DAY DESIGN PTY LTD
CONSULTING ACOUSTICAL ENGINEERS

SUITE 17, 808 FOREST ROAD, PEAKHURST 2210 ABN: 73 107 291 494
P. 02 9046 3800 ACOUSTICS@DAYDESIGN.COM.AU WWW.DAYDESIGN.COM.AU

Mr & Mrs Woolley
1611 Martindale Road
Martindale NSW 2328

18 August, 2022
Refer: 7601-1.1R

Attention: Mr Trevor Woolley
Telephone: 02 6547 3552 **Email: witjweri@skymesh.com**

Dear Sir,

ANIMAL BOARDING ESTABLISHMENT - 1949 MARTINDALE ROAD, MARTINDALE

ACOUSTIC PEER REVIEW

Day Design has been engaged by Mr and Mrs Woolley to peer review an acoustic report prepared to support the recently submitted development application (*DA129/2021*) (DA) for the establishment and operation of an animal boarding establishment at Bylong Park, 1949 Martindale Road, Martindale (the Site).

The acoustic report in support of the DA was prepared by Stantec Australia Pty Ltd titled *'Greyhound Racing NSW, Acoustics Report, Noise Impact Assessment for Development Application'*, Ref: 301350478 and dated 24 May 2022.

The Hunter Regional Planning Panel (HRPP) is in the process of assessing the DA for the project's determination.

The Site is located in a rural area within the *RU1: Primary Production* under the *Muswellbrook Local Environment Plan 2009*.

The Site is proposed to be developed by Greyhound Racing NSW for the use as a boarding kennel and training establishment for greyhounds. The boarding kennel and training establishment will be used as a greyhound rehabilitation centre*, 'and the facility will be managed by veterinary professional and animal behaviour experts and provide a pathway through to the Greyhounds as Pets (GAP) rehoming program'*.

The facility will include a specially designed veterinary hospital and 20 kennel modules. Each kennel module will house 20 dogs (400 dogs total) and comprise of an outdoor yard and social play space, an indoor area with heated flooring and cooling, and sensory gardens and landscaped grounds with water features.

The boarding kennel and training establishment is proposed to operate between during the following hours:

- 24 hours, 7 days a week.

A review of the DA's documentation would suggest that the greyhounds will be permitted to enter the outdoor yard and social play space during the day time hours (7 am to 6 pm) only. At all other times, being the evening (6 pm to 10 pm) and night (10 pm to 7 am) periods, the greyhounds will be restricted to the indoor kennels or underneath the kennel overhang (*external night runs*).

You have raised concerns regarding the potential for nearby residents to be adversely affected by the acoustic impacts from the proposed use of the Site, specifically additional noise generated by greyhounds barking at all times of the day, evening and night.

The following reports and drawings form part of my review:

- **Acoustics Report** (Stantec Report), document reference 301350478, prepared by Stantec Pty Ltd, dated 8 October 2021;
- **Updated Acoustics Report** (Updated Stantec Report), document reference 301350478, prepared by Stantec Pty Ltd, dated 24 May 2022;
- **Statement of Environmental Effects** (SEE), document reference P-20186, prepared by GYDE, dated 3 June 2022;
- **Bylong Park Farmstay Operational Plan** (BPFOP), prepared by Greyhound ; and
- **Architectural Drawings,** document reference 20034, prepared by Tzannes, dated 20 June 2022.

I did not speak to any employee of Stantec Pty Ltd to seek further information, during my review. I have carried out all calculations based on the assumptions and acoustic data provided in the Updated Stantec Report.

The scope of this peer review is to provide comments on the methodology, calculations, recommendations and conclusions. I have used the *Association of Australian Acoustical Consultants 'Guideline for Report Writing'*, *Appendix 1 'Environmental Impact/Planning Studies'* as a guide for details that should have been provided in the Updated Stantec Report.

Following a detailed review of the aforementioned documents, I offer the following comments:

1. Updated Stantec Report, Section 1, page 2, paragraph 5, bullet point 1, note reference to the NSW Environment Protection Authority (EPA) Noise Policy for Industry, 2017 (NPI 2017) as the only document considered for the assessment.

   See paragraphs 8 to 13 below for a detailed discussion on the implications of only adopting the NPI 2017 as the relevant guideline for this assessment.

2. Updated Stantec Report, Section 1, page 2, paragraph 6, bullet point 2, note the statement that *'results from unattended noise monitoring qualifying the acoustic environment at the site location'* is provided.

   See paragraph 9 below for further discussion.

3. Updated Stantec Report, Section 1, page 2, paragraph 6, bullet point 3, note the statement that *'indicative recommendations for noise mitigation measures for the proposed development to meet the relevant criteria'* is provided.

See paragraph 24 below for further discussion.

4. Updated Stantec Report, Section 2.1, page 3, paragraph 2 and Figure 1, the distances nominated from the Site to the 'nearest residential receivers' are not consistent with the distances shown in the **Architectural Drawings,** *drawing No. 0002 'Locality Plan'*. E.g. the distance to the residential receiver nominated as 'R2' is shown as 530 metres in the **Architectural Drawings** and stated as 570 metres in the Updated Stantec Report.

   Day Design also note that the locations shown for the 'nearest residential receivers' R1 to R3 in Figure 1 do not appear to be in the correct assessment location. Section 2.2.1 of the NSW EPA's Noise Guide For Local Government (NGLG) 2013 (and also Section 2.6 of the NPI 2017), states the following for the assessment of intrusive noise at a potentially affected residential receiver:

   'In many situations L_{Aeq} will be the most suitable descriptor for describing the noise under investigation. This should be measured at the most affected point on or within the residential property boundary or, if this is more than 30 metres from the residence, at the most affected point within 30 metres of the residence.'

   The Updated Stantec Report has not provided any information that would confirm the above assessment locations have been adopted.

   Without consistent and accurate distances from the noise sources on the Site to the receiver locations, noise predictions at the receiver locations are potentially incorrect and will require revision. Underestimating the noise impact at a receiver location can lead to loss of acoustic amenity.

   The elevated receivers to the south-west of the Site, 1984, 2050 and 2080 Martindale Road, have not been assessed. These receivers would be provided with less shielding by the kennels. An updated assessment should be provided to show the predicted noise levels at these locations.

5. Updated Stantec Report, Section 2.2, page 4, Site/kennel layout noted.

6. Updated Stantec Report, Section 2.3, page 4, Site weather conditions noted. Where meteorological conditions cannot be obtained from a weather station within a 30 kilometre radius, adopting a 'worst case', or noise enhancing weather meteorological conditions is generally considered acceptable and an appropriate method for assessing noise at a receiver location.

7. Updated Stantec Report, Section 3.2, page 5, Figure 3, measurement locations noted.

8. Updated Stantec Report, Section 3.3, page 6, Table 1, noted that the day time (12.16 pm) measured $L_{A90,\ 15\ minute}$ measurement at location 'A1' was **27.5 dBA**.

9. Updated Stantec Report, Section 3.3, pages 6 and 7, Table 2 and Figures 4 and 5, background noise levels, or RBLs noted.

No explanation is provided within the Section as to why, when considering the relatively small distance and minimal intervening topography/structures, the ambient graphs have such significant variations. The measured ambient noise levels at Location 2 (L2) are consistently lower.

Also, of greater significance, no explanation is provided as to why Table 2 provides an RBL of 30 dBA during the day and night at L2. While it is difficult to accurately establish the actual measured day and night time RBL due the limited resolution of Figure 2, it is clear that the measured RBL during the night is well below 30 dBA, with the day also potentially below 30 dBA (when considering the day time [12.16 pm] measured $L_{A90,\ 15\ minute}$ at location 'A1' was **27.5 dBA,** see paragraph 8).

This is critical, as adopting an RBL that is too high will also mean that the assessment (intrusiveness) criteria is also too high. This will likely lead to loss of acoustic amenity at the critical receiver locations.

Table 2 should be revised to show the measured RBLs during all periods.

10. Updated Stantec Report, Section 4, page 8. Day Design is of the opinion the NPI 2017 is not the guideline/standard instrument that should by adopted for the acoustic assessment of the use of a boarding kennel and training establishment for greyhounds.

Section 1.4 of the NPI 2017 provides a list of premises the guideline is specifically applied to, as follows - *industrial premises, extractive industries, commercial premises, warehousing, maintenance and repair facilities, intensive agricultural and livestock premises, and utility generation/reticulation service premises*

A boarding kennel and training establishment is not considered to be consistent with any of the premises listed above.

Notwithstanding, the NPI 2017 does provide a provision that noise from the use of heating, ventilation, air conditioning and refrigeration and vehicle movements within the premises and/or on private roads may be assess against the policy – dog barking is not included in any part of the NPI 2017.

We note the Updated Stantec Report does not assess noise from any of the aforementioned noise sources against the provisions of the NPI 2017. An updated assessment should be provided that includes an assessment of noise emission associated with the use of mechanical plant and equipment and vehicular movements on the Site. In the absence of such an assessment there is no assurance the acoustic amenity will be maintained at the nearby receiver locations.

Noise from greyhounds barking on the Site should be assessed against the NSW EPA's NGLG. The EPA's NGLG, provides practical guidance to Council Officers in the day-to-day management of local noise problems.

Section 2.1.4 of the NGLG includes the offensive noise test.

The definition of offensive noise is given in the Dictionary within the Protection of the Environment Operations Act 1997. It is extracted here:

> ***offensive noise*** *means noise:*
>
> *(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:*
>
> *(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*
>
> *(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or*
>
> *(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.*

Section 2.1.4 of the NGLG provides an '*Offensive Noise Test*' which may assist to ascertain as to whether noise from the greyhounds interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises and also whether the noise is ultimately considered offensive or not.

The offensive noise test in the NGLG includes an assessment of:

a) the loudness of a noise,

b) character of a noise,

c) time and duration of a noise

d) whether the noise is typical of the area

e) how often the noise occurs

f) the number of people affected by the noise.

An update assessment should be provided that considers the provisions of the NGLG.

In addition, the NGLG does not provide minimum RBLs as specified in the NPI 2017. Instead, intrusiveness is assessed as the measured background noise level plus 5 dBA (see Section 2.2.1).

This assessment method for noises **not** associated with industry, such as a greyhound barking, can assist in ensuring the emergence of noise above the background noise level is appropriately controlled to a reasonable level.

Eg typically in rural areas such as this Site, the RBLs are well below the minimum RBLs as specified in the NPI 2017. Assuming the actual measured RBL during the day at L2 was less than 30 dBA (potentially as low as 27.5 dBA, see paragraph 8) the maximum criteria would be less than 35 dBA at the receiver locations. Based on the minimum RBLs specified in the NPI 2017, and adopted in the Updated Stantec Report, the day time criteria is set to 40 dBA at least.

Considering this, there is potential for the noise criteria during the day to be set ≥ 10 dB above the actual RBL, with the corresponding emergence of noise being easily noticeable and significant, and likely to affect the acoustic amenity of the nearby receivers.

Day Design also note that an assessment against the requirements of the EPA's *Road Noise Policy 2011* for noise associated with vehicle arriving at or leaving the facility on local roads has not been provided in the Updated Stantec Report.

11. Updated Stantec Report, Section 4, page 8, Table 3, it is noted that the 'EPA INP Intrusiveness Criteria' adopted during the day at R1, R2 and R3 are not based on the measured RBLs provide in Table 2. It is assumed that the author has adopted the minimum RBL value for the day period provided in Section B1.3 of the NPI 2017 – no explanation is provided in the Updated Stantec Report to justify this.

    Eg the RBL in Table 2 at L2 is 30 dBA. The equivalent intrusiveness criteria should be 35 dBA.

    Adopting an intrusiveness criteria that is too high will lead to loss of acoustic amenity at the critical receiver locations.

12. Updated Stantec Report, Section 4, page 9, Table 5, it is noted that the 'Sleep Disturbance Criteria' adopted during night day at R1, R2 and R3 are not based on the measured RBLs provide in Table 2. It is assumed that the author has adopted the minimum RBL value for the night period provided in Section B1.3 of the NPI 2017 – no explanation is provided in the Updated Stantec Report to justify this.

    Section 2.2.4 of the NGLG recommends an assessment criteria of 15 dB (L_{Amax}) above the background noise level.

    Eg the RBL in Table 2 at L2 is 30 dBA. The equivalent sleep disturbance criteria should be 45 dBA. This is likely to be even lower considering the ambient graphs clearly show that the night time noise levels are well below 30 dBA.

    Adopting an sleep disturbance criteria that is too high will lead to loss of acoustic amenity at the critical receiver locations.

13. Updated Stantec Report, Section 4, page 9, Table 6, notwithstanding paragraphs 8 to 12 above, the *'Project Specific Noise Emission Level for R3 dB(A)'* during the night period of 38 dBA is inconsistent with Tables 3 and 4. Based on Tables 3 and 4 the correct *'Project Specific Noise Emission Level for R3 dB(A)'* would be 37 dBA.

    Day Design is of the opinion the project noise trigger levels provided in Table 6 are incorrect. Table 6 requires revision to include the provisions of the NGLG. All assessment criteria should be revised to reflect the actual measured RBLs to ensure the acoustic amenity of the neighbouring receivers is maintained.

    In its current form, the Updated Stantec Report should not be relied on.

14. Updated Stantec Report, Section 4, page 10, correction in line with Fact Sheet C of the NPI 2017 are noted.

15. Updated Stantec Report, Section 5, page 11, note no reference to mechanical plant and equipment or vehicular movements on the Site.

    An updated assessment should be provided that includes an assessment of noise emission associated with the use of mechanical plant and equipment and vehicular movements on the Site. In the absence of such an assessment there is no assurance the acoustic amenity will be maintained at the nearby receiver locations.

16. Updated Stantec Report, Section 5.1, page 11, paragraph 4, bullet point 1. It is unclear what conditions the provided for the measured level of $L_{Aeq,\ 15\ min}$ of 70 dBA. No detail of the distance from the greyhounds, number of greyhounds or whether the noise associated with a greyhound 'rooing' was included in the measurement has been provided.

    'Rooing' is similar to howling, and can be prompted by music/singing, hearing a siren or other greyhounds 'rooing'.

    Generally when assessing noise from dogs barking, the sound power level (derived from a measured sound pressure level) of a single dog is adopted in the noise model and detailed in the acoustic report. Day Design has adopted a sound power level of 98 – 100 dBA $L_{Aeq,\ 15\ min}$ for a singular greyhound barking continuously for 15 minutes on similar assessments.

    It is unclear, as no additional information is provided, as to whether the sound pressure level of $L_{Aeq,\ 15\ min}$ 70 dBA was used in the noise model for individual or groups of noise sources (greyhounds).

    Based on a level of $L_{Aeq,\ 15\ min}$ 70 dBA, and assuming this is for one dog only and measured at 10 metres (equivalent to a sound power level of 98 dBA for an individual dog), we calculate the level of only **one** dog within a kennel to be $L_{Aeq,\ 15\ min}$ 41 dBA at R2 – which exceeds the project noise trigger levels established in Table 6 by 1 dB and would exceed a revised project noise trigger levels based on the actual measured RBLs by an even greater level.

    Increasing this for 400 dogs barking would significantly exceed the noise criteria and create an unacceptable noise impact for residents.

    Day Design advise that if a level of $L_{Aeq,\ 15\ min}$ 70 dBA has been adopted for all groups of greyhounds in the kennels, the noise emissions from the use of the Site are significantly underestimated.

    Based on the above, in its current form, the Updated Stantec Report should not be relied on as the ongoing acoustic amenity of the nearby residential receivers cannot be assured.

17. Updated Stantec Report, Section 5.2.1, page 11, it is agreed that noise enhancing weather meteorological conditions should be adopted for the assessment. It is however queried as to why they have not also been identified and assessed for the day and evening periods.

An updated assessment should be provided that includes an assessment of noise enhancing weather meteorological conditions during all time periods.

18. Updated Stantec Report, Section 5.2.2, page 12, paragraph 1, this paragraph would infer that the level of $L_{Aeq,\ 15\ min}$ 70 dBA has been adopted as the noise source for each kennel. See paragraph 16 above for detail.

    It is noted that the measured level of $L_{Aeq,\ 15\ min}$ 70 dBA is a sound pressure level, no conversion to a sound power level (which are typically input into a noise model) has been provided in the Updated Stantec Report. This level is significantly underestimated for 400 dogs.

19. Updated Stantec Report, Section 5.3, page 13, paragraph 1, noted statement that the 'typical scenario' has been assessed against the day, evening and night criteria.

20. Updated Stantec Report, Section 5.3.1, page 13, Figure 6, for the reasons outlined in paragraph 16 of this report, the noise 'heat map' cannot be relied on.

21. Updated Stantec Report, Section 5.3.1, page 13, paragraph 3, as outlined in paragraph 19 above, the author has advised that the 'typical scenario' has been assessed against the day, evening and night criteria, however in Section 5.3.1, page 13, paragraph 3 states that the *'most stringent average noise criteria for the receivers is 40 dBA'* – which is the day time criteria shown in Table 6.

    An updated assessment should be provided that clearly details which assessment criteria are considered as the most stringent, and which have been assessed.

    In its current form, the Updated Stantec Report should not be relied on as the ongoing acoustic amenity of the nearby residential receivers cannot be assured.

22. Updated Stantec Report, Section 5.3.1, page 14, Table 9. Based on the information provide in paragraphs 16 to 18 of this report, Day Design is of the opinion that the predicted noise levels at the receiver locations provided in Table 9 are underestimated. In addition, based on the information provide in paragraphs 8 to 13 of this report, Day Design is of the opinion the assessment criteria is incorrect and will not protect the acoustic amenity of the nearby noise sensitive receivers.

    In its current form, the Updated Stantec Report should not be relied on as the ongoing acoustic amenity of the nearby residential receivers cannot be assured.

23. Updated Stantec Report, Section 5.3.2, page 15, Table 10. Based on the information provide in paragraphs 12 and 13 of this report, Day Design is of the opinion the assessment criteria is incorrect and will not protect the acoustic amenity of the nearby noise sensitive receivers.

    In its current form, the Updated Stantec Report should not be relied on as the ongoing acoustic amenity of the nearby residential receivers cannot be assured.

24. Updated Stantec Report, Section 6, page 16, this Section is likely to require revisions once the correct/appropriate project noise trigger levels are adopted and a revised assessment/report is provided.

Revisions may include a limit on the number of greyhounds permitted outside at any given time, sound barrier walls and a noise monitoring program once the Site is operational to ensure the project noise trigger levels are being met.

25. Updated Stantec Report, Section 7, page 18, *'Conclusion',* the conclusions of this report are **disagreed** as the assessment is not consistent with the requirements of the EPA's *NSW Noise Guide for Local Government* and an offensive noise test has not been carried out, therefore providing no assurance that the acoustic amenity of the nearby potentially affected residential receivers will be maintained during the use of the boarding kennel and training establishment.

In conclusion, it is my professional opinion that, in its current form, the acoustic report prepared to support the recently submitted development application (*DA129/2021*) for the establishment and operation of a boarding kennel and training establishment at Bylong Park, 1949 Martindale Road, Martindale has not been adequately prepared, is not technically correct, and has not demonstrated that if approved, the development will not cause an adverse impact on adjoining land and amenity of the neighbourhood.

Adam Shearer, MDesSc (Audio & Acoustics), BCT (Audio), MAAS
Senior Acoustical Consultant
for and on behalf of Day Design Pty Ltd

AAAC MEMBERSHIP

Day Design Pty Ltd is a member company of the Association of Australasian Acoustical Consultants, and the work herein reported has been performed in accordance with the terms of membership.

The undersigned hereby certifies that this Report has been checked and approved in accordance with our Quality Management System.

Date: 18/8/22