

T&Z ARCHITECTS

**LOT 2401 PORTOFINO PARADE
MINDARIE**

**DEVELOPMENT APPLICATION
PRELIMINARY ACOUSTIC ASSESSMENT**

MAY 2026

OUR REFERENCE: 36368-4-25352-02

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MINDARIE**

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EXECUTIVE SUMMARY

Herring Storer Acoustics have been commissioned through T & Z Architects, to carry out an acoustical assessment of noise emissions associated with the proposed mixed-use development at Lot 2401 Portofino Parade, Mindarie.

This is a preliminary assessment to ascertain if the proposed development is capable of complying with the relevant Regulations. It is recommended that any restrictions on the use of the development be refrained from being imposed until the actual operations of the proposed tenant are known – at which stage, the operator would need to apply for the relevant approvals through council, and likely liquor licencing through the relevant authorities in the case of the food and beverage tenancies.

Our preliminary assessment of noise levels associated with the proposed alfresco area and potential deliveries to the rear of the proposed tavern tenancy are calculated to comply with the relevant assigned noise levels under certain operating conditions. The following summarises the conditions that are deemed necessary:

- Alfresco areas to be limited to ambient music only.
- Alfresco area not to be utilised during the night period at 100% occupancy
- Delivery dock not to be utilised during the night period.

We note that with the inclusion of the above, compliance is achieved at all times.

It is noted that this is a preliminary noise impact assessment, based upon assumptions of the use of the spaces. It would be appropriate for the operational conditions of the actual occupant to be determine any restrictions on the use of the tenancy – rather than this preliminary assessment, which has been undertaken primarily to ascertain if the proposed uses can be accommodated.

Mechanical services have not been considered in this assessment, as they have not been designed at the early stage of the development. It is considered appropriate that an assessment of the noise impact associated with the mechanical design be a condition of development approval. It is noted that the accommodations for mechanical plant provided in the current designs are such that compliance with the applicable regulatory criteria would not be considered onerous to achieve at all.

Waste management, and noise associated with the collection of waste, has not been assessed as part of this report. Noise levels associated with waste collection are exempt from the requirement of meeting the Assigned Noise Levels stipulated by the Regulations, on the proviso that they are undertaken during specific hours – or – in the event of being outside of these hours, under an approved management plan. This methodology of noise management is the same as what is undertaken by council to manage typical residential bin pick ups.

In the event that waste management from the site will be undertaken by a commercial operator (i.e. not the 'ordinary' council pick up) then this will be undertaken following exactly the same process that council follows for their own waste management.

1.0 INTRODUCTION

Herring Storer Acoustics have been commissioned through T & Z Architects to carry out a preliminary assessment of noise emissions associated with the proposed mixed-use development at Lot 2401 Portofino Parade, Mindarie.

This is understood to have been requested to accompany the development application for the project.

The objectives of the study were to:

- Construct a predictive noise model for noise levels associated with the proposed development.
- Assess the predicted noise levels received at the closest noise sensitive premises, for compliance with the *Environmental Protection (Noise) Regulations 1997*.
- If exceedances are predicted, investigate possible noise control options that will reduce noise emissions to achieve compliance with the Regulations.

For reference, development plans are attached in Appendix A.

2.0 CRITERIA

The *Environmental Protection (Noise) Regulations 1997* stipulate the allowable noise levels at any noise sensitive premises from other premises. The allowable noise level is determined by the calculation of an influencing factor, which is added to the baseline criteria set out in Table 1 of the Regulations. The baseline assigned noise levels are listed in Table 2.1.

TABLE 2.1 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _A 10	L _A 1	L _A max
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35 + IF	45 + IF	55 + IF

Note: The L_{A10} noise level is the noise that is exceeded for 10% of the time.
The L_{A1} noise level is the noise that is exceeded for 1% of the time.
The L_{Amax} noise level is the maximum noise level recorded.

It is a requirement that noise from the site be free of annoying characteristics (tonality, modulation and impulsiveness) at other premises, defined below as per Regulation 9.

- “impulsiveness”** means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax Slow}$ is more than 15dB when determined for a single representative event;
- “modulation”** means a variation in the emission of noise that –
- (a) is more than 3dB $L_{A Fast}$ or is more than 3dB $L_{A Fast}$ in any one-third octave band;
 - (b) is present for more at least 10% of the representative assessment period; and
 - (c) is regular, cyclic and audible;
- “tonality”** means the presence in the noise emission of tonal characteristics where the difference between –
- (a) the A-weighted sound pressure level in any one-third octave band; and
 - (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,
- is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A Slow}$ levels.

Where the above characteristics are present and cannot be practicably removed, the following adjustments are made to the measured or predicted level at other premises.

TABLE 2.2 – ADJUSTMENTS FOR ANNOYING CHARACTERISTICS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB

Where the noise emission is music, then any measured level is adjusted according to Table 2.3 below.

TABLE 2.3 – ADJUSTMENTS TO MEASURED MUSIC NOISE LEVELS

Where impulsiveness is not present	Where impulsiveness is present
+10 dB(A)	+15 dB(A)

The nearest noise sensitive premises considered in our assessment are as shown in Figure 1 below. It is noted that potential noise sensitive premises have been considered in this assessment, with all locations assumed to be two storeys. In the instances of the “laneway” residences, the areas fronting the laneways are highly likely to consist of garages (i.e. not assessable locations) however have been conservatively considered to be potential locations.

The dwellings proposed as part of the development have also been considered in this assessment.

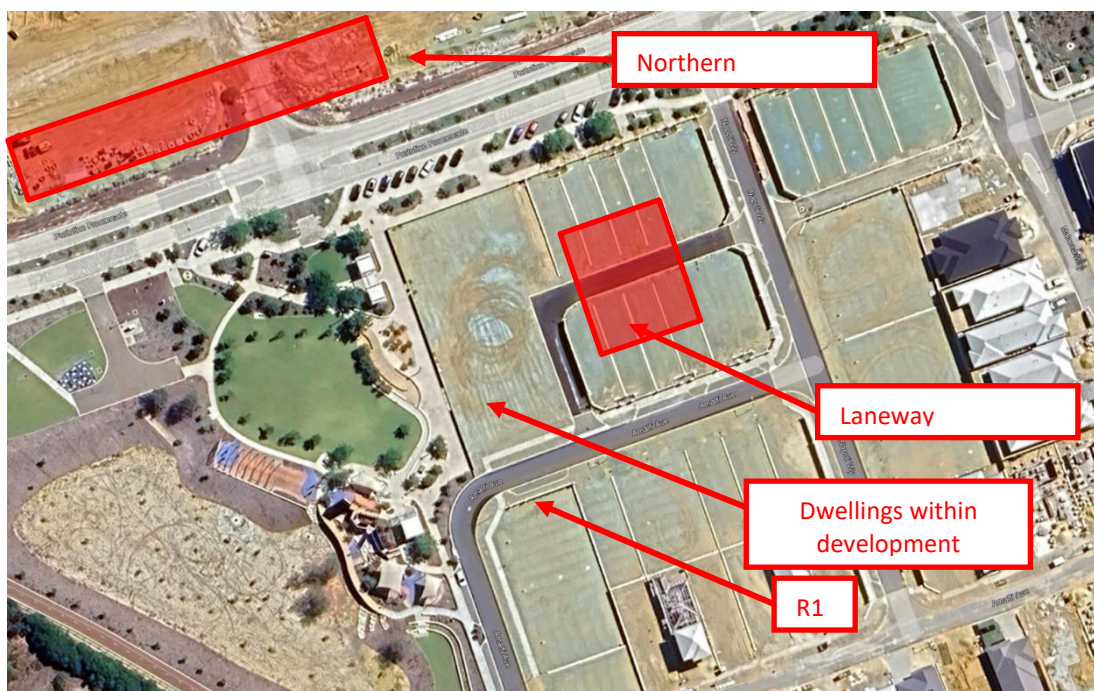


FIGURE 1 – DEVELOPMENT LOCATION AND SURROUNDS

The influencing factor at the identified noise sensitive premises has been determined as 1 dB.

The influencing factor calculation has been based on the following:

Commercial Premises within the inner circle;
20 % + 1 dB

Total IF + 1 dB

Therefore, the assigned noise levels are listed in Tables 2.4.

TABLE 2.4 - ASSIGNED OUTDOOR NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	46	56	66
	0900 - 1900 hours Sunday and Public Holidays	41	51	66
	1900 - 2200 hours all days	41	51	56
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	36	46	56

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

It is noted that under the Environmental Protection (Noise) Regulations 1997, the noise received at a premise from the collection of waste does not need to comply with the Assigned Noise Levels, provided it is carried out in accordance with Regulation 14A of the Regulations.

In summary, waste collection carried out during the following times do not need to comply with the Assigned Noise Levels:

- 0700 hours and 1900 hours on any day that is not a Sunday or a public holiday;
- Or
- 0900 hours and 1900 hours on a Sunday or a public holiday.

For information waste collection carried out during the above times is classified as **Class 1 works**. **Class 2 works** means specified works carried out otherwise than between the hours specified in the definition of class 1 works.

Note: Class 2 works also do not need to comply with the assigned noise levels, provided certain requirements, including operating under an approved Noise Management Plan, are followed.

For information it is also noted that, under the Regulations, the above requirements apply to “specified works”. Specified works, includes:

- a) The collection of waste, or
- b) The cleaning of a road or the drains for a road; or
- c) The cleaning of public places, including footpaths, cycle paths, car parks and beaches; or
- d) The maintenance of road verges and public open space (including the collection of rubbish and the planting, trimming, watering or removal of trees); or
- e) The periodic collection of household items or other things placed on street verges by residents for the purpose of such a collection; or
- f) Activities associated with hazard or emergency management.

Waste means waste from domestic or commercial sources and includes:

- a) Putrescible waste; and
- b) Non putrescible waste; and
- c) Recyclable materials.

Thus, based on the above, noise emissions from waste collections do not need to be assessed and does not form part of the acoustical assessment.

3.0 NOISE MODELLING AND RESULTS

From information provided, a noise model was developed of the proposed development, which is understood to consist of a food and beverage tenancy to the west side of the development, along with a row of dwellings (to the south west of the development) and five assumedly retail tenancies fronting the north side of the development.

Noise emissions from within the buildings have been assumed to be able to be contained within the building, with this preliminary assessment considering external noise sources only.

External noise levels associated with the food and beverage tenancy have been assumed to consist of patrons within alfresco areas (to the west side of the development) or through the bifold doors on this facade.

Noise levels within the external areas has been assumed to be 60 dB(A)/m² sound power level. This noise level is representative of seated dining – akin to external restaurant/café patrons. This noise levels was arrived at following discussions with T&Z in regards to the likely use of the tenancy, which is understood to be likely to be a café/restaurant, rather than a tavern type use.

This noise level has been utilised as the sound power level for the alfresco area as it has been utilised for numerous assessments of a similar nature and has been confirmed as being sufficiently accurate for the purposes of assessment.

Any music in the alfresco areas, or from inside, has been considered to be ambient only, and not significantly contributing to the noise received at neighbouring premises. It is noted that with ambient music noise levels, there is the additional assumption that the music would not contain significant levels of low frequency noise (i.e. bass component).

Bifold windows/doors have been assumed to be open – with any music internally at background/ambient level. In the event of music being played at any significant level, these openings would need to be closed – with the exception of the sliding door facing the “Through Site Link” which has been assumed to be normally closed.

Noise emissions associated with mechanical services has not been included in this assessment, as the mechanical design has not been undertaken at this stage of the project. This design work would be undertaken during the design development phase of the project, and it would be considered appropriate – and the norm – for an assessment of noise impacts associated with the mechanical design to be undertaken during the design development phase. Accommodation for mechanical plant has been provided in the design on the roof of both the commercial premises, and the dwellings, as shown in Figure 2 below. These locations, with the barrier effect that would be provided, would be sufficient to ameliorate the likely mechanical plant that would be included with the development.

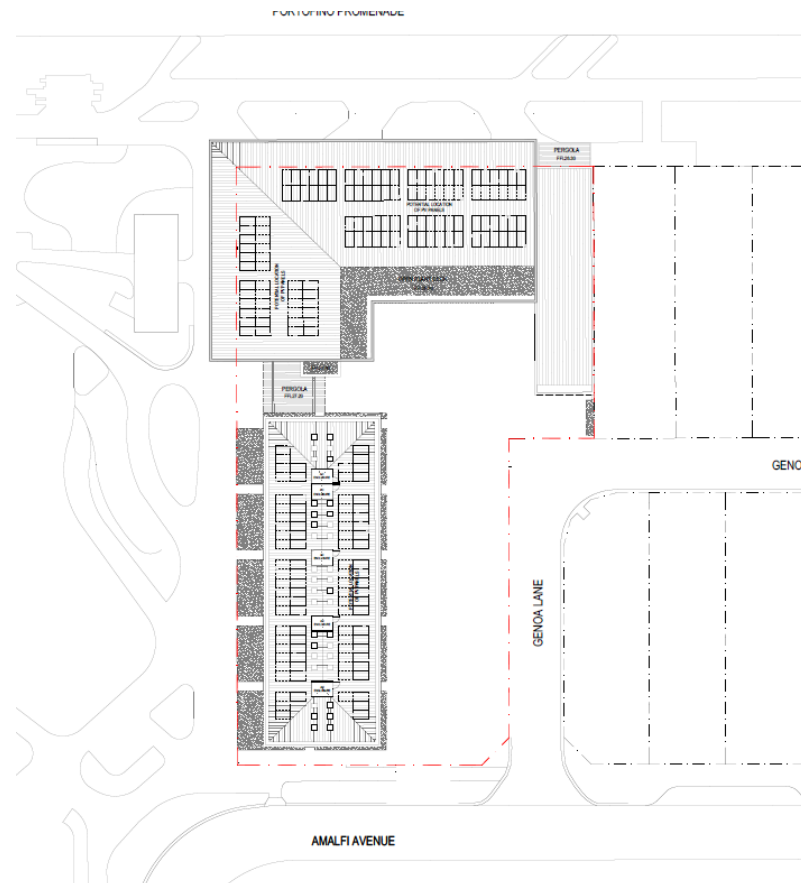
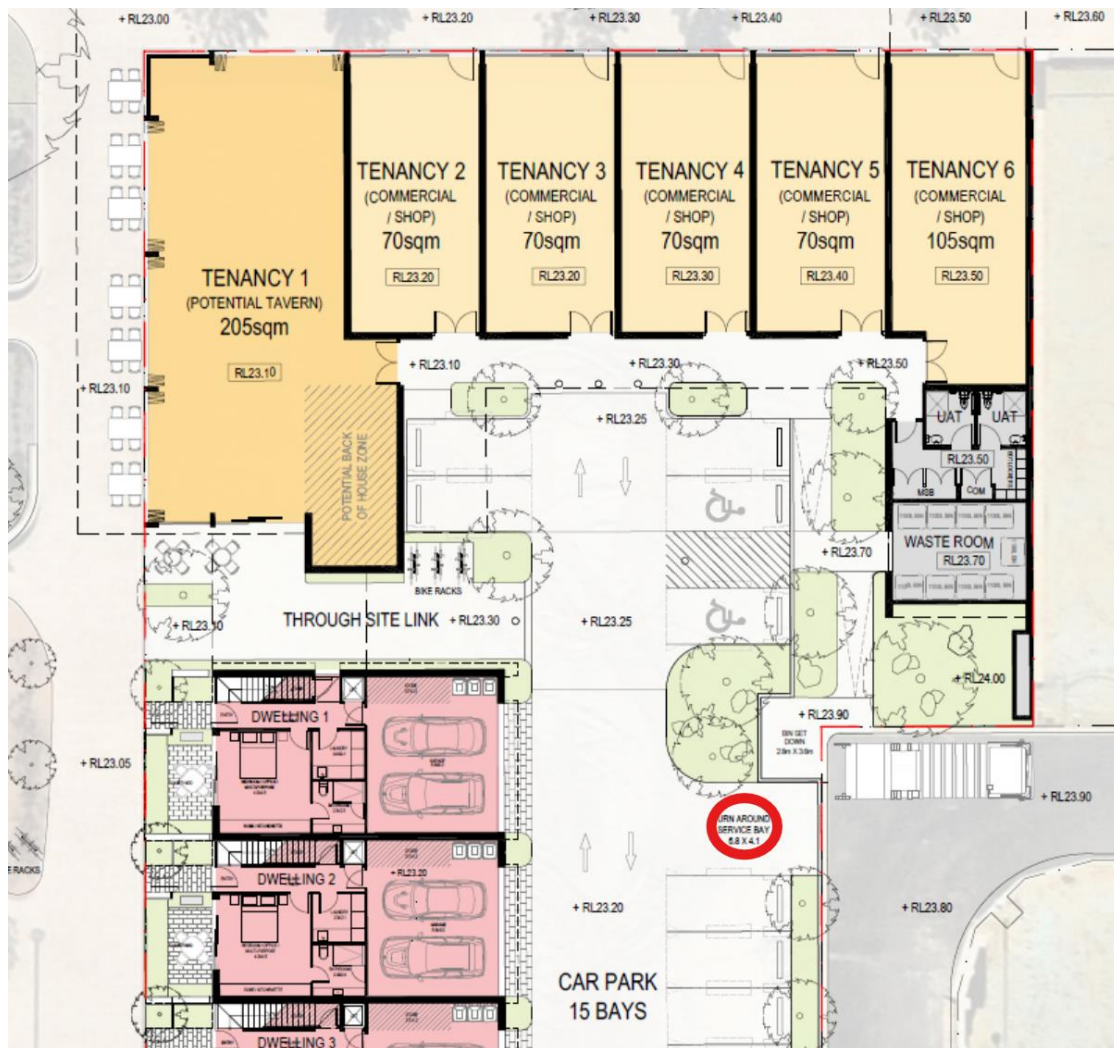


FIGURE 2 – ROOFTOP WITH MECHANICAL PLANT LOCATION PROVISIONS

Delivery trucks have been assumed to the rear of the potential tavern, in the bay indicated in Figure 3 below. The noise level associated with the manoeuvring of such a delivery truck has been assumed at sound power level 85 dB(A), based upon noise level measurements of these sorts of trucks.



Notes:

- 1 For the noise to be less than 10% of the time and be assessed under the L_{A1} assigned noise levels, the truck engines would need to be turned off while unloading is occurring. This is understood to be able to be accommodated and presents as standard practice in many delivery docks in Western Australia. The requirement to do so would be expected to be incorporated into the operational noise management plan once constructed.
- 2 The L_{A1} assigned noise level would be the pertinent prescribed noise level in this instance (for delivery truck movements) as the duration of time that the noise of the truck manoeuvring is present is less than 10% of a representative time period. The noise associated with the delivery is the manoeuvring of the truck into place, upon which the truck is switched off – hence – even if the delivery takes some time (i.e. 30 – 60 minutes) the noise level associated with the truck is not present throughout the duration of the delivery.
- 3 The representative time period for deliveries has been considered in this context to be reasonable to be in the order of 1 hour – as this is the typical duration of a delivery.
- 4 It is noted that this also means the noise assessment is more “realistic” as if the L_{A10} parameter was to be used as the noise level associated with the truck is not present for more than 10% of a representative time period, the L_{A10} noise level would be at the ambient noise level of the area, rather than the truck noise.

Noise levels at the identified noise sensitive premises, are listed in Table 3.1. Noise contour plots are included for information purposes in Appendix B.

TABLE 3.1 – CALCULATED NOISE LEVELS AT NOISE SENSITIVE PREMISES

Location	Calculated Noise Level dB(A)	
	Alfresco Patrons	Truck Delivery
Northern Residences	30	16
Laneway Residences	17	47
Dwellings within Development	41	47
R1	25	24

4.0 ASSESSMENT

Noise levels associated with the alfresco areas of the food and beverage tenancy are to be limited to patron noise only, with background music to be restricted to a level such that it does not significantly contribute to the noise emissions of the development.

Based on the definitions of tonality, noise emissions from truck movements, being an L_{A1} , and present for less than 10% of the time, would not be considered tonal.

Hence, no adjustment to the calculated noise levels would be applicable in accordance with the *Environmental Protection (Noise) Regulations 1997*.

Therefore, Table 4.1 and 4.2 summarises the assessment of the calculated noise levels against the pertinent Assigned Noise Levels.

TABLE 4.1 – ASSESSMENT OF ALFRESCO PATRON NOISE

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L_{A10} Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
Northern Residences	30	Day	46	Complies
		Sunday Public Holiday Day Period	41	Complies
		Evening	41	Complies
		Night	36	Complies
Laneway Residences	17	Day	46	Complies
		Sunday Public Holiday Day Period	41	Complies
		Evening	41	Complies
		Night	36	Complies
Dwellings within Development	41	Day	46	Complies
		Sunday Public Holiday Day Period	41	Complies
		Evening	41	Complies
		Night	36	+ 5 dB
R1	25	Day	46	Complies
		Sunday Public Holiday Day Period	41	Complies
		Evening	41	Complies
		Night	36	Complies

TABLE 4.2 – ASSESSMENT OF LOADING DOCK NOISE

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L _{A1} Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
Northern Residences	16	Day	56	Complies
		Sunday Public Holiday Day Period	51	Complies
		Evening	51	Complies
		Night	46	Complies
Laneway Residences	47	Day	56	Complies
		Sunday Public Holiday Day Period	51	Complies
		Evening	51	Complies
		Night	46	+ 1 dV
Dwellings within Development	47	Day	56	Complies
		Sunday Public Holiday Day Period	51	Complies
		Evening	51	Complies
		Night	46	+ 1 dB
R3	24	Day	56	Complies
		Sunday Public Holiday Day Period	51	Complies
		Evening	51	Complies
		Night	46	Complies

As can be seen from the above table, noise levels associated with the proposed alfresco areas and delivery dock are calculated to comply with the relevant assigned noise levels under certain operating conditions. The following summarises the conditions that are deemed necessary:

- Alfresco areas to be limited to ambient music only.
- Alfresco area not to be utilised during the night period at 100% occupancy
- Delivery dock not to be utilised during the night period.

We note that with the inclusion of the above, compliance is achieved at all times.

It is further noted that this is a preliminary noise impact assessment, based upon assumptions of the use of the spaces. Should the alfresco area be utilised for breakfast (i.e. prior to 0700 hours Monday to Saturday, or 0900 on Sundays) compliance is likely to be achievable, if the alfresco space is utilised such that the areas further away from the dwellings are utilised at this time.

It would be appropriate for the operational conditions of the actual occupant to be determine any restrictions on the use of the tenancy – rather than this preliminary assessment, which has been undertaken primarily to ascertain if the proposed uses can be accommodated – which they can.

5.0 CONCLUSION

Noise level impacts associated with the proposed mixed-use development have been considered able to comply with the relevant assigned noise levels stipulated by the *Environmental Protection (Noise) Regulations 1997*. Whilst a detailed noise impact assessment of mechanical services has not been carried out at this preliminary stage – as detailed design would not be undertaken until development approval is granted – given the locations allocated for mechanical plant, both the mechanical services associated with the residential dwellings and commercial premises are considered readily able to comply with the Regulations.

Noise level emissions, based upon the above assessment, associated with the proposed tavern can comply with the Assigned Noise Level stipulated by the *Environmental Protection (Noise) Regulations 1997*.

APPENDIX A

DEVELOPMENT PLAN



LOT 2401 PORTOFINO PROMENADE

NEW LOCAL CENTRE + TOWNHOUSE DEVELOPMENT

SITE PLAN



SCALE: 1:200 @ A1
DATE: 11/05/2025
DRAWN: MZ
DESIGNED: MZ
JOB NO: 229902
DRAWING: DA-1100 REV: H



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APPENDIX B

NOISE CONTOUR PLOT

