation, growth and reverse sensitivity effects are adequately managed.
- 6 The Airfield is currently recognised in the Operative District Plan (*ODP*) through an Obstacle Limitation Surface (*OLS*) and Airport Noise Control Boundary (*ANCB*) provisions. As part of

the re-zoning to TKAZ, the rules as notified seek to future proof the Airfield in order for it to operate on an Instrument Flight Rule (*IFR*) non-air transport basis, as well as a VFR basis. Under the Civil Aviation Circular AC139-7 Aerodrome Standards and Requirements, this will necessitate changes to the OLS and transitional side surfaces, which are reflected in the pWDP.

- 7 As notified, the pWDP has adopted the existing ANCB provisions from the ODP. Following notification of the pWDP a peer review has been undertaken of the ANCB provisions by Marshall Day Acoustics (*the Marshall Day Report*). The Marshall Day Report has identified that the existing ANCB is inadequate to service both the operational needs of the Airfield and those of the airpark. Increasing the ANCB is now considered essential to future proof the Airfield and to allow it to operate as an airpark. In addition to providing more effective protection for surrounding landowners from aircraft noise, a change to the ANCB will also protect the aerodrome from potential reverse sensitivity noise complaints.
- 8 This submission supports the introduction of the Te Kowhai Airpark Zone and the relevant rules that relate to the functioning of the zone in the pWDP. However, in order to ensure the Airfield and associated Airpark can operate effectively, this submission seeks an increase to the ANCB as well as a number of amendments to rules in various chapters. Further details of these changes are set out below and in the table in **Appendix A**. A copy of the Marshall Day Report is attached at **Appendix B** to this submission.
- 9 The Chapters of pWDP that this submission relates to are:
 - (a) Chapter 9 – Objectives and Policies
 - (b) Chapter 14 – Infrastructure and Energy
 - (c) Chapter 16 – Residential
 - (d) Chapter 17 – Business
 - (e) Chapter 20 – Industrial
 - (f) Chapter 22 – Rural
 - (g) Chapter 23 – Country Living
 - (h) Chapter 24 – Village
 - (i) Chapter 25 – Reserve
 - (j) Chapter 26 – Residential
 - (k) Chapter 27 – Te Kowhai AirPark Zone

- (l) Appendix 1
- (m) Appendix 9
- (n) The Planning Maps

10 The submission is set out below.

Objectives and Policies

- 11 The objectives and policies for the TKAZ give direction to the rules and other methods that are necessary to manage development of the Airfield and the airpark. The Submitter supports the objectives and policies in section 9.2 as notified. However, while Policy 9.2.1.6 partially addresses reverse sensitivity, a more specific objective and corresponding policy is required which recognises the importance of that issue in the context of existing infrastructure. The additional objective and policy proposed in Appendix A will ensure that the operational needs of the Airfield are not compromised by sensitive land use activities with the potential for reverse sensitivity conflict.
- 12 The Submitter therefore seeks the following amendment to the pWDP:
- (a) New Objective 9.2.3 and Policy 9.2.3.1 to be inserted as worded in Appendix A.

Infrastructure and Wastewater

- 13 The provisions of Chapter 14 in respect to Transportation and Wastewater require amendment to ensure the Airpark is appropriately provided for.

Wastewater

- 14 The TKAZ intends to have on-site treatment and disposal of wastewater in the form of a Packed Bed Reactor (or similar) to meet relevant Waikato Regional Council standards. Accordingly, a wastewater treatment plant is accounted for in the TKAZ as a permitted activity in the Chapter 27.1.1 Activity Status Table. However, Chapter 14 (Infrastructure and Energy) is inconsistent with this rule because Rule 14.11.4 classifies wastewater treatment plants as a non-complying activity in the TKAZ. The Section 32 report has assessed the appropriateness of on-site wastewater treatment and concluded that a Packed Bed Reactor (or similar) is an appropriate method to effectively deal with wastewater from the Airfield and Airpark developments. The permitted activity rule in Chapter 27 should therefore take precedence over the general rule in Chapter 14.
- 15 The Submitter therefore seeks the following amendment to the pWDP:
- (a) That Rule 14.11.4 NC2(g) is deleted as detailed in the table attached to this submission at Appendix A.

Transportation

- 16 Chapter 14 contains permitted activity standards for trip generation for the Te Kowhai Airpark Zone. As notified, Rules 14.12.1.4(h) and (i) set daily trip generation limits in separate precincts. Precincts A and B are limited to 250 vehicles and Precincts C and D are limited to 30 vehicles before a restricted discretionary status is triggered. However it is not clear that these limits are per site limits and they could be interpreted as being limits that apply to the whole of the precincts.
- 17 The Submitter therefore seeks the following amendment to the pWDP:
- (a) That the daily vehicle limits in Rules 14.12.1.4(h) and 14.12.1.4(i) are clarified by the insertion of the words "per site" as set out in the table at Appendix A to this submission.
- 18 Chapter 14 contains a permitted activity rule that requires the layout of the taxiway network, future connectivity and road alignment within the Te Kowhai Airpark to be in accordance with the Te Kowhai Airpark Framework Plan in Appendix 9. As notified, Rule 14.12.1.7(2) will not allow for minor amendments in layout are in general accordance with the road alignment and taxiway network detailed in Appendix 9.
- 19 The Submitter therefore seeks the following amendment to the pWDP:
- (a) That Rule 14.12.1.7(2) and (3) are amended to include the wording "in general accordance with.... The Te Kowhai Airpark Plan.

Te Kowhai Airpark Zone

- 20 Within the notified rules of Chapter 27, Rule 27.2.14(d) does not allow direct site access from a 'national route' or 'regional arterial' road for Temporary Events as a permitted activity. The terminology is not in accord with the One Network Road Classification used by the New Zealand Transport Agency whereby state highways have either 'National', 'Arterial', 'Regional', 'Primary Collector', 'Secondary Collector' or 'Access' status.
- 21 The One Network Road Classification for Limmer Road (State Highway 39) is 'Arterial'. If the intent of Rule 27.2.14(d) is to prevent direct access onto an 'Arterial' highway, then this provision is opposed by NZTE Operations Ltd. Currently, the only vehicular access into the Te Kowhai Airpark Zone is off State Highway 39, meaning that there is effectively no permitted activity status for temporary events. It appears the provision is a carry-over from the Rural Zone rules in the ODP and therefore may not be intended to be applicable to State Highway 39. We submit it should be deleted altogether as the rule is not relevant to the Te Kowhai Airpark Zone.
- 22 The Submitter seeks the following amendment to the pWDP:

(a) Delete Rule 27.2.14(d).

23 The Zoning Plan in Appendix 9 refers to 'Special Activity Zone Te Kowhai Airpark'. In the interests of consistency, the Zoning Plan should be changed to refer to the 'Te Kowhai Airpark Zone', which better aligns with the terminology in Chapter 27. The submitter seeks the following change to Appendix 9:

(a) Amend the Zoning Plan in Chapter 29 - Appendix 9 to read 'Te Kowhai Airpark Zone' to more appropriately align with the terminology in Chapter 27.

Noise

Airport Noise Control Boundary

24 Typically, as seen at the Waikato Regional Airport, the airport noise control boundary (ANCB) concept involves fixing an Outer Control Boundary (OCB) and a smaller Air Noise Boundary (ANB). An OCB is usually based on a day/ night noise exposure level of 55dB L_{dn} and the ANB is based on 65dB L_{dn} . This is derived from the New Zealand Standard NZS 6805: 1992 Airport Noise Management and Land Use Planning (*Standard 6805*). The approach recommended in Standard 6805 is to implement practical land use planning controls and airport management techniques to protect and conserve the health of people living near airports without unduly restricting the operation of the airport. This is achieved by fixing a limit on noise emissions from the airport by way of noise boundaries, and then allowing an airport operator to determine how best to manage operations to comply with the limit. The Submitter understands this is consistent with the generally accepted approach to aircraft noise control in New Zealand.

25 The current OCB for Te Kowhai Airfield has been rolled over from the ODP, where its only purpose is to impose acoustic insulation standards on new noise sensitive development: it does not impose restrictions on aircraft noise. Further, the current OCB does not adequately allow for the proposed use of the Airfield under Chapter 27 of the pWDP or protect the Airfield from reverse sensitivity effects, which could lead to complaints and aircraft operations being curtailed in the future. Nor does the current OCB take into account aircraft noise from the perimeter taxiways, which is managed instead by the proposed Te Kowhai Airpark Noise Buffer in the Rural Chapter.

26 A peer review of the pWDP acoustic provisions has been carried out by Marshall Day Acoustics (*the Marshall Day Report*), a copy of which is attached as Appendix B. Modelling undertaken by Marshall Day has established that the current ANCBs would not be adequate to safeguard ongoing activities of the aerodrome, or the operational needs of the airpark. Therefore, Marshall Day has identified more appropriate ANCBs for the current and future use of the Airfield. The revised ANCBs have been developed not only to safeguard the operational needs of the aerodrome, but to set acoustic limits within which the aerodrome will need to operate. In doing so, it establishes aircraft noise controls for the protection of

landowners which did not exist previously. The ANCB inputs used to produce the proposed ANCBs is set out in the Marshall Day Report at Appendix B.

- 27 The revised ANCB has also factored in the use of perimeter Taxiways, meaning that the notified provisions relating to the 'Te Kowhai Airpark Buffer Zone' will no longer be necessary.
- 28 The Submitter therefore seeks the following amendment to the pWDP:
- (a) That new rules, as detailed in Appendix A, are added to Chapter 27 – Te Kowhai Airpark Zone to ensure the ANCB is expanded to a size that appropriately reflects best practice for aerodromes of this nature. These rules will ensure:
 - (i) any new Noise Sensitive Activity within the inner 65dB L_{dn} ANB is to have a Non-Complying activity status (with the exception of noise sensitive development associated with the Airpark which is otherwise provided for); and
 - (ii) Only permit new Noise Sensitive Activities or alterations to existing Noise Sensitive Activities within the 55- 65 dB L_{dn} OCB that have sound insulation and ventilation installed in accordance with the standards in Chapter 29 Appendix 1.
 - (b) That Chapter 29 – Appendix 1 is updated as detailed in Appendix A to reflect the proposed new Airpark Noise Control Boundaries and the appropriate performance standards.
 - (c) That the Planning Maps are updated to depict the proposed new Airpark Noise Control Boundaries as identified in the Marshall Day Report, a copy of which is attached as Appendix B to this submission.
 - (d) Any consequential amendments are made to other zone provisions affected by the proposed new Te Kowhai Airpark Noise Control Boundaries.

Noise Buffer and Taxiways

- 29 As described above, the noise from the Taxiways is currently dealt with as part of the Te Kowhai Airpark Noise Buffer as referenced in Rule 22.3.7.3 and depicted in the Planning Maps. In accordance with the Marshall Day Report, the Submitter proposes the inclusion of noise from the perimeter Taxiways as part of the Te Kowhai ANCB. This is because the Te Kowhai Airpark Noise buffer could be considered overly-restrictive on neighbors as it is based on the number of aircraft movements every 15 minutes continuously. Inclusion of taxiing within the ANCB is considered a more practical methodology. It would obviate the need for the Te Kowhai Airpark Noise Buffer (and associated rules) because taxiway noise would be adequately managed through the revised Airpark Noise Control Boundaries.

30 The submitter therefore seeks the following amendments to the pWDP as set out in Appendix A:

- (a) Include perimeter taxiing in the ANCB calculation and revise Rule 27.2.7 to ensure that taxiing complies with 55dB L_{dn} at the ONB and 65dB L_{dn} at the ANB.
- (b) Rename Rule 27.2.6 to read Noise – Other than Aircraft Operations.
- (c) Remove Rule 22.3.7.3 Building – Te Kowhai Airpark Noise Buffer as the Taxiing Noise is now dealt with in the ANCB.
- (d) Amend Chapter 29 – Appendix 1 to reflect the deletion of the Te Kowhai Airpark Noise Buffer.

Surrounding Zones

31 As the ANCBs are proposed to be increased as set out in Appendix B in the Marshall Day Report, subsequent amendments need to be made to Land Use activity rules in a number of zones to recognise the need for acoustic insulation should a Noise Sensitive Activity in that zone fall within one of the proposed ANCB.

32 The Submitter seeks the following amendments to the pWDP:

- (a) Add a new Rule 16.3.12 to Chapter 16 – Residential as set out in Appendix A to include provisions that determine acoustic treatment requirements for Noise Sensitive Activities within the new ANCB.
- (b) Amend Rule 22.1.5 – Non-complying activities in Chapter 22 – Rural as set out in Appendix A to include a non-complying activity for a Noise Sensitive Activity within the proposed 65dB L_{dn} ANB.
- (c) Amend Rule 22.3.7.4 P1(a)(i) as proposed in Appendix A, clarifying that both the Te Kowhai Airpark and Waikato Regional Airport ANCB are being referred to.
- (d) That a new Rule 24.3.9 be added to Chapter 24 – Village Zone as set out in Appendix A, to include provisions that determine acoustic treatment requirements for Noise Sensitive Activities within the new ANCB.
- (e) Amend Rule 24.1.3 – Non-complying activities in Chapter 24 – Village as set out in Appendix A include a non-complying activity for a Noise Sensitive Activity within the proposed 65dB L_{dn} ANB.

Obstacle Limitation Surface Height Controls

33 The OLS (as notified) is necessary to ensure compliance with Civil Aviation Circular AC139-7 Aerodrome Standards and Requirements for Code 1 aerodromes operating on a VFR and an

IFR (non-air transport) basis. The extent of the OLS is described in Chapter 29 – Appendix 9. Rules are also provided in the pWDP to protect the OLS from being breached by buildings, structures and vegetation. Although Rule 27.3.1 as notified correctly protects the proposed OLS from buildings, structures, trees and other vegetation, the corresponding height rules in other zones omits reference to 'trees'. It is critical that there is consistency amongst OLS provisions and that the provisions control 'trees' as well as buildings, structures and other vegetation. It is proposed that the relevant rules in each chapter are amended to align with the (correct) wording in Chapter 27, Rule 27.3.1.

33.1 The Submitter seeks the following amends to the pWDP:

- (a) That Rule 16.3.3.3, Rule 17.3.1.2, Rule 20.3.3, Rule 22.3.4.3, Rule 23.3.4.2, Rule 24.3.3.2 and Rule 25.3.1.2 are all amended in accordance with the wording set out in the table at Appendix A to this submission.

NZTE OPERATIONS LIMITED

DATED this 9th day of October 2018



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APPENDIX A – DETAILED SUBMISSION POINTS

Relevant Section	Support/ Oppose	Issue	Amendment Sought
<i>Objectives and Policies</i>			
Chapter 9.2 – Specific Zones Te Kowhai Airpark	Support but seek amendments	No objective in relation to reverse sensitivity outcomes	<p><i>Insert new objective 9.2.3 – reverse sensitivity and relevant policy 9.2.3.1</i></p> <p><u>Objective 9.2.3</u></p> <p><u>The operational needs of Te Kowhai Airpark are not compromised by sensitive land use activities with the potential for reverse sensitivity conflict.</u></p> <p><u>Policy 9.2.3.1</u></p> <p><u>Manage reverse sensitivity risk by:</u></p> <ul style="list-style-type: none"> (i) <u>ensuring that noise sensitive activities within the Te Kowhai Airpark Noise Control Boundaries are acoustically insulated to appropriate standards; and</u> (ii) <u>ensuring that Te Kowhai aerodrome operates within the noise limits specified by the Te Kowhai Airpark Noise Control Boundaries.</u>

<i>Infrastructure and Wastewater</i>			
Chapter 14 – Infrastructure and Energy Rule 14.11.4 NC2 (g)	Oppose	Wastewater treatment plants in the Te Kowhai Airpark Zone are a non-complying activity in Chapter 14 while it is permitted in the Te Kowhai Airpark Zone Chapter 27.1.1 Activity status table.	<p><i>Delete Rule 14.11.4 NC2(g) as a Wastewater Treatment Plant is provided for in Chapter 27.</i></p> <p>14.11.4 Non-Complying Activities</p> <p>(a) the activities listed below are non-complying activities</p> <p>NC2 Waste water treatment plants located in the following:</p> <p>(g)Te Kowhai Airpark Zone</p>
Chapter 14 – Infrastructure and Energy Rule 14.12.1.4 (1) (h) and 14.12.1.4(i)	Support but seek amendments	The insertion of <u>per site</u> per day is to clarify that this limit does not apply for the whole of the precincts taken together.	<p><i>Amend Rule 14.12.1.4 (h) and Rule 14.12.1.4(i) as set out below:</i></p> <p>14.12.1.4</p> <p>(1) any activity must comply with the following traffic generation conditions:</p> <p>(h) within Precincts A and B of the Te Kowhai Airpark Zone there is a maximum 250 vehicle movements <u>per site</u> per day and no more than 15% of these vehicle movements are heavy vehicle movements.</p> <p>(i) Within Precincts C and D of the Te Kowhai Airpark Zone there is a</p>

			<p>maximum of 30 vehicle movements <u>per site</u> per day and no more than 4 of these vehicle movements are heavy vehicle movements except:</p> <p>(i) Movement restrictions do not apply if the activity is an event or promotion (including temporary events) in Precinct C or a community facility in Precinct C</p>
<p>Chapter 14 – Infrastructure and Energy Rule 14.12.1.7</p>	<p>Support but seek amendments</p>	<p>Rule 14.12.1.7(2) and (3) is too prescriptive in its reference to Appendix 9 and will not allow for minor amendments to occur that still keep in general accordance with the road alignment and taxiway network detailed in Appendix 9.</p>	<p><i>Amend Rule 14.12.1.7(2) to read:</i></p> <p>P7 Access and New Roads – Te Kowhai Airpark 14.12.1.7</p> <p>...</p> <p>(2) road alignment and the taxiway network within the Te Kowhai Airpark Zone shall be in <u>general</u> accordance with Appendix 9 – The Te Kowhai Airpark Framework</p> <p>(3) the western boundary of the Te Kowhai Airpark Zone shall provide for future connectivity options (vehicular and/ or pedestrian) in <u>general</u> accordance with the location identified in Appendix 9 – Te Kowhai Airpark Framework Plan.</p>

<i>Chapter 27 - Te Kowhai Airpark Zone</i>			
Chapter 27 – Te Kowhai Airpark Zone Rule 27.2.14	Support but seek amendments	No direct site access from a national route or regional arterial route permitted during temporary events. The zone currently only has one access point, this being to State Highway 39. This rule was carried over from the Rural Zone provisions in the ODP and is not required for Te Kowhai Airpark Zone.	Delete Rule 27.2.14
Appendix 9	Support but seek amendments	The Zoning Plan refers to 'Special Activity Zone Te Kowhai Airpark'. Should be changed to 'Te Kowhai Airpark Zone' in accordance with zone terminology in Chapter 27.	Amend Zoning Plan in Appendix 9 to read: Special Activity Zone Te Kowhai Airpark Zone
<i>Noise</i>			
Appendix 1: Acoustic Insulation Rule 3	Support but seek amendment	The rule refers to the old Te Kowhai Outer Control Noise Boundary (OCNB) which is to be replaced and Te Kowhai Airpark Noise Buffer which is to be deleted.	Amend Rule 3 to read as follows: 3. Te Kowhai Airpark The Te Kowhai Airpark Outer Noise Control Boundary <u>ies</u> identify areas that experience high noise levels from aircraft landing and taking off from the Te Kowhai Airpark. The Te Kowhai Airpark Noise Buffer identifies land within the Rural Zone around the Te Kowhai Airfield that experiences high noise levels from aircrafts using the taxiways. <u>Noise Sensitive Activities</u> Dwellings within the Te Kowhai Airpark Outer Noise Control

			Boundaryies that are required to be acoustically insulated to <u>must</u> achieve the internal noise standards specified in sections 3.1 and 3.2 below.
Appendix 1: Acoustic Insulation Rule 3 Figure 2	Support but seek amendment	The old OCNB has been rolled over from the operative district plan and does not adequately control aircraft noise, futureproof the existing Airfield and protect against reverse sensitivity effects.	<i>Introduce the new Te Kowhai Airpark Airport Noise Control Boundaries (ANCB) recommended in the Marshall Day Report and replace Rule 3 Figure 2 with the Figure 3 in the Marshall Day Report attached at Appendix B.</i>
Appendix 1: Acoustic Insulation Rule 3.1	Support but seek amendment	The rule only considers the notified OCNB and will need to be amended to reflect the proposed ANCB in the new Rule 3 Figure 2.	<p><i>Amend Rule 3.1 to read as follows:</i></p> <p><u>3.1 Conditions for Permitted Activities Noise Sensitive Activities</u> inside the Te Kowhai Airpark Outer Control Noise Control Boundaries</p> <p>(3) Where a building is partly or wholly contained within the Te Kowhai Airpark Outer Noise Control Noise Boundaries, a mechanical ventilation system or systems that will allow windows to be closed if necessary to achieve the required internal design sound level for habitable rooms is required to be installed. The mechanical system or systems are to be designed, installed and operating to that a habitable space (with windows and doors closed) is ventilated with fresh air in accordance with the New Zealand Building Code, Section G4 – Ventilation.</p>

Appendix 1: Acoustic Insulation Rule 3.2	Oppose	The proposed ANCB's includes taxiing noise from aircraft which negates the need for the Te Kowhai Airpark Noise Buffer.	Delete Rule 3.2 in Appendix 1
Appendix 1: New Figure 3	Support but seek amendment	In order to appropriately determine the level of acoustic treatment for noise sensitive activities between the 55 and 65 dB L _{dn} OCB a new Figure 3 should be included in Appendix 1 showing 2 decibel contours within the OCB.	Insert a new Figure 3 into Appendix 1, being Figure 4 of the Marshall Day Report attached at Appendix B.
Planning Maps	Support but seek amendment	As notified, the Planning Maps shows the OCB from the operative district plan.	Amend Planning Maps to show the proposed ANCB shown in Figure 3 of the Marshall Day Report attached at Appendix B.
Chapter 27 – Te Kowhai Airpark Zone Rule 27.2.6	Support but seek amendment	Rule 27.2.6 as notified does not anticipate the proposed ANCB's so needs to be amended accordingly.	Rename Rule 27.2.6 to read: 27.2.6 Noise – Other than Aircraft Operations than Taxiways
Chapter 27 – Te Kowhai Airpark Zone Rule 27.2.7	Support but seek amendment	Taxiing noise is not currently anticipated in the notified OCNB but is provided for through the Te Kowhai Buffer Zone and specific rules in Chapter 27 Rule 27.2.7. Taxiing noise is included in the proposed ANCB therefore Rule 27.2.7 needs to be deleted and replaced with wording to reflect this.	Replace Rule 27.2.7 to with the below: <u>27.2.7 Noise – Aircraft Operations</u> <u>Noise from aircraft operations in ALL PRECINCTS, including aircraft movements on taxiways, shall not exceed 65 dB L_{dn} outside the Air Noise Boundary and 55dB L_{dn} outside the Outer Control Boundary as shown in the Planning Maps. These limits do not apply inside the Te Kowhai Airpark Zone. For the purpose of this control aircraft noise shall be assessed in accordance with NZS6805:1992 "Airport</u>

			<p><u>Noise Management and Land Use Planning</u>” and logarithmically averaged over a three month period. For the purposes of this rule aircraft operations shall include aircraft taking-off, landing, taxiing and flying on circuit flight paths. The following operations are excluded from the calculation of noise for compliance with noise limits:</p> <ul style="list-style-type: none"> • <u>Aircraft engine testing and maintenance</u> • <u>Aircraft landing or taking off in an emergency</u> • <u>Emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs or medical personnel in a medical emergency</u> • <u>Flights required to meet the needs to a national or civil defence emergency declared under the Civil Defence Emergency Management Act 2002</u> • <u>Aircraft using the airfield due to unforeseen circumstances as an essential alternative to landing at a scheduled airport elsewhere</u> • <u>Aircraft undertaking firefighting duties</u> • <u>Air Shows (for one air show per year)</u>
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			<p><u>Aircraft movements shall be recorded monthly and once the total movements in the busiest three month period reaches 4,500, noise contours for the purpose of assessing compliance with Rule 27.2.7 shall be calculated once every three years. When the calculated noise level is within 1 decibel of the limit, noise contours for the purpose of assessing compliance with Rule 27.2.7 shall be calculated annually and verified with infield monitoring once every three years.</u></p>
Chapter 16 – Residential Zone Rule 16.3	Support but seek amendment	Chapter 16 Rule 16.3 does not provide for the ANCB's as proposed by this submission. A new Rule 16.3.12 is required to address ANB requirements.	<p><i>Insert new Rule 16.3.12 as follows:</i></p> <p><u>16.3.12 Noise Sensitive Activities</u></p> <p><u>P1 – Construction, addition, or alteration to a building containing a Noise Sensitive Activity located between the Waikato Regional Airport or Te Kowhai Air Noise Boundary and the Outer Control Boundary must comply with Appendix 1 – Acoustic Insulation.</u></p> <p><u>RD1(a) Construction of, or addition, or alteration to a building that does not comply with a condition in Rule 16.3.12 P1.</u></p> <p><u>(b) Council's discretion is restricted to the following matters:</u></p> <p><u>(i) internal design sound levels;</u></p> <p><u>(ii) on-site amenity values; and</u></p>

			<u>(iii) potential for reverse sensitivity effects.</u>
Chapter 22 – Rural Zone Rule 22.1.5	Support but seek amendment	Amendment is required to Rule 22.1.5 to clarify that noise sensitive activities within the ANB (inner control boundary) are a Non-Complying Activity unless the dwelling comprises part of Te Kowhai Airpark, in which case alternative site-specific noise management methods will be in place.	<p><i>Amend Rule 22.1.5 – Non Complying Activities to include:</i></p> <p><u>NC5 (a) Noise Sensitive Activities within the Te Kowhai Air Noise Boundary (Ldn 65), except this restriction does not apply to Noise Sensitive Activities associated with Te Kowhai Airpark Zone.</u></p> <p>NC56 Any other activity that is not listed as Prohibited, Permitted, Restricted Discretionary or Discretionary</p>
Chapter 22 – Rural Zone Rule 22.3.7.3	Oppose	The Te Kowhai Noise Buffer is no longer required as the noise from Taxiing aircraft is proposed to be controlled by the new proposed Te Kowhai ANCB's, therefore Rule 22.3.7.3 can be deleted.	<i>Delete Rule 22.3.7.3 Building – Te Kowhai Noise Buffer</i>
Chapter 22 – Rural Zone Rule 22.3.7.4	Support but seek amendment	Rule 22.3.7.4 refers to the need for compliance with Appendix 1 (Acoustic insulation) within 'The Airport Outer Control Boundary' but does not specify which airport is being referred to.	<p><i>Amend P1(a)(i) to read:</i></p> <p>The <u>Waikato Regional Airport and Te Kowhai Airpark Zone Air Noise Boundary and Outer Control Boundary</u>"</p>
Chapter 24 – Village Zone Rule 24.1.3	Support but seek amendment	Chapter 24 Rule 24.1.3 does not provide for the proposed ANCB as notified. Amendment is required to Rule 24.1.3 to clarify that noise sensitive activities within the ANB (inner control boundary) are a Non-Complying Activity unless the dwelling	<p><i>Amend Rule 24.1.3 – Non Complying Activities to include:</i></p> <p><u>NC2 Noise Sensitive Activities within the Te Kowhai Airpark Air Noise Boundary (Ldn</u></p>

		comprises part of Te Kowhai Airpark, in which case alternative site-specific noise management methods will be in place.	<u>65), except this restriction does not apply to Noise Sensitive Activities within Te Kowhai Airpark</u>
Chapter 24 – Village Zone Rule 24.3.7	Support but seek amendment	Chapter 24 Rule 24.3.7 does not provide for the proposed ANCBs in Figure 3 of the Marshall Day Report. Rule 24.3.7 is required to be amended.	<p><i>Amend Rule 24.3.7 to read:</i></p> <p>Rule 24.3.7 Airport Noise Outer Control Boundary <u>Noise Sensitive Activities</u></p> <p>P1 – Construction, addition to or alteration of a dwelling building containing a Noise Sensitive Activity located between the Te Kowhai Airpark Air Noise Boundary and the Outer Control Boundary must comply with Appendix 1 – Acoustic Insulation, Section 3</p> <p>RD1(a) Construction, addition to or alteration to a dwelling building that does not comply with a condition in Rule 27.3.7 P1.</p> <p>(b) Council’s discretion is restricted to the following matters: (i) on-site amenity values; (ii) noise levels received at the notional boundary of the building dwelling; (iii) timing and duration of noise received at the notional boundary of the dwelling building; and (iv) potential for reverse sensitivity effects</p>

<i>Obstacle Limitation Surface</i>			
Chapter 16 – Residential Zone Rule 16.3.3.3	Support but seek amendments	Rule 16.3.3.3 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.	<p><i>Rule 16.3.3.3P1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any airport obstacle limitation surface identified in Appendix 9 Te Kowhai Airpark and as shown on the planning maps.</p> <p><i>D1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 16.3.3.3 P1.</p>
Chapter 17 – Business Zone Rule 17.3.1.2	Support but seek amendments	Rule 17.3.1.2 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.	<p><i>Rule 17.3.1.2P1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any airport obstacle limitation surface as shown on the planning maps.</p> <p><i>D1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 17.3.1.2 P1.</p>
Chapter 20 – Industrial Zone Rule 20.3.3	Support but seek amendments	Rule 20.3.3 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.	<p><i>Rule 20.3.3P1 amend to read:</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any</p>

			<p>airport obstacle limitation surface as shown on the planning maps.</p> <p><i>D1 amend to read</i></p> <p>D1 amend to read "Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 20.3.3 P1.</p>
Chapter 22 – Rural Zone Rural 22.3.4.3	Support but seek amendments	Rule 22.3.4.3 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.	<p><i>Rule 22.3.4.3P1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any airport obstacle limitation surface <u>identified in Appendix 9 Te Kowhai Airpark and</u> as shown on the planning maps.</p> <p><i>D1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 22.3.4.3 P1.</p>
Chapter 23 – Country Living Zone Rule 23.3.4.2	Support but seek amendments	Rule 23.3.4.2 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.	<p><i>Rule 23.3.4.2P1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation <u>must that does not</u> protrude through any airport obstacle limitation surface <u>identified in Appendix 9 Te Kowhai Airpark and</u> as shown on the planning maps.</p> <p><i>NC1 amend to read</i></p>

			<p>NC1 <u>D1</u> "Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 23.3.4.2 P1.</p>
<p>Chapter 24 – Village Zone Rule 24.3.3.2</p>	<p>Support but seek amendments</p>	<p>Rule 24.3.3.2 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.</p>	<p><i>Rule 24.3.3.2P1 amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any airport obstacle limitation surface identified in Appendix 9 Te Kowhai Airpark and as shown on the planning maps.</p> <p><i>D1 amend to read</i></p> <p>D1 amend to read "Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 24.3.3.2 P1.</p>
<p>Chapter 25 – Reserve Zone Rule 25.3.1.2</p>	<p>Support but seek amendment</p>	<p>Rule 25.3.1.2 is inconsistent with the OLS Rules in Chapter 27 – Te Kowhai Airpark Zone and does not include reference to trees as is industry standard. An amendment is required.</p>	<p><i>P1 Amend to read</i></p> <p>Any building, structure, <u>tree</u> or <u>other</u> vegetation must not protrude through any airport obstacle limitation surface identified in Appendix 9 Te Kowhai Airpark and defined in Section E, Designation N – Waikato Regional Airport.</p> <p><i>NC1 amend to read</i></p> <p>NC1 <u>D1</u> "Any building, structure, <u>tree</u> or <u>other</u> vegetation that does not comply with Rule 25.3.1.2 P1.</p>

APPENDIX B - MARSHALL DAY REPORT

CONSULTANT ADVICE

Project:	Te Kowhai Airpark	Document No.:	Ca 002 r01		
To:	NZTE	Date:	8 October 2018		
Attention:	NZTE Directors	Cross Reference:			
Delivery:	Shutchings@greenwoodroche.com	Project No.:	20180994		
From:	Laurel Smith	No. Pages:	4	Attachments:	4
CC:					
Subject:	Proposed Airport Control Noise Boundaries				

INTRODUCTION

MDA has prepared future airport noise contours for Te Kowhai Airfield generally in accordance with New Zealand Standard NZS 6805:1992 "Airport Noise Management and Land Use Planning". It is recommended that these contours form the basis for revised Airpark Noise Control Boundaries in the Proposed Waikato District Plan.

This document sets out the noise model inputs and assumptions behind the future noise contours and the recommended airport noise and land use controls.

NOISE MODEL INPUTS AND ASSUMPTIONS

Future noise contours have been calculated using the Integrated Noise Model (INM) version 7d for a future operating scenario prepared by NZTE. The noise contours are based on the L_{dn} noise metric. This metric is the sum of the sound energy from all aircraft noise events averaged over 24 hours. The night weighting means that noise events that occur between 10pm and 7am are "weighted" or penalised with an additional 10 decibels. For input to the noise model, an 'average day' of movements is calculated based on forecast future movements during the busiest three months of the year. The modelled contours for Te Kowhai Airfield are based on the following assumptions:

Table 1: Runway Assumptions

Runway Length	Current length 983 m
Runway Usage	65% Runway 23 35% Runway 05
Taxiways	As per proposed Airpark taxiways

The aircraft movements included in the model are listed in Table 2.

Table 2: Future Aircraft Movements in Noise Contour Calculation

User Category	Aircraft Type	Busy Average Day Movements		
		Arrivals and Departures	Touch and Goes ¹	Total
High Use Commercial (crop-dusting/parachute)	Cessna 206	16.0	0.0	16.0
Moderate Use Commercial (flight school)	Generic variable pitch propeller aircraft ²	10.0	4.3	14.2
Hobby Flight Training	Generic fixed pitch propeller aircraft	3.0	1.3	4.3
Private Residents	Generic variable pitch propeller aircraft ²	14.8	6.4	21.2
Itinerant	Generic variable pitch propeller aircraft ²	10.0	4.3	14.2
Busy Average Day Total		53.8	16.2	70.0
Annualised Busy Average Day		19,632	5,906	25,538

1 This figure is the total movements (i.e. two movements are included for a touch and go)

2 This generic aircraft type also covers smaller twin piston engine propeller aircraft

All of the movements in the model occur during the day time (7am – 10pm) however this does not prevent operations from occurring between 10pm and 7am. A movement at night time is equivalent to 10 day time movements so in practice if movements do take place at night these would just use up more of the noise budget.

The flight tracks used in the model are shown in the attached Figure 2. It has been assumed that arrival and departure tracks are straight in and out aligned with the runway centreline. We have been advised that circuit tracks are left hand for Runway 23 and right hand for Runway 05 and generally follow the ground track shown in Figure 2.

Aircraft taxiing movements have also been included in the calculated noise contours. The proposed taxiways around the Airpark have been included in the model as taxi tracks and these are shown in the attached Figure 2. It has been assumed that only private resident aircraft would use the Airpark taxiways and all other aircraft would use the taxiway adjacent to the runway. As the Airpark taxiways lead to private residences, the distribution of taxiing movements on the taxiways will depend on the frequency of flying carried out by individual residents. To allow for this unknown distribution of taxiing movements we have applied a safety factor of 1.5. For each private resident aircraft movement in the model there is one taxiing movement adjacent to the runway and 1.5 taxiing movements on the Airpark taxiways (evenly distributed).

CALCULATED NOISE CONTOURS AND RECOMMENDED NOISE CONTROL BOUNDARIES

The 55 and 65 dB L_{dn} noise contours for the future operating scenario described above are shown in attached Figure 1. It is recommended that these contours are smoothed out and form the basis for the Air Noise Boundary (65 dB L_{dn}) and the Outer Control Boundary (55 dB L_{dn}) in the Waikato District Plan. Figure 3 shows the recommended boundaries based on smoothed out contours from Figure 1. The Outer Control Boundary has been extended out to the Airpark Zone boundary to the south to provide for taxiing within the zone and to limit the noise at the zone boundary rather than within the Airpark.

Figure 4 provides the future L_{dn} contours in two decibel increments to be used for acoustic insulation design purposes. It is recommended that this figure is included in Appendix 1 Section 3.

RECOMMENDED NOISE CONTROLS (CHAPTER 27)

NZS 6805 recommends that noise from aircraft operations is limited to the levels defined by the noise boundaries and that noise sensitive land use is restricted within the noise boundaries.

The Proposed District Plan (PDP) includes Rule 27.2.7 which controls noise from aircraft on taxiways within Te Kowhai Airpark. It is recommended that this rule is replaced with the following:

27.2.7 Noise – Aircraft Operations

Noise from aircraft operations in ALL PRECINCTS, including aircraft movements on taxiways, shall not exceed 55 dB L_{dn} outside the Outer Control Boundary and 65 dB L_{dn} outside the Air Noise Boundary as shown in the Planning Maps. These limits do not apply inside the Te Kowhai Airpark Zone. For the purpose of this control aircraft noise shall be assessed in accordance with NZS 6805:1992 "Airport Noise Management and Land Use Planning" and logarithmically averaged over a three month period. For the purposes of this rule aircraft operations shall include aircraft taking-off, landing, taxiing and flying on circuit flight paths. The following operations are excluded from the calculation of noise for compliance with the noise limits:

- Aircraft engine testing and maintenance
- Aircraft landing or taking off in an emergency
- Emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs or medical personnel in a medical emergency
- Flights required to meet the needs of a national or civil defence emergency declared under the Civil Defence Emergency Management Act 2002
- Aircraft using the airfield due to unforeseen circumstances as an essential alternative to landing at a scheduled airport elsewhere
- Aircraft undertaking firefighting duties
- Air Shows (for one air show per year)

Aircraft movements shall be recorded monthly and once the total movements in the busiest three month period reaches 4,500, noise contours for the purpose of assessing compliance with Rule 27.2.7 shall be calculated once every three years. When the calculated noise levels are within one decibel of the limit, noise contours for the purpose of assessing compliance with Rule 27.2.7 shall be calculated annually and verified with infield monitoring once every three years.

RECOMMENDED LAND USE CONTROLS (CHAPTERS 22 AND 24)

The PDP includes acoustic performance standards for new dwellings built inside the Te Kowhai Airfield Outer Control Boundary which applies in the Rural and Village zones. It is recommended these be modified to align with the recommendations of NZS 6805. NZS 6805 recommends the following land use planning criteria:

Inside the ANB (>65 dB L_{dn}):

- New noise sensitive uses (including residential) should be prohibited;
- Existing residential buildings and subsequent alterations should have appropriate sound insulation;

Between the ANB and the OCB (55 - 65 dB L_{dn}):

- New noise sensitive uses (including residential) should be prohibited unless a District Plan permits such use subject to appropriate sound insulation; and
- Alterations or additions to existing noise sensitive uses (including residential) should include appropriate sound insulation.

Ideally to provide the Airfield with the best level of protection from reverse sensitivity, new noise sensitive development inside both the Air Noise Boundary and the Outer Control Boundary should be prohibited. An alternative method that provides less protection but is less onerous on neighbouring landowners is to permit new noise sensitive development subject to acoustic insulation between the Outer Control Boundary and the Air Noise Boundary and to apply a Non-Complying activity status to new noise sensitive development inside the Air Noise Boundary.

ACOUSTIC INSULATION (APPENDIX 1)

Appendix 1 Section 3 sets out acoustic insulation performance standards that apply to new noise sensitive activities developed within the Te Kowhai Airpark Outer Control Boundary and Noise Buffer.

Inside the Outer Control Boundary the design criterion of 40 dB L_{dn} is reasonable and appropriate and the octave band adjustments are appropriate for the types of aircraft operating at Te Kowhai Airpark. It is also appropriate to require a ventilation system and the associated acoustic criteria are reasonable. It would be appropriate to include a map showing the noise contours in two decibel increments in order to identify the outdoor design levels on affected properties. It is recommended that Figure 4 be included in Appendix 1 Section 3 for this purpose.

It is recommended that the Noise Buffer and associated acoustic standards be removed if the revised Airpark Noise Control Boundaries are accepted. The revised boundaries include noise from taxiing aircraft therefore the Noise Buffer becomes unnecessary.



Map Legend

Noise Contour

	55 dB Ldn
	65 dB Ldn

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Figure 1 - Te Kowhai Airpark Predicted Future Noise Contours for Aircraft Operations





Map Legend

Flight Tracks

- Arrival
- Departure
- Touch and Go
- Taxi

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Figure 2 - Te Kowhai Airfield Noise Model Flight Tracks





Figure 3 - Proposed Te Kowhai Airpark Noise Control Boundaries



Map Legend

Future Noise Contour

	55 dB Ldn
	57 dB Ldn
	59 dB Ldn
	61 dB Ldn
	63 dB Ldn
	65 dB Ldn
	67 dB Ldn
	69 dB Ldn

Path: I:\OAS\2018\201809\4105 Drawing\GIS\Te_kowhai.mxd

Figure 4 - Te Kowhai Airpark Future Noise Contours for Acoustic Insulation