SECTION 96A OF THE PLANNING AND ENVIRONMENT ACT 1987

Appendix L Acoustic Report

PREPARED FOR 108 & 110 PARR STREET PTY LTD

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108 & 110 PARR STREET, LEONGATHA

Acoustic Report for Section 96A Permit Application

Prepared For

110 PARR ST PTY LTD C/- RURAL SUBDIVISION SPECIALISTS

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Subject	Acoustic Report for Section 96A Rezoning Permit Application
Client	110 Parr St Pty Ltd c/- Rural Subdivision Specialists
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1 Introduction and Scope

Enfield Acoustics has been engaged by 110 Parr Street Pty Ltd c/- Rural Subdivision Specialists (Applicant) to address noise impacts for the proposed residential subdivision of 108 & 110 Parr Street, Leongatha (Subject Land). The application seeks to re-zone the land to residential (currently Farming Zone) and divide the land into 171 lots.

There is a small bus depot located at 131 Parr Street to the north of the Subject Land (within the FZ), which we understand Council has requested to be considered in this application. A small number of proposed lots along the Parr Street frontage are proximate to the bus depot and separated from that land use by the Parr Street reservation. Our assessment is based on the Potential Subdivision Design Layout prepared by Rural Subdivision Specialists, with the bus depot marked up and shown below:

We have not been provided with a planning permit for the bus depot and it is assumed that the site operates on existing use rights.

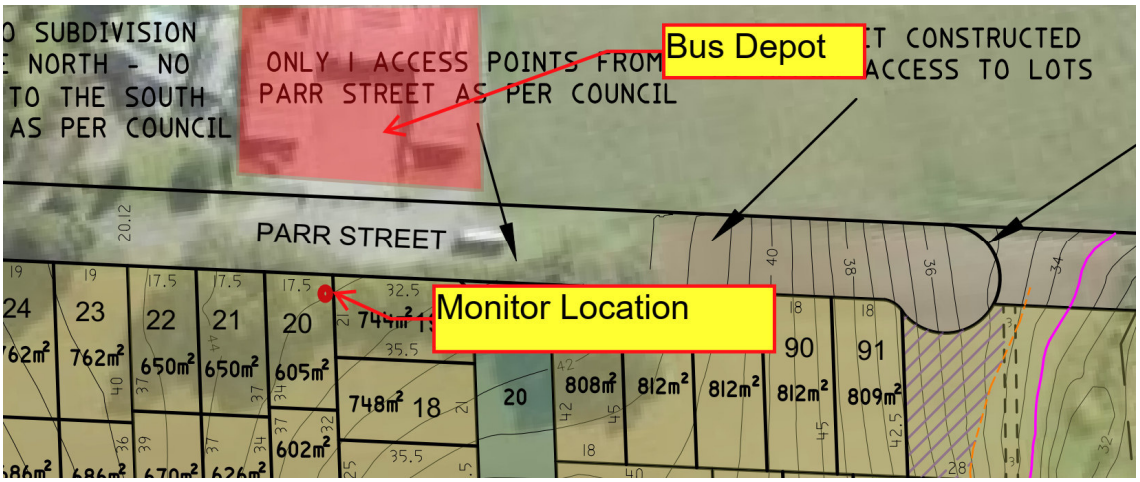
To address Council's concern, Enfield Acoustics has carried out observations and noise monitoring along the Subject Land boundary opposite the bus depot to understand the noise emissions and to determine what impacts might arise as a result of the proposed subdivision.

2 Site Inspection

Enfield Acoustics visited the Subject Land on 7 August 2023 to survey the bus depot operation and install an unattended noise monitor capable of recording audio (for the purpose of identifying

buss departures and returns). The noise monitor was retrieved on 15 August 2023 after 8 days of monitoring.

A site map showing the Subject Land, bus depot and measurement location is provided below:



From our site survey, it was observed that bus departures and entries would generate noise both while on the operators land and while on Parr Street.

Our assessment considers reverse amenity impacts so that the bus depot is not prejudiced. There are already existing dwellings proximate the bus depot, including 119 Parr Street to the west within the GRZ1. To that end, the bus depot would already have some obligiation to comply with the regulatory requirements.

When buses are on the road reserve, there are no regulatory requirements with regard to noise impacts, as noise on public roads is exempt from noise policy. This includes when buses would be travelling along Parr Street past the existing GRZ1 into town. To that end, the impacts at proposed dwellings on the Subject Land would be equivalent to that which already occurs at existing dwellings along Parr Street. Regardless, it may be considered best practice for proposed dwellings to be designed to minimise noise impacts from buses travelling on the road reservation through appropriate construction, including minimum forms of glazing.

The Applicant has already engaged with the owner of the bus depot and our instructions are that:

- The current diesel bus fleet will change to electric vehicles, which is likely to reduce noise levels in the future, potentially by the time that the subdivision is developed and occupied; and
- There is single service departure that occurs before 7am.

3 Policy Requirements

3.1 Noise Protocol

Noise from any commercial and/or industrial use must comply with the EP Regulations 2021 and *Publication 1826: Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* (Noise Protocol).

The Subject Land is outside of the UGB and any Major Urban Area and therefore the 'rural method' applies under the Noise Protocol. Under this method, noise limits are based on zoning interfaces as follows:

Noise Protocol Noise Limits	Day (0700-1800)	Evening (1800-2200)	Night (2200-0700)
FZ to GRZ	46 dB(A)	41 dB(A)	36 dB(A)

The Noise Protocol limits relate to external noise impacts on residential land and so are not addressed by dwelling construction under the policy. That said, we are aware of many planning decisions that have allowed for residential development to be constructed so that internal amenity to reasonably protected, noting that this is more reflective of residential amenity during sensitive hours (i.e. sleep).

3.2 Public Road Use

As discussed above, noise from public roads are not a prescribed source under noise policy. It may however be considered best practice for noise impacts to be minimised through appropriate construction, where dwellings front the road. Typical best practice would be to consider sleep disturbance thresholds, commonly adopted to be 50-55dB(A) L_{max} inside dwelling bedrooms.

4 Noise Monitoring Data

Based on our observations on site and upon review of the noise monitoring data, there are only limited periods of noise emitted by the bus depot, which appears to align with typical morning and afternoon pickups (assumed to correspond with school hours). Based on the monitoring data collected, the key periods of noise emission for buses departing and returing appear to be consistent each day being:

- Approximately 6:30am – 9am
- Approximately 2:30pm – 4pm

There appears to be other more sporadic movements during the day and occasionally up until 6pm however the number of bus movements throughout the day is not critical to the assessment as the Noise Protocol assessment is based on any 30-minute period.

The measured noise emission from the bus depot was found to be consistent at 46dB(A) $L_{eq,30\text{-}min}$. Buses on the the road reservation emitted shorter periods of higher noise during acceleration, ranging 59-72dB(A) L_{max}.

Based on the measurement results over 8-days, the bus depot would comply with the Noise Protocol at the Subject Land for operations between 7am-6pm, however would exceed the noise limit during the 6:30am-7am startup period.

5 Recommendations

As stated above, the electrification of vehicles at the bus depot would also reduce any residual impacts, though is not relied on in our assessment.

Two options were considered for noise attenuation: building (glazing) controls or an acoustic fence. In discussions with Council and the Applicant, the preferred option is to utilise building controls, which will be enforced under a Section 173 Agreement or restrictive covenant on land titles. This is the preferred outcome of both parties in order to mitigate the amenity impacts on the public realm. As noted in planning decisions, building controls with enforceable agreements/covenants on title, are a commonly accepted response in scenarios similar to the subject properties.

The mitigation requirements for the building controls have been modelled and the following is recommended to ensure reasonable internal noise amenity during the pre-7am bus service:

- Leq noise target of 16dB(A), which would be equivalent to the external noise limit minus 20dB, as required at Clause 90 of the Noise Protocol (noting that this would likely mean that the noise source would be inaudible in practice); and
- L_{max} noise target to be no greater than 50dB(A), consistent with best practice sleep disturbance targets.

Based on the modelling, the following construction controls are recommended (noting that there would be some margin for error where dwellings are sited further from the bus depot):

- Lots 19 & 20:
    - 1. All north, east & west facing habitable room windows to have a minimum sound insulation rating of Rw48; or
    - Be constructed of secondary glazing, nominally 6mm laminated glass / 100mm airgap / 10mm laminated glass (noting that operable windows in this scenario typically means a sliding jockey sash on the inside and an awning window on the outside).

    - 2. South facing habitable room windows can be constructed with normal glazing requirements, and do not require noise attenuation measures.

- Lots 21-24:
    - 1. All north and east facing habitable room windows to have a minimum sound insulation rating of Rw48; or

- Be constructed of secondary glazing, nominally 6mm laminated glass / 100mm airgap / 10mm laminated glass (noting that operable windows in this scenario typically means a sliding jockey sash on the inside and an awning window on the outside).

- 2. All other habitable room windows (except south facing) to have a minimum sound insulation rating of Rw30; or
- Be constructed of double glazing, nominally, 6/12/6, with sliding windows prohibited.

- 3. South facing habitable room windows can be constructed with normal glazing requirements, and do not require noise attenuation measures.

- Lots 87-89:
  - 1. All north and west facing habitable room windows to have a minimum sound insulation rating of Rw48; or
  - Be constructed of secondary glazing, nominally 6mm laminated glass / 100mm airgap / 10mm laminated glass (noting that operable windows in this scenario typically means a sliding jockey sash on the inside and an awning window on the outside).

  - 2. All other habitable room windows (except south facing) to have a minimum sound insulation rating of Rw30; or
  - Be constructed of double glazing, nominally, 6/12/6, with sliding windows prohibited.

  - 3. South facing habitable room windows can be constructed with normal glazing requirements, and do not require noise attenuation measures.

- Lots 25-29:
  - 1. All habitable room windows (except south facing) to have a minimum sound insulation rating of Rw30; or
  - Be constructed of double glazing, nominally, 6/12/6, with sliding windows prohibited.

  - 2. South facing habitable room windows can be constructed with normal glazing requirements, and do not require noise attenuation measures.

A Noise Attenuation Plan in accordance with the above recommendations is provided at Appendix A to this report.

6 Conclusion

We are satisfied that a permit can be issued for the proposed 171 lot subdivision at 108 & 110 Parr Street, Leongatha, noting the following:

1. While a risk of noise impact from current operations at the adjacent bus depot has been identified for operations prior to 7am, reasonable noise amenity can still be achieved through built-form and window construction which is the preferred planning outcome of Council and the Applicant.

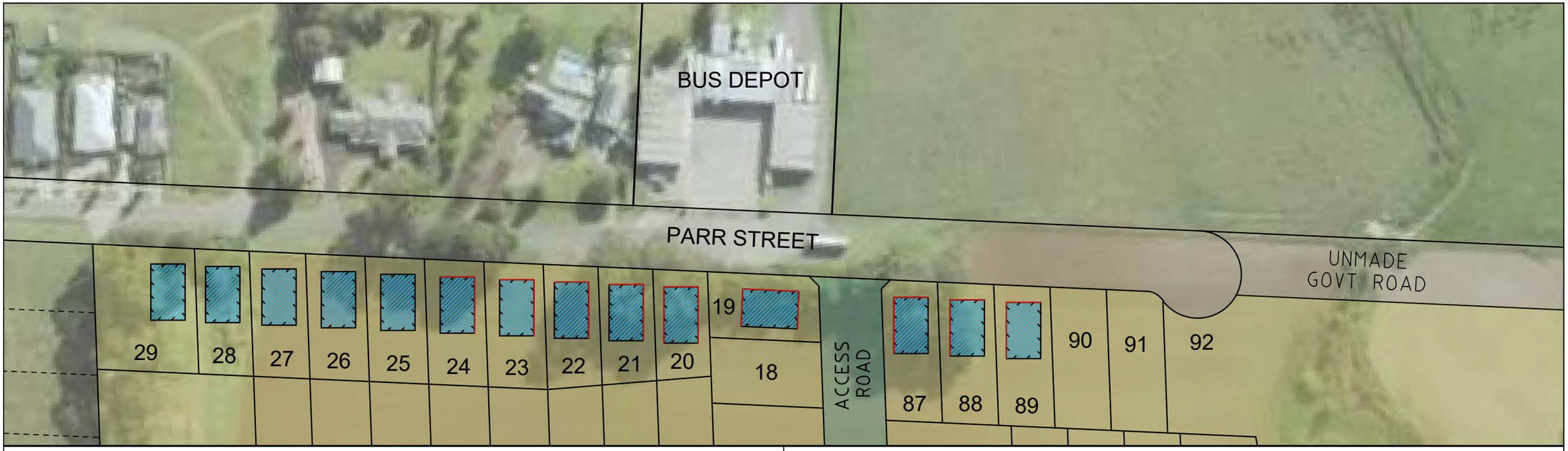
2. Secondary glazing is recommended for the habitable rooms facing the bus depot for Lots 19-24 and 87-89, with double glazing for the non-facing habitable rooms.

3. Double glazing is recommended for the habitable rooms of Lots 25-29.

4. Notwithstanding any of the requirements in points 2 and 3 above, all south facing habitable room windows in Lots 19-29 and 87-89 do not require noise attenuation glazing construction requirements.

5. Developer design guidelines, a Section 173 Agreement or restrictive covenants will encumber the titles for the identified lots above fronting Parr Street, to enforce the construction requirements in accordance with the minimum forms of glazing recommended. With a note in the agreement that if the bus depot where to relocate or shut down, the glazing controls outlined in this document are no longer required.

Appendix A: Noise Attenuation Plan



NOTES:
- Noise attenuation from the bus depot is proposed in the form of building controls, ie glazing standards
- Lots 19 - 29 and lots 87 - 89 to have glazing controls, which will be enforced with Section 173 Agreements or Covenants encumbering their titles. These lots are shown above with indicative building envelopes
- There are two glazing control standards proposed for the future dwellings on the abovementioned lots, which are described below:

Lots 25-29 with indicative building envelopes that have no red line: All habitable room windows (except south facing) to have a minimum sound insulation rating of Rw30, or, be constructed of double glazing, nominally, 6/12/6, with sliding windows prohibited.

Lots 19-24 and lots 87-29 with indicative building envelopes that have a red line: All red line facing habitable room windows to have a minimum sound insulation rating of Rw48, or, be constructed of secondary glazing, nominally 6mm laminated glass / 100mm airgap / 10mm laminated glass (noting that operable windows in this scenario typically means a sliding jockey sash on the inside and an awning window on the outside).
All non red line facing habitable room windows (except south facing) to have a minimum sound insulation rating of Rw30, or, be constructed of double glazing, nominally, 6/12/6, with sliding windows prohibited.

Notwithstanding any of the points above, all south facing habitable room windows can be constructed with normal glazing requirements, and do not require noise attenuation measures.

VERSION 1

NOTES (continued):
- The rectangular building envelopes shown in this document are indicative only. Any future dwelling designs on lots 19-24 and lots 87-89 must consider the essence of this document and the outcome it is trying to achieve, which is to mitigate noise from the bus depot land. Accordingly, any building designs on lots 19-24 and 87-89 with habitable room windows that are facing in the direction of the bus depot land, or could theoretically be seen from the bus depot land, must adhere to the red line glazing standards outlined in this document.

- Noise attenuation measures are not required for the habitable room windows facing south. Accordingly, any building designs on lots 19-29 and 87-89 with habitable room windows facing in a south direction, or any habitable room windows that theoritically cannot be seen from any Parr Street road reserve land, do not require habitable room window glazing above standard requirements.

NOISE ATTENUATION PLAN
108 &110 PARR STREET LEONGATHA