

48.5332.R1:MSC

5<sup>th</sup> November 2018

Tweed Shire Council  
PO Box 816  
**MURWILLUMBAH NSW 2484**

**Attention: Ms C. Forbes**

Dear Sirs,

**PEER REVIEW - ACOUSTIC ASSESSMENT DA17.0805**  
**PROPOSED HELIPAD**  
**477 URLIUP ROAD, BILAMBIL**

The purpose of this report is review undertake an acoustic assessment of potential helicopter operations for a helipad located on private property at 447 Uriiup Road, Bilambil.

Under DA 17.0805 an application for a helicopter landing pad has been submitted to Tweed Shire Council that was refused by Tweed Shire Council.

A request by the Applicant for a review under section 8.2 of the Environment Planning and Assessment Act 1979 has been submitted to Council.

I have been requested by Council as part of the s8.2 review to examine the Development Application and accompanying documents with respect to noise impacts.

The application included a noise impact assessment from Craig Hill Acoustics, dated 15 November 2017. The acoustic assessment provided in Table 5.2 a series of A-weighted noise levels recorded at five reference locations by the use of a Bell 206BIII JetRanger conducted on Saturday, 28 October 2017.

The acoustic assessment identified the proposed usage of the helipad was up to 7 flights per week with operations to occur between 6.30 a.m. and 6:30 pm (Eastern Standard Time) except in emergencies.

On reviewing the acoustic assessment, I find the acoustic assessment is inadequate and contains a number of significant errors, and does not provide sufficient material to justify the acoustic conclusions:

- The assessment did not indicate a maximum number of flights that may occur on any one day.
- The acoustic assessment utilised incorrect noise criteria applicable to helicopters and did not quantify whether the test flights were associated with a take-off or landing of the helicopter.
- The acoustic assessment referred to Australian Standard AS 2363 that provides a methodology for the measurement and analysis of helicopter noise. It is a Standard identified in the acoustic assessment that was used for the on-site measurements in the report.
- AS 2363 in clause 4.5 identifies that for acoustic assessments the terminology used for helicopter operations is to consider noise with respect to “flight movements” where a take-off is a movement and a landing is a movement.
- AS 2363 does not define a helicopter “flight”.
- The use a helicopter movements is to distinguish between the general concept of a flight of an aircraft, be it a fixed wing plane or a helicopter, that commences with a take-off and the flight (being successful) concluding with a landing such that an aircraft flight includes both a take-off and a landing, i.e. a “flight” normally involves two movements but that only one of the movements of the “flight” may occur at the subject site.
- AS 2363 recommends the conduct of four take-offs and landings with the helicopter at maximum loading rate that is representative of the operations.
- Section 5 of the acoustic report provides measurements results that do not conform to AS 2363. The report does not provide the identification of the idling noise component, the hover component when the helicopter was approximately 3 m above ground level, the take-off component or the landing component.
- There is no identification to indicate how many flights occurred.



- There is no information in Table 5.2 to indicate the noise levels associated with a take-off versus a landing, or any average level of take-offs and landings.
- If the measurements were conducted in accordance with AS 2363 then the material in Table 5.2 would be more specific.
- Under Clause 6 of AS 2362 the ambient noise measurements should be conducted over the operational period of the landing site, although the relevant Statutory Authority may find acceptable a sample composed of four measurements each of period 20 minutes spread over the operational period.
- It is difficult to comprehend how 5 different receiver locations could have the exact same Leq (15 minute) ambient level before and after the testing, that in any event is not in accordance with AS 2363.
- There is no identification of what constitutes the ambient environment and whether the measured acoustic environment is typical of the area.
- Under AS 2363 it would appear that the measurements were not conducted in accordance with the requirements of the Standard in that there is no information contained in the Craig Hill Acoustics report to identify capacity of the helicopter, and whether there was only the pilot on board and therefore not at the maximum loading weight. It may be the case that in this situation a single person on board may be the normal operating scenario and therefore may be a condition of consent. However, the acoustic report is silent on that matter.
- The report from Craig Hill Acoustics claims (in Section 3.0) that “as New South Wales does not have recognised guidelines for Helipad the NSW Noise Control Manual will be used for the assessment”.
- This statement is incorrect on a number of grounds. There is no document identified as *NSW Noise Control Manual*. There was a document issued originally by the State Pollution Control Commission in 1985 identified as the *Environmental Noise Control Manual* (the “ENCM”). The ENCM was subject to a number of updates including changing the authorship from SPCC to the EPA.
- Chapter 165 of the ENCM provided noise criteria for helicopter landing sites being a repeat of guidelines issued by the SPCC in 1982.

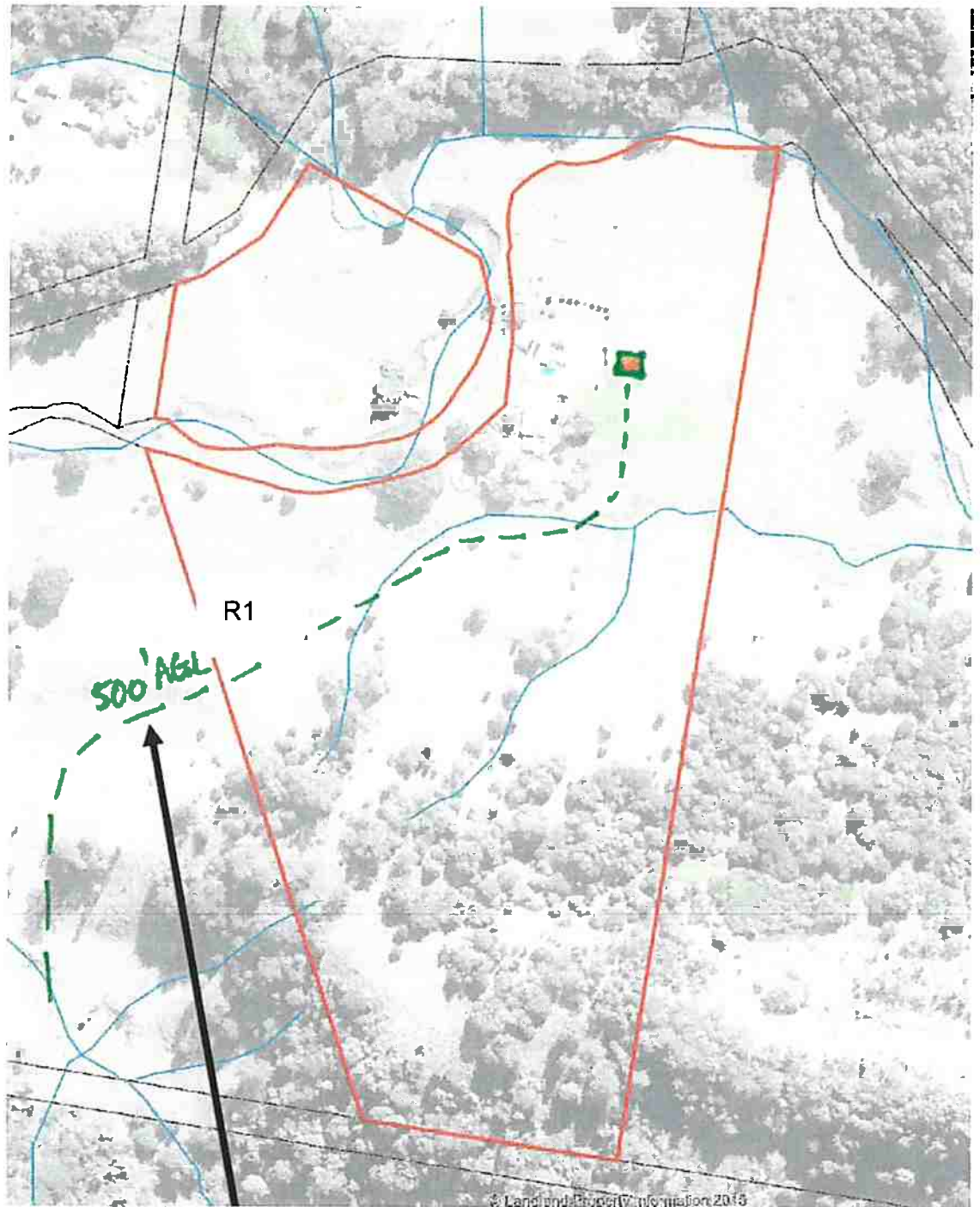


- The ENCM was discontinued as a result of the EPA/DECC issuing two policies, the *Environmental Criteria for Road Traffic Noise* and the *Industrial Noise Policy*. Neither of the two policy documents issued in 2000 and 2001, respectively contained criteria for helicopters.
- In 1990 the aircraft noise committee of Standards Australia issued a helicopter Noise Standard AS 2363 – 1990, that set out procedures for the measurement of helicopters and overcame a number of technical errors in the old SPCC helicopter noise guideline.
- The 1990 version of AS 2363 included noise targets expressed as an LAeq contribution over a 12-hour period with different criteria for day and night.
- Appendix A to AS2363 – 1990 set out the recommended noise targets that identified maximum noise level targets and LAeq targets for different types of receivers for both the day and night time periods.
- With respect to the LAeq criteria, Appendix A in AS 2363 – 1990, suggested that in low ambient noise level environments that the LAeq criterion was either that set out in the table contained in the Appendix, or the ambient LAeq +10 dB whichever was the lower value.
- However, Craig Hill Acoustics have failed to identify that the New South Wales EPA have no authority to control helicopter noise when in the air or on the ground, other than if the noise is generated from helicopter maintenance facilities.
- The NSW EPA have acknowledged that the control of helicopters in the air and on the ground falls under AirServices Australia.
- The assessment of noise from aircraft (including helicopters) is based on the Australian Noise Exposure Forecast System (ANEF) which is an energy average noise level over 24 hours a day for an average day, based upon the total number of operations over an entire year.
- In late 2007, the Chief Judge of the Land and Environment Court of New South Wales issued a Judgement in relation to an existing helipad at the Highland Heritage Estate becoming the Orange East heliport, with a capacity for a greater number of movements than that that had been approved for the existing helipad.



- The Judgement from the Chief Judge as *Nessdee Pty Ltd v Orange City Council* [2017] NSW LEC 158 summarises the acoustic issue/criteria commencing at paragraph 19 of the Judgement. The Judgement confirms the use of ANEF 20, with the nominal conversion of 35 to an LAeq over a 24-hour period, was accepted by the two acoustic experts in that matter (one of whom was the author of this report).
- The Craig Hill Acoustics report reveals a curved flight path and not a straight in and straight out flight path normally utilised for one-way helipads.
- With respect to the flight path that is shown in the Craig Hill Acoustics report there is the need for clarification from an aviation expert to determine whether the flight path satisfies the requirements of AirServices Australia.
- In the *Nessdee* Judgment there is identification of the need for multiple flight paths to ensure there is a headwind component (into wind) for landings.
- The subject helicopter has limitations in operations with a tailwind.
- There can be at times prevailing weather conditions at the subject site that may prohibit the operation of the helicopter along the flight track that has been nominated.
- The requirement to use other flight tracks for the final stage of landing or the initial stage of take-off can result in the helicopter being closer to some residential dwellings than were tested. If that scenario was to occur then the flight path distances provided by Craig Hill Acoustics would be different, could have the helicopter closer to receiver locations and therefore potentially high noise levels.
- If a one-way flight path is to be utilised for the subject site, then subject to verification of a flight track that is suitable for helicopters there may need to be limitations on the use of the helipad under various wind conditions based on the information that has been provided.
- It may be necessary, if there was to be the introduction of an additional flight path to cater for different wind conditions, that the subject application might have to be reassessed for those additional flight paths where the assessment includes additional acoustic measurements.





## Conclusion

The acoustic assessment by Craig Hill Acoustics accompanying the Application DA 17.0805 is inadequate. The testing would appear not to have been undertaken in accordance with AS 2363, based on the measurement results.



The acoustic assessment shows a curved flight path that may be inadequate for all operational scenarios and may require alternative flight paths or restrictions to imposed upon the use of the helipad.

The acoustic analysis presented with the Application DA17.0805 is incomplete and has not identified compliance with ANEF 20.

Accordingly, it is impossible to utilise the Craig Hill Acoustics report of 15 November 2017 for the subject application. Therefore, the application must automatically be refused.

Yours faithfully,

**THE ACOUSTIC GROUP PTY LTD**

  
**STEVEN E COOPER**

