# Decibell Consulting pty Ltd

**Proposed Multiple Dwellings,**
**(20 x 3 Bedroom Units)**
**10 Poole Way**
**Bushland Beach,**

## ENVIRONMENTAL NOISE IMPACT REPORT

Prepared for

**Poole Way Pty Ltd**

**21th March 2026**
Decibell Report No.: 2603476

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# Contents

# 1.0 INTRODUCTION

This report is submitted in response to a request by JFP Urban Consultants on behalf of Poole Way Pty Ltd for an environmental noise impact assessment of 20 proposed Multiple Dwellings to be located at 10 Poole Way, Bushland Beach. This report seeks to respond to Request Item 1- Acoustic Assessment of the Information Request issued by the Townsville City Council in relation to the development on the 9 th December 2025

On-site noise logging and attended noise measurement were conducted, and through modelling, predictions of impacts on the neighbouring residences from the development have been produced. Based upon these predicted levels, recommendations regarding acoustic treatments and management practices have been specified.

## 1.1 The Proposal

The proposal is to construct twenty townhouse units on a vacant site at 10 Poole Way Bushland beach. The proposed townhouse units will all be two levels and be a mixture of three-bedroom configurations.

Vehicular access to the site will be via driveway off Poole Way that will run through the centre of the site. Parking for the will be provided through individual garages that will be provided to each of the townhouses; thirteen outdoor car spaces in front of the townhouses and four visitor car spaces. A wash bay will also be provided on site for the use of future residents.

The site is located directly across Mount Low Parkway from the proposed development is the Bushlands Beach Shopping centre. Located on the northern side of the centre is located a loading area. Noise impacts from this area on the proposed development will be considered in this report.

Although the site is vacant at the moment and is surrounded by two vacant sites a child care centre has been approved for development at the neighbouring site at 2 Poole Way. Noise impacts from the proposed child care centre on the surrounding area were considered in the Development Application for the childcare centre. A number of measures were proposed to mitigate noise impacts in the surrounding area as part of this development. However, potential noise impacts from the child care centre on the proposed development will be considered in this report.

An aerial photograph showing the proposed location of the development along with plans of the development is included in the appendix to this report.

For further details of the development layout refer to appendix for site and building plans.

# 2.0 EQUIPMENT

## 2.1 Ambient Noise Assessment

The following equipment was used to record noise impacting onto the site:

- Bruel Kjaer 4231 Calibrator;
- Rion NL 21 Environmental Noise Logger.

# 3.0 MEASUREMENT PROCEDURE

## 3.1 Logger Noise Measurement

A noise logger was used to record existing noise levels at the proposed development site. The location of the logger is indicated on an aerial photograph included below.


**Figure 1: Measurement Location**

The logger was set to record noise statistics in 15-minute blocks continually over from Tuesday 3/03/26 to Thursday 6/03/26. Ambient noise level measurement was conducted generally in accordance with Australian Standard AS1055 2018 - '*Acoustics – Description and Measurement of Environmental Noise*'.

The operation of the sound level measuring equipment was field calibrated before and after the measurement session and was found to be within 0.1 dB of the reference signal. All instrumentation used in this assessment hold current calibration certificate from a certified NATA calibration laboratory.

Weather conditions during the survey period were mainly fine with temperatures ranging from 12˚ C to 28˚ C. However, some brief periods of rain were recorded during the measurement period. These periods have been excluded from the measurements.

## 3.2 On Site Noise Measurement

In order to determined noise impacts from the loading area of the shopping centre two site visits were conducted one on the 3rd March 2026 and a second on the 6th March 2026. In addition to these measurements typical noise levels associated with loading dock activities occurring in this type of development have been taken from previous similar investigations. All measurements were conducted generally in accordance with Australian Standard AS1055 2018 "*Acoustics – Description & Measurement of Environmental Noise"*.

# 4.0 NOISE CRITERIA

## 4.1 Acoustic Amenity

A section of the Townsville Maps interactive mapping showing the location of the site has been reproduced below.


**Figure 2**: Townsville Map -Zone mapping

The mapping identifies the site as been located in a Low-Density Residential zone. Performance Outcome PO10 of the Low-Density Residential requires that the amenity of adjioning development be protected:

***PO10***

*Development minimises impacts on surrounding land and provides for an appropriate level of amenity within the site, having regard to:*

1. *noise;*
2. *hours of operation;*
3. *traffic;*
4. *visual impact;*
5. *odour and emissions;*
6. *lighting;*
7. *access to sunlight;*
8. *privacy; and*
9. *outlook.*

However, the code does not provide an Acceptable Outcome. Given this reference will be made to the Townsville City Plan Planning Scheme Policy *SC6.4.19 Noise and Vibration,*

*Townsville City Plan Planning Scheme Policy SC6.4.19* provides a planning scheme policy for noise and vibration assessment. The policy provides guidance and criteria for noise assessment.

*Amenity Noise Limits*

*Section 6.4.19.1 Amenity Noise Limits* of the *Townsville City Plan Planning Scheme Policy SC6.4.19 Noise and Vibration* sets out the ambient noise level to be achieved within an area from all noise sources combined. The recommended amenity noise levels in Section SC6.4.19. Table SC6.4.19.1 of the policy sets out the maximum recommended amenity levels for various areas and uses. The relevant maximum recommended amenity levels for the site have been reproduced in the table below

***SC6.4.19.1 - Maximum Recommended Amenity of Noise Levels for All Sources***

| ***Receiver*** | ***Noise Amenity Area*** | ***Time of Day*** | ***Maximum Recommended Amenity Noise Level for All Sources $L_{Aeq\ 15\ minutes}$, dB(A)*** |
|---|---|---|---|
| *Residence* | ***Urban** – an area with an acoustical environment that: is dominated by 'urban hum' or industrial source noise has through traffic with characteristically heavy and continuous traffic flows during peak periods is near commercial districts or industrial districts has any combination of the above or where 'urban hum' means the aggregate sound of many unidentifiable, mostly traffic and/or industrial related sound sources.* | *Day* | *60* |
| | | *Evening* | *50* |
| | | *Night* | *40* |

In this report potential noise impacts from the surrounding noise sources on the proposed development will be assessed using the *Amenity Noise Limits.*

## 4.2 Sleep Disturbance

Loading area activities at the nearby shopping centre can occur overnight. As such the potential for sleep disturbance during the night-time period requires consideration. Section *SC6.4.19.6 Noise assessment levels* of the Townsville City Plan provides guidance for the assessment of potential Sleep disturbance:

6. *Potential for sleep disturbance*

   *The potential for sleep disturbance from maximum noise level events from a premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.*

   $L_{Amax}$ *assessment only applies to 'specified noise sources' which are defined as impact noises; hammering; loading/unloading; dropping items; beepers, alarms, bells, phones, sirens; power tools; valve releases; air brakes; door slamming. Note - People noise and vehicle pass-by noise (engine, exhaust, induction, tyres) are specifically excluded. Where the subject development can satisfy the following three maximum noise level event trigger levels no additional assessment or evaluation of sleep disturbance is required:*

   1. $L_{Aeq,}$*15min 40 dB(A) 1 metre from the façade or the existing rating background level plus 5 dB, whichever is the greater.*

   2. *The arithmetic average of the maximum levels from up to 15 single events over a given night-time period* $L_{AFmax}$ *52 dB(A) 1 metre from the façade or the existing rating background level plus 15 dB, whichever is the greater.*

   3. *The absolute highest* $L_{AFmax}$ *60 dB(A) 1 metre from the façade or the existing rating background level plus 15 dB, whichever is the greater.*

In this report potential noise impacts from the surrounding noise sources during the night period on the proposed development will be assessed using the *Sleep Disturbance Criteria.*

## 4.3 Traffic Noise

The State Planning Policy Mapping System Interactive Mapping Tool can be used to identify properties that lie within *Transport Noise Corridors.* A portion of the mapping associated with this Tool showing the site has been reproduced below.

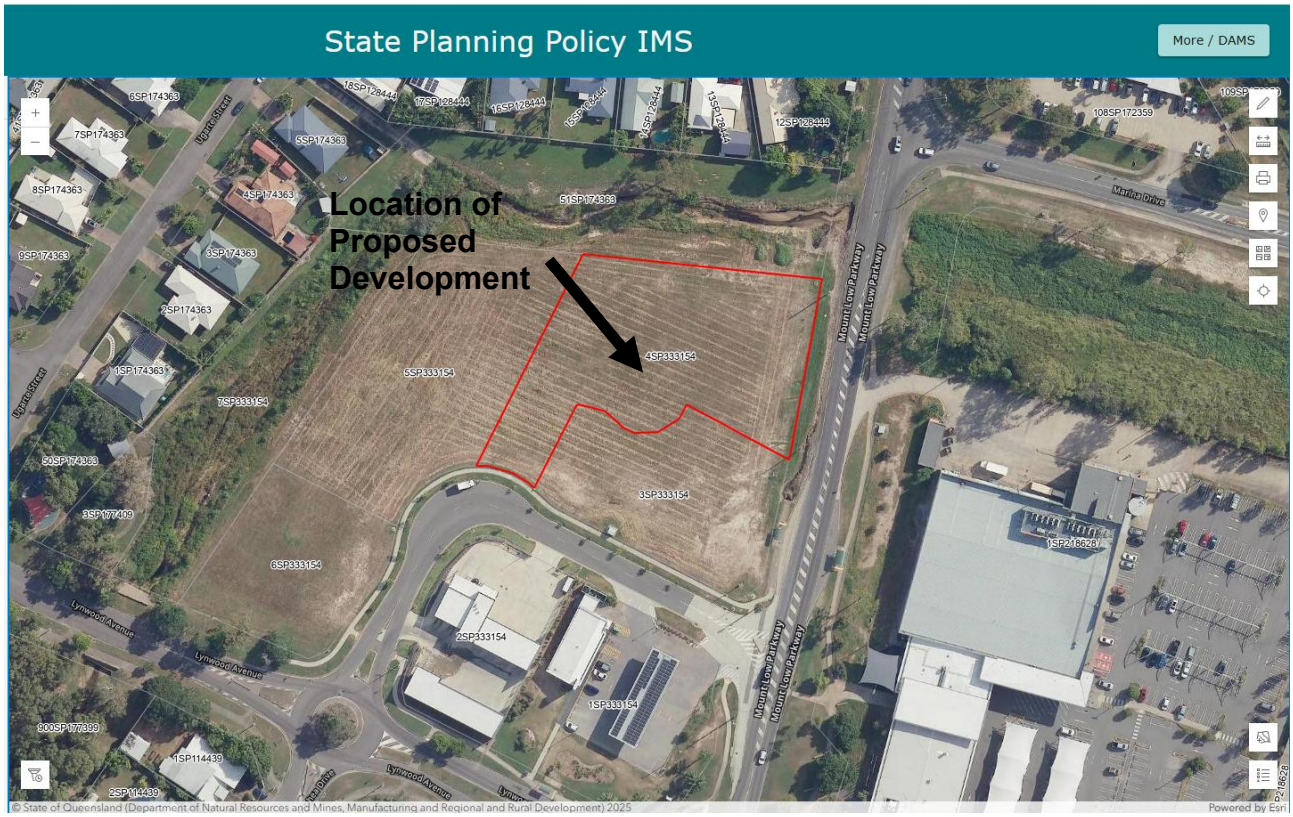


**Figure 2:** *Transport Noise Corridor Overlay Map*

The mapping shows that the site is **Not** with a Transport Noise Corridor nor is it located adjacent to a State Controlled Road. Given this the development is not required to achieve requirements of the Queensland Development Code *MP 4.4- Building in a Transport Noise Corridor* or *State Code 1: Development is a state-controlled road environment.* Additionally, the requirements of *Environmental Protection Act 1994* and *Environmental Protection (Noise) Policy 2019* (EPP Noise), do not apply to traffic noise. Given this as assessment of traffic on the development is not required.

# 5.0 RESULTS & CALCULATIONS

## 5.1 Rating Background Noise Levels and existing ambient Nosie levels at site

In order to determine the *Sleep Disturbance Criteria* from the Section *SC6.4.19.6 Noise assessment levels* of the Townsville City Plan the RBL (Rating Background Level) at the site must firstly be determined. In order to determine the RBL L90 background noise levels have been recorded at the site over a three-day period. This data has been recorded in the table over the page and used to determine the RBL in the table below.

| Time Period | RBL $L_{A90}$ dB(A) | $L_{Aeq}$ dB(A) | $L_{A10}$ dB(A) | $L_{AMAX}$ dB(A) |
|---|---|---|---|---|
| Day 7.00 am – 6.00 pm | 53 | 65 | 68 | 83 |
| Evening 6.00 pm – 10.00 pm | 47 | 63 | 65 | 83 |
| Night 10.00 pm – 7.00 am | 41 | 55 | 56 | 73 |
| Night 6.00 am – 7.00 am | 50 | 63 | 67 | 80 |

**Table 1:** *Rating Background Noise Levels and Ambient Noise Levels*

| | 3/03/2026 | | 4/03/2026 | | 5/03/2026 | |
|---|---|---|---|---|---|---|
| **Time** | **Measured** | **Ascending Order** | **Measured** | **Ascending Order** | **Measured** | **Ascending Order** |
| **7:00** | Rain | 52.4 | 56.4 | 52.1 | Rain | 53.2 |
| **8:00** | Rain | 52.5 | 55.1 | 52.3 | Rain | 53.3 |
| **9:00** | 52.5 | 53.0 | 52.3 | 53.3 | 53.4 | 53.4 |
| **10:00** | 53.1 | 53.1 | 52.1 | 53.8 | 53.2 | 54.2 |
| **11:00** | 53.0 | 53.3 | Rain | 55.1 | Rain | 57.1 |
| **12:00** | 54.5 | 54.5 | Rain | 56.4 | 53.3 | 57.2 |
| **13:00** | 52.4 | 56.2 | 53.3 | 57.2 | 54.2 | 58.3 |
| **14:00** | 53.3 | 57.0 | 53.8 | 57.3 | 57.1 | 58.6 |
| **15:00** | 56.2 | 57.5 | 57.2 | 57.6 | 58.3 | Rain |
| **16:00** | 57.0 | Rain | 57.3 | Rain | 58.6 | Rain |
| **17:00** | 57.5 | Rain | 57.6 | Rain | 57.2 | Rain |
| **ABL - Day** | 52.4 | | 52.1 | | 53.2 | |
| **18:00** | 55.7 | 46.4 | 55.4 | 44.6 | 54.9 | 49.5 |
| **19:00** | 50.1 | 48.0 | 49.9 | 46.5 | 52.4 | 50.6 |
| **20:00** | 48.0 | 50.1 | 46.5 | 49.9 | 50.6 | 52.4 |
| **21:00** | 46.4 | 55.7 | 44.6 | 55.4 | 49.5 | 54.9 |
| **ABL-Evening** | 46.4 | | 44.6 | | 49.5 | |
| **22:00** | 47.2 | 40.5 | 42.4 | 41.1 | 48.6 | - |
| **23:00** | 44.0 | 40.8 | 41.9 | 41.2 | 47.7 | - |
| **24:00** | 41.3 | 41.0 | 41.2 | 41.3 | 46.0 | - |
| **1:00** | 40.5 | 41.3 | 41.1 | 41.9 | Rain | - |
| **2:00** | 40.8 | 42.4 | 41.3 | 41.9 | Rain | - |
| **3:00** | 41.0 | 44.0 | 41.9 | 42.4 | Rain | - |
| **4:00** | 42.4 | 47.2 | 48.5 | 47.5 | Rain | - |
| **5:00** | 48.9 | 48.9 | 48.6 | 48.5 | 46.3 | - |
| **6:00** | 55.2 | 55.2 | 47.5 | 48.6 | 47.4 | - |
| **ABL-Night** | 40.5 | | 41.1 | | - | |
| **RBL-Day** | **52.6** | | | | | |
| **RBL-Evening** | **46.9** | | | | | |
| **RBL-Night** | **40.8** | | | | | |

**Table 2:** *Rating Background Level*

## 5.2 Sleep Disturbance Criteria

Using the RBL's determined in Section 5.1 of this report the *Sleep Disturbance Criteria* have been determined. The proposed Child Care Centre will operate from 6.00 am to 7.00 pm. This means the Child Care Centre only operate for a portion of the *Night* period; that being from 6.00 am to 7.00 am. Because of this the RBL determined for the period 6.00 am to 7.00am will be used to determine the *Sleep Disturbance Criteria* relating to the child care centre.

The Loading Dock can accept deliveries an anytime over the night period. Due to this the RBL determined for the period 10.00 pm to 7.00am will be used to determine the *Sleep Disturbance Criteria* relating to the Loading Dock Activities.

In the table below the *Sleep Disturbance Criteria* for each of the uses has been determined and included.

| | **Average of the highest 15 single $L_{Amax}$ events over a given night period**<br><br>**$L_{AMAX}$ dB(A)** | **The absolute highest single $L_{Amax}$ event over a given night period**<br><br>**$L_{AMAX}$ dB(A)** | **$L_{Aeq}$,15min dB(A) over a given night period** |
|---|---|---|---|
| 6.00 am-7.00 am Child Care Centre | 65 (50 + 15) dB(A) | 65 (50 + 15) dB(A) | 55 (50 + 5) dB(A) |
| 10.00 pm – 7.00 am Load Dock Activities | 56 (41 + 15) dB(A) | 56 (41 + 15) dB(A) | 46 (41 + 5) dB(A) |

**Table 3:** *Sleep Disturbance Criteria*

## 5.3 Childcare Centre Activities

As part of Development Application No. MCU21/0140 relating to the proposed child care centre at 2 Poole Way an acoustic report was prepared by MWA Report Number 21-055 dated 15th October 2021 to assess the noise impacts from the proposed child care centre on the surrounding area.

In order to mitigate noise impacts from the childcare centre on the surrounding area (including the proposed development site) an acoustic barrier will be constructed along the common boundary of the childcare centre and the proposed development site. The location of the barrier is shown on the diagram below which has been taken from the approved acoustic report MWA Report Number 21-055 dated 15th October 2021. This barrier will range in height from 2.0 to 2.5 m.

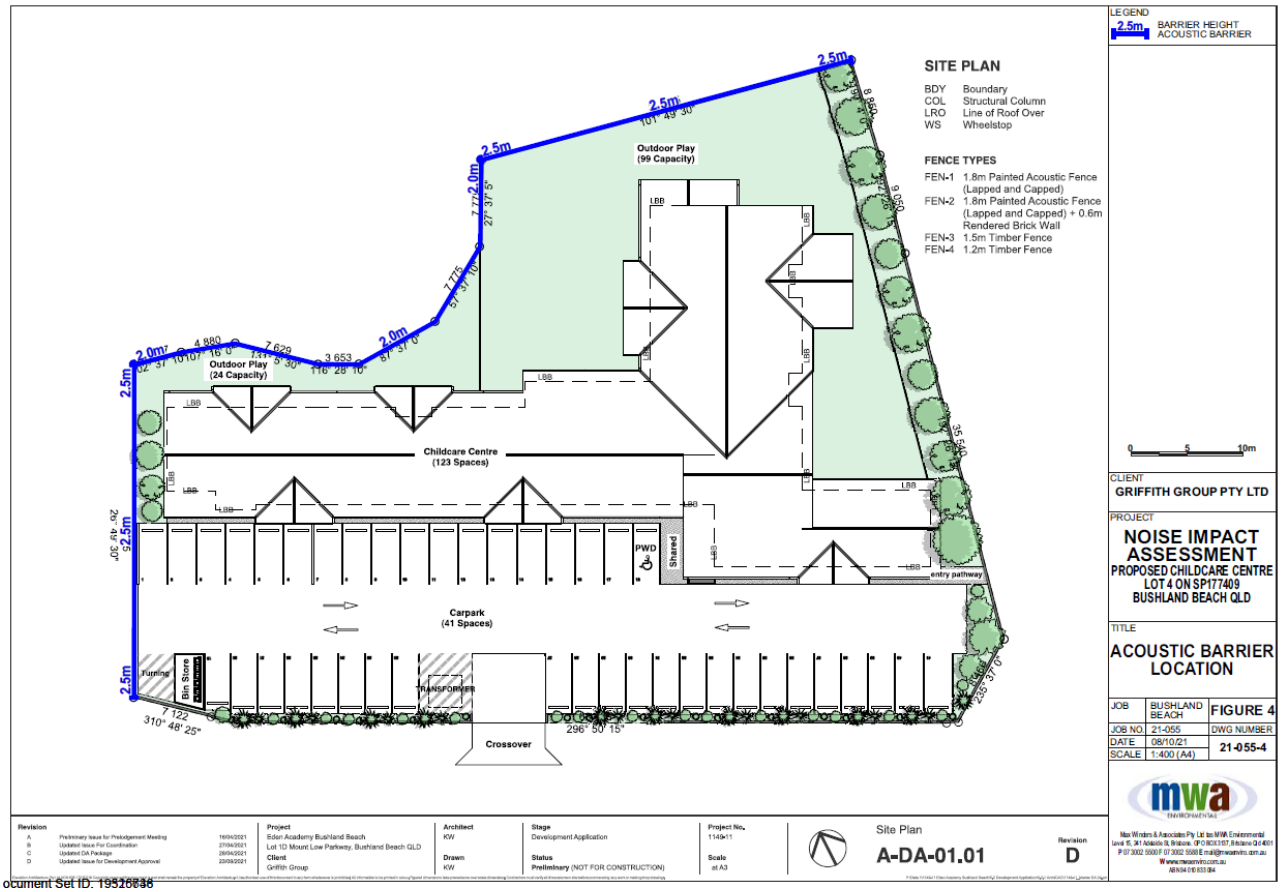


**Figure 3:** *Location of the Propose Acoustic Barriers at Child Care Centre*

Noise impacts from the child care centre were modelled in MWA Report Number 21-055 dated 15th October 2021 with the acoustic barrier in place at various locations surround the centre. The diagram from the acoustic report showing the noise sensitive locations where noise impacts from the child care centre were modelled has been included below.

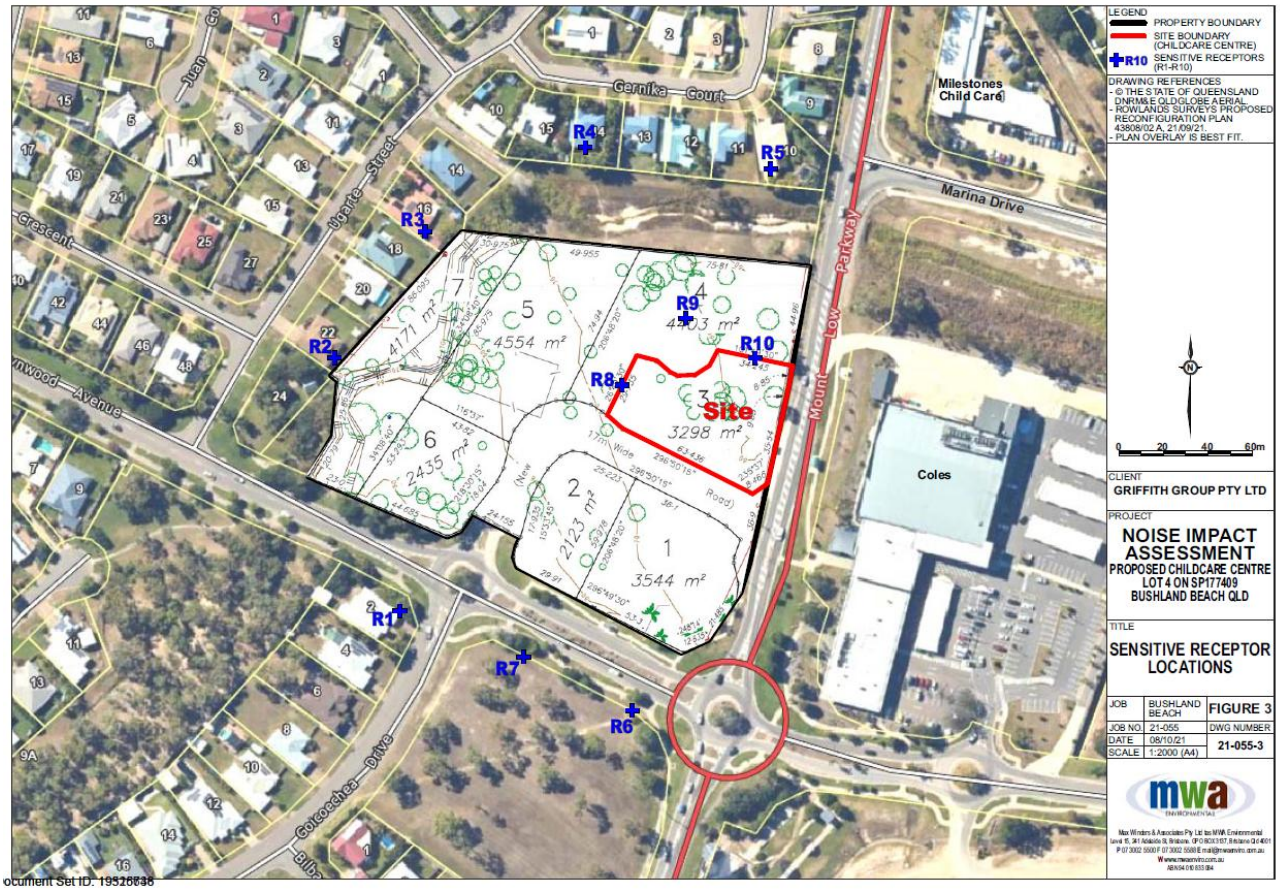


**Figure 4:** *Location of Noise Sensitive Receptors surrounding the Child Care Centre*

Looking at the diagram it can been seen that receivers R8, R9 and R10 relate to the site for the proposed townhouse development. R8 and R10 are on the boundary of the site with the proposed child care centre and R9 is within the site itself.

The results of modelling at each of the locations is presented in Table 7 of MWA Report Number 21-055 dated 15th October 2021. Table 7 of the report has been presented below.

**Table 7: Predicted Noise Levels**

| Receptor (refer Figure 3) | Predicted Noise Level at Most Exposed Façade for Existing Dwellings or at Closest Low Density Residential Zone Boundaries | | Complies? |
|---|---|---|---|
| | $L_{Aeq(1hr)}$ dB(A) | $L_{Amax}$ dB(A) | |
| R1 | 33 | 34 | Yes |
| R2 | 31 | 33 | Yes |
| R3 | 32 | 29 | Yes |
| R4 | 33 | 29 | Yes |
| R5 | 35 | 30 | Yes |
| R6 | 34 | 35 | Yes |
| R7 | 35 | 35 | Yes |
| R8 | 45 | 57 | Yes |
| R9 | 44 | 36 | Yes |
| R10 | 48 | 30 | Yes |
| **Noise Criteria** | **48 dB(A)** | **57 dB(A)** | |

If the modelled noise levels at receivers R8, R9 and R10 are examined and compared with the *Sleep Disturbance Criteria* determined in table 3 of this report and the *Amenity Noise Limits* of the *Townsville City Plan Planning Scheme Policy SC6.4.19* for the *Day* and *Evening* periods it can be seen that the predicted noise impacts from the Child Care Centre will not exceed any of these criteria. Given this no additional acoustic treatments other than the proposed acoustic barrier along the boundary of the site are proposed to mitigate noise impacts on the site.

## 5.5 Noise impacts from Loading Area of Shopping Centre

Noise impacts were monitored at the site for 3 consecutive days and nights however it is not possible to determined what it any noise impacts measured during this period relate to noise impacts from the loading dock area. Additionally, two site visits were made to the loading dock to measure noise impacts with limited success.

In order to determine the noise impacts from the loading area on the development measurements of loading dock activities conducted at the shopping centre and from other acoustic reports prepared by Decibell Consulting will be used to model noise impacts on the proposed development.

The proposed development will contain loading and unloading facilities for trucks as well as parking for customers and staff. Noise levels taken from previous studies of commercial premises of a similar nature are presented in the table below.

| Noise Source | Measured Level dB(A) | Correction SPL dB(A)* | Corrected Level dB(A) |
|---|---|---|---|
| Truck reversing into dock (revering Beeper) | 87 dB $L_{Amax}$ | + 5 (tonal) | 92 dB $L_{Amax}$ |
| Van reversing | 77 dB $L_{Amax}$ | + 5 (impulsive) | 82 dB $L_{Amax}$ |
| Truck door closure | 76 dB $L_{Amax}$ | + 5 (impulsive) | 81 dB $L_{Amax}$ |
| Truck Bypass @ 5km/h | 88 dB $L_{Amax}$ | 0 | 88 dB $L_{Amax}$ |
| Car bypass @ 5km/hr | 77 dB $L_{Amax}$ | 0 | 77 dB $L_{Amax}$ |
| Talking in loading area @ normal Level | 60 dB $L_{Aeq}$ | 0 | 60 dB $L_{Aeq}$ |
| 'Truck Start Up | 88 dB $L_{Amax}$ | 0 | 88 dB $L_{Amax}$ |
| Refrigerator motor running on truck | 75 dB $L_{Amax}$ | 0 | 75 dB $L_{AMax}$ |
| Garbage Truck Emptying Industrial Bin | 94 dB $L_{Amax}$ | + 3 (impulsive) | 97 dB $L_{Amax}$ |
| Static Waste Compactor | 88 dB $L_{Amax}$ | 0 | 88 dB $L_{Amax}$ |
| Measured Mechanical Plant Noise level at Loading Dock | 66 dB $L_{Amax}$ | 0 | 66 dB $L_{Amax}$ |

**Table 4:** Measured average noise levels from noise sources at Loading Area of Shopping Centre
* As required by AS 1055

The impacts from the noise sources from the loading area have been modelled on the closest townhouses to the loading area and compared to the *Sleep Disturbance Criteria* from Section *SC6.4.19.6 Noise assessment levels* of the Townsville City Plan. This modelling has been included in the table below.

| Reciever | | Source LAMax @ 1m dB(A) | AS1055 Correction | Corrected Source level LAMax Adj dB( | Distance to Reciever | Dsitance Attnuation dB(A) | Predicted LAmax adj dB(A) @ propsoed development | Compliance with Sleep Distrubance Criteria LAMax dB(A) Yes / No |
|---|---|---|---|---|---|---|---|---|
| Dock | | | | | | | | 56 |
| Closest Townhouse to Loading Area | Truck reversing into dock (revering Beeper) | 87 | 5 | 92 | 80 | -38.0618 | 53.93820026 | Yes |
| | Van reversing | 77 | 5 | 82 | 80 | -38.0618 | 43.93820026 | Yes |
| | Truck door closure | 76 | 5 | 81 | 80 | -38.0618 | 42.93820026 | Yes |
| | Truck bypass | 88 | 0 | 88 | 27 | -28.6273 | 59.37272472 | No |
| | Van bypass | 77 | 0 | 77 | 27 | -28.6273 | 48.37272472 | Yes |
| | Talking in loading area | 60 | 0 | 60 | 80 | -38.0618 | 21.93820026 | Yes |
| | Truck start up | 88 | 0 | 88 | 80 | -38.0618 | 49.93820026 | Yes |
| | Refrigerator Truck Motor | 75 | 0 | 75 | 27 | -28.6273 | 46.37272472 | Yes |
| | Garbage Truck Emptying industrial Bin | 94 | 3 | 97 | 54 | -34.6479 | 62.3521248 | No |
| | Static Waste Compactor | 88 | 0 | 88 | 82 | -38.2763 | 49.72372295 | Yes |
| | Mechanical Plant in loading area | 66 | 0 | 66 | 83 | -38.3816 | 27.61843815 | Yes |

**Table 5:** Predicted noise impacts from Loading Area of Shopping Centre on the proposed development

# 6.0 Acoustic Treatments

## 6.1 Noise from Child Centre

Noise impacts from the proposed Child Care centre were modelled on the development site as part of Development Application No. MCU21/0140 relating to the proposed child care centre at 2 Poole Way. Acoustic report was prepared by MWA Report Number 21-055 dated 15th October 2021 as part of this application.

In order to mitigate noise impacts from the child care centre on the surrounding area (including the proposed development site) an acoustic barrier will be constructed along the common boundary of the childcare centre and the proposed development site. The location of the barrier is shown on the Figure 3 which has been taken from the approved acoustic report MWA Report Number 21-055 dated 15th October 2021. This barrier will range in height from 2.0 to 2.5 m. Modelling conducted in the acoustic report showed that the mitigation provided by the acoustic barriers will reduce noise impacts from the child care centre to below the *Sleep Disturbance Criteria* determined in table 3 of this report and the *Amenity Noise Limits* of the *Townsville City Plan Planning Scheme Policy SC6.4.19* for the *Day* and *Evening* periods. Given this no additional acoustic treatments other than the proposed acoustic barrier along the boundary of the site are required to mitigate noise impacts on the site.

## 6.2 Noise from Loading area

Potential noise impacts from the loading area were modelled on the proposed development. This modelling determined that noise impacts from truck leaving the site and garbage bin collection would exceed the *Sleep Disturbance Criteria* from Section *SC6.4.19.6 Noise assessment levels* of the Townsville City Plan. In order to mitigate noise impacts in the townhouses overnight it recommended to acoustically treat the bedrooms of those townhouses facing towards the loading dock. Calculations to determine the level of acoustic treatments have been included in the appendix to this report. Details of the acoustic treatments are included in the table below.

| Room | Building Elements | Recommended Minimum Acoustic Treatment Rw |
|---|---|---|
| **Townhouses U9, U10, U11, U12, U13, U14** | | |
| **Bedroom 1** | Window | Rw 24 |

**Table 6:** Recommended weighted sound reduction index (Rw) and minimum acoustic treatment To Townhouses
# Building elements are indicative and may not be included in the final design

# 7.0 DISCUSSION & CONCLUSIONS

In this acoustic report noise impacts from the proposed chid care centre, shopping centre loading area and traffic noise on the proposed development were considered.

Noise impacts from the proposed Childcare centre on the development site were considered as part of Development Application No. MCU21/0140 relating to the proposed child care centre at 2 Poole Way. In order to mitigate noise impacts from the childcare centre an acoustic barrier will be constructed along the common boundary of the child care centre and the proposed development site. The location of the barrier is shown on the Figure 3 which has been taken from the approved acoustic report MWA Report Number 21-055 dated 15th October 2021. This barrier will range in height from 2.0 to 2.5 m. Modelling conducted in the acoustic report showed that the mitigation provided by the acoustic barriers will reduce noise impacts from the child care centre to below the *Sleep Disturbance Criteria* determined in table 3 of this report and the *Amenity Noise Limits* of the *Townsville City Plan Planning Scheme Policy SC6.4.19* for the *Day* and *Evening* periods. Given this no additional acoustic treatments other than the proposed acoustic barrier along the boundary of the site are proposed to mitigate noise impacts on the site.

Potential noise impacts from the loading area were modelled on the proposed development. This modelling determined that noise impacts from truck leaving the site and garbage bin collection would exceed the *Sleep Disturbance Criteria* from Section *SC6.4.19.6 Noise assessment levels* of the Townsville City Plan. In order to mitigate noise impacts in the townhouses overnight it has been recommended to acoustically treat the bedrooms of those townhouses facing towards the loading dock. Details of the acoustic treatments are included in the table 6 of this report.

The mapping relating to the site shows that the site is **Not** with a Transport Noise Corridor nor is it located adjacent to a State Controlled Road. Given this the development is not required to achieve requirements of the Queensland Development Code *MP 4.4- Building in a Transport Noise Corridor* or *State Code 1: Development is a state-controlled road environment.* Additionally, the requirements of *Environmental Protection Act 1994* and *Environmental Protection (Noise) Policy 2019* (EPP Noise), do not apply to traffic noise. Given this as assessment of traffic on the development was not required.

Subject to our calculations, the proposed acoustic barriers and the proposed acoustic treatments to some of the townhouses we believe that the development will meet all requirements of Townsville City Plan *Low Density Residential Zone Code* and the *Planning Scheme Policy SC6.4.19 Noise and Vibration,* and should be approved.

Report Compiled By:

John Cristaudo BE, RPEQ, MAAS
Acoustic Consultant
Decibell Consulting

# APPENDIX

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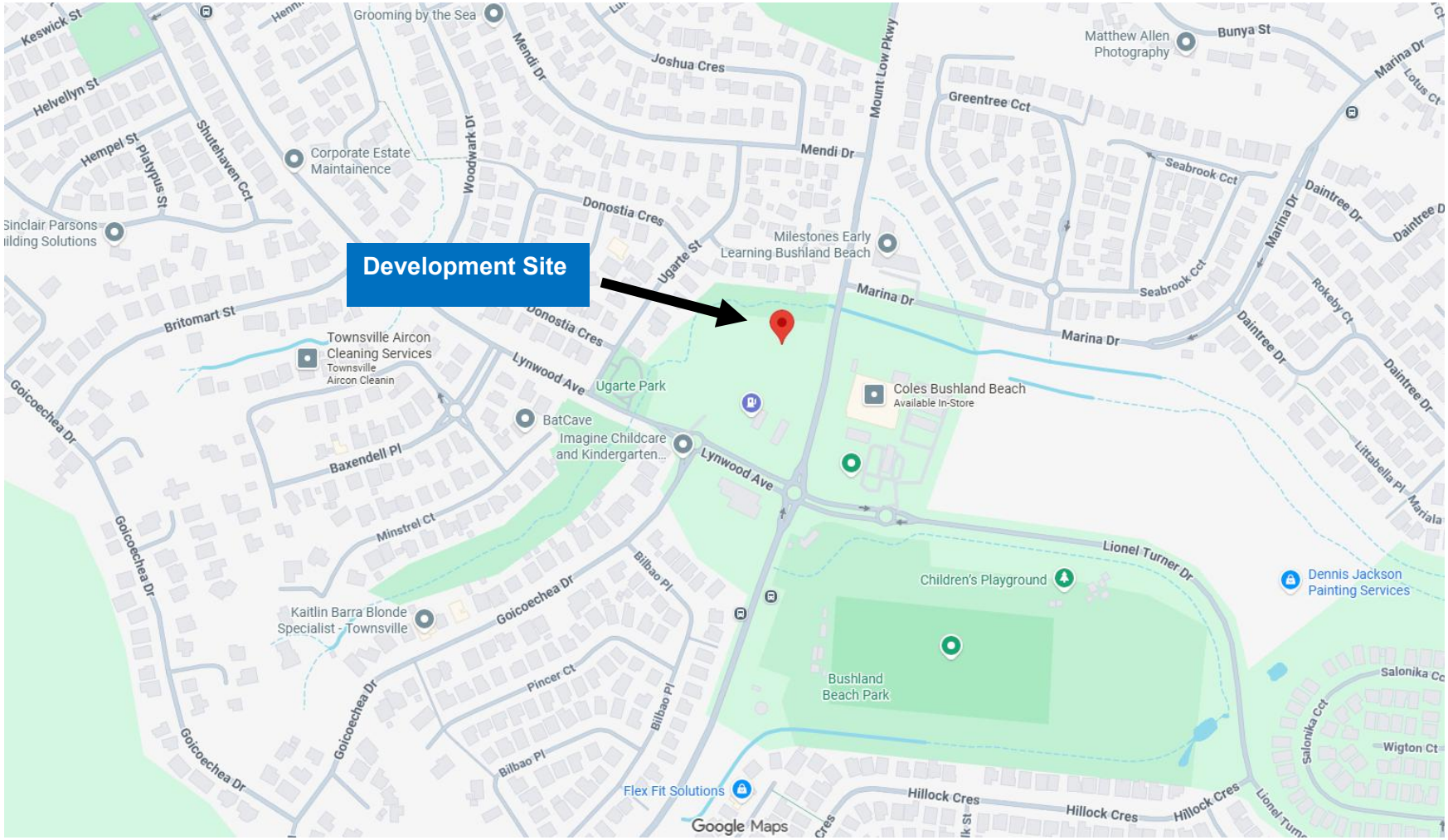
**Proposed Development Site Sketch No. 1**
**PLAN VIEW**



**Proposed Development Site Sketch No. 2**
**Aerial Photograph**


PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

COVER PAGE

PRELIMINARY
scale : not to scale
issue : 06 date : 22-10-25

7340-DA01

BLACKBURNEJACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


01 SITE LOCATION
1:500

## PROPOSAL SUMMARY

LOT **4** ON SP**333154**
LOCAL AUTHORITY : TOWNSVILLE CITY COUNCIL
LOCALITY : BUSHLAND BEACH
SITE AREA : 4674 m²

### SITE USAGE BREAKDOWN :

20 x 3 BED DWELLINGS

### ON-SITE PARKING PROVISIONS

**CAR PARKING : REQUIRED**

| | | | |
|---|---|---|---|
| 3 BED DWELLINGS | 20 x 1.7 | = | 34 |
| VISITOR | 20 x 0.20 | = | 4 |
| CAR WASH | | = | 1 |
| **TOTAL REQUIRED** | | = | **39** |

**CAR PARKING : PROVIDED**

| | | | |
|---|---|---|---|
| **TOTAL PROVIDED** | | = | **39** |

### SITE COVER

| | | |
|---|---|---|
| PERMITTED: | 4674 x 0.65 | = 3038.1m² |
| PROPOSED: | BLDG 01 = | 173.0m² |
| | BLDG 02 = | 182.0m² |
| | BLDG 03 = | 364.9m² |
| | BLDG 04 = | 182.0m² |
| | BLDG 05 = | 364.9m² |
| | BLDG 06 = | 182.0m² |
| | BLDG 07 = | 182.0m² |
| | BLDG 08 = | 182.0m² |
| | **TOTAL =** | **1812.8m²** |
| | **or** | **38.7%** |

### COMMUNAL OPEN SPACE

| | |
|---|---|
| PROPOSED COMMUNAL OPEN SPACE: | = 499.3m² |

### BUILDING HEIGHT

| | |
|---|---|
| PERMITTED: | = 8.5m |
| PROPOSED: | = 7.965m |

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

LOCATION PLAN & NOTES

PRELIMINARY
scale : 1:500 @A1 1:250@A3
issue : 04 date : 22-10-25

7340-DA02

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


02 SITE PLAN LEVEL 1
1:200

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

SITE PLAN LEVEL 1

PRELIMINARY
scale : 1:200 @A1 1:400@A3
issue : 06 date : 22-10-25

7340-DA03

north

BLACKBURNEJACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


1 SITE PLAN LEVEL 2
1:200

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

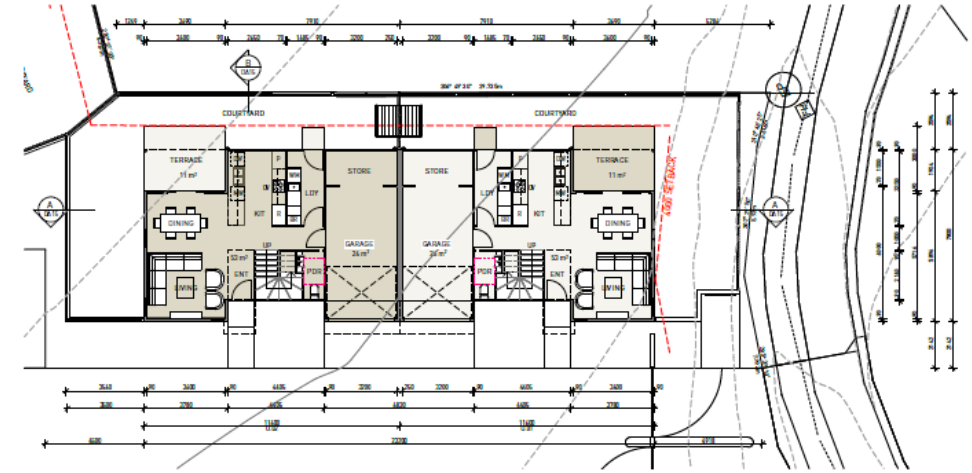
SITE PLAN LEVEL 2

PRELIMINARY
scale : 1:200 @A1 1:400@A3
issue : 04 date : 22-10-25

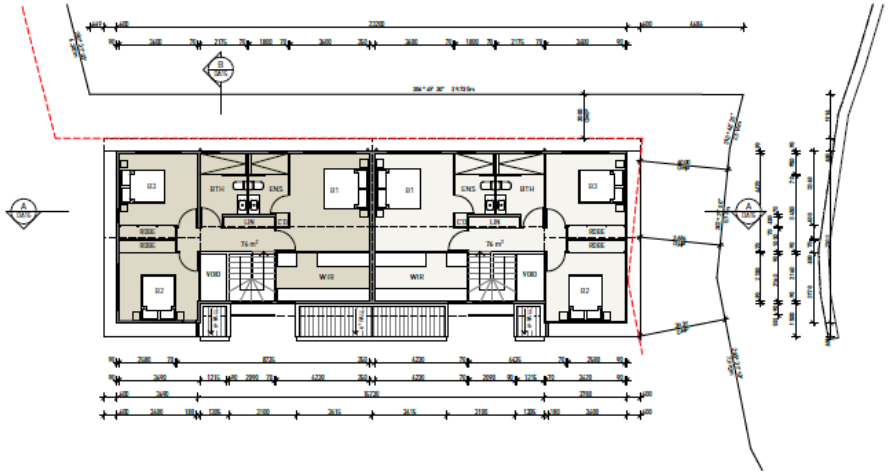
7340-DA04

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT




01 BLDG 01 _ LEVEL 1
1:100




02 BLDG 01 _ LEVEL 2
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

FLOOR PLANS - BLDG 01

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA05

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

FLOOR PLANS - BLDGS 02 & 03

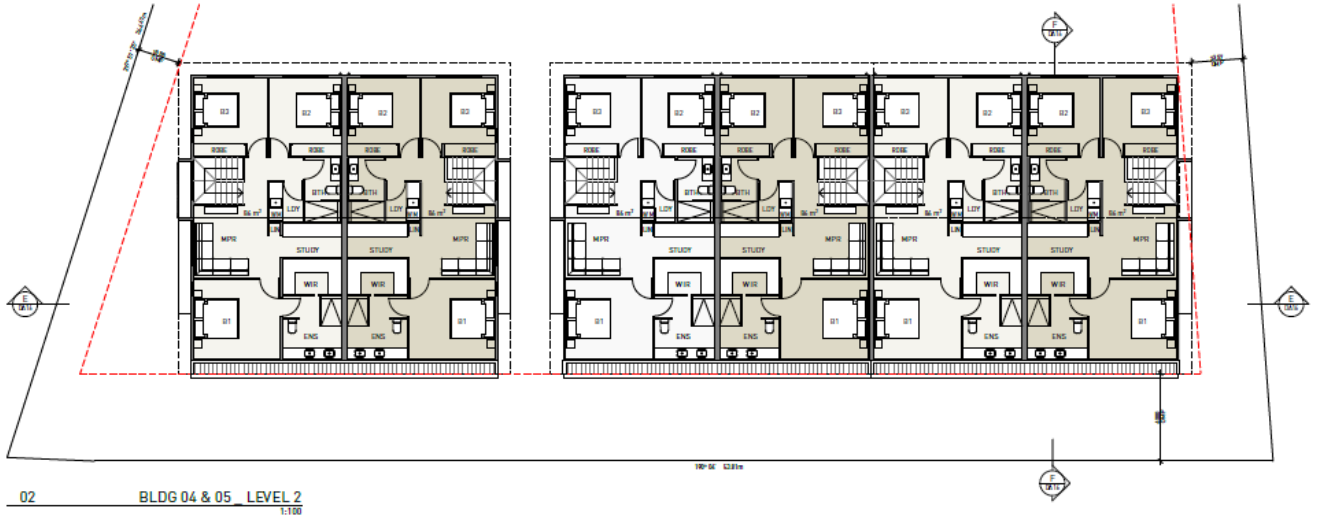
PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA06

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


01 BLDG 04 & 05 _ LEVEL 1
1:100




02 BLDG 04 & 05 _ LEVEL 2
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

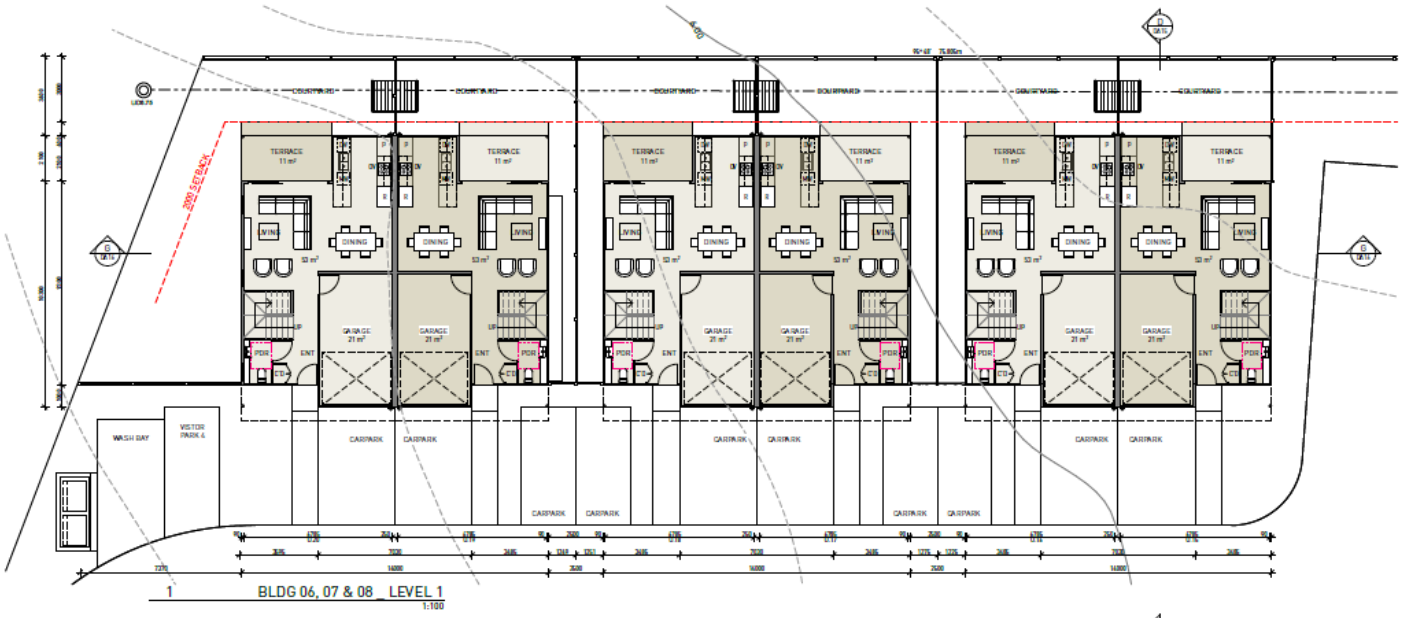
FLOOR PLANS - BLDGS 04 & 05

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA07

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT




1 BLDG 06, 07 & 08 _ LEVEL 1
1:100


2 BLDG 06, 07 & 08 _ LEVEL 2
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

FLOOR PLANS - BLDGS 06, 07 & 08

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA08

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT


01 NORTH SITE ELEVATION
1:200

02 EAST SITE ELEVATION
1:200

03 SOUTH SITE ELEVATION
1:200

04 WEST SITE ELEVATION
1:200

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

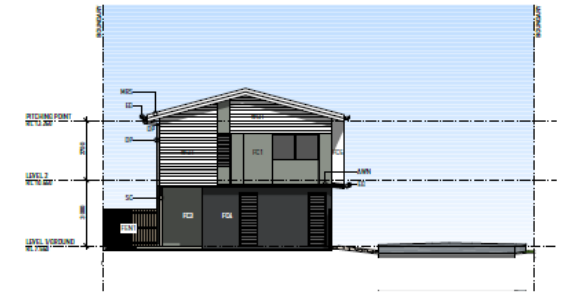
POOLE WAY PTY LTD

ELEVATIONS - OVERALL SITE

PRELIMINARY
scale : 1:200 @A1 1:400 @A3
issue : 04 date : 22-10-25

7340-DA09

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT



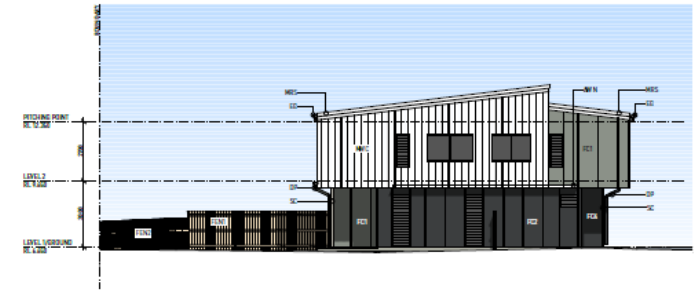
01 BLDG 01 NORTH ELEVATION
1:100

02 BLDG 01 EAST ELEVATION
1:100

03 BLDG 01 SOUTH ELEVATION
1:100

04 BLDG 01 WEST ELEVATION
1:100

05 BLDG 02 WEST ELEVATION
1:100



06 BLDG 02 EAST ELEVATION
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

ELEVATIONS - BLDG 01 & 02

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA10

BLACKBURNEJACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

01 BLDG 02 & 03 NORTH ELEVATION
1:100

02 BLDG 02 & 03 SOUTH ELEVATION
1:100

03 BLDG 03 EAST ELEVATION
1:100

04 BLDG 03 WEST ELEVATION
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

ELEVATIONS - BLDG 02 & 03

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

7340-DA11

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

01 BLDG 04 NORTH ELEVATION
1:100

02 BLDG 04 EAST ELEVATION
1:100

03 BLDG 04 SOUTH ELEVATION
1:100

04 BLDG 04 WEST ELEVATION
1:100

05 BLDG 05 NORTH ELEVATION
1:100

06 BLDG 05 EAST ELEVATION
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

ELEVATIONS - BLDG 04 & 05

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

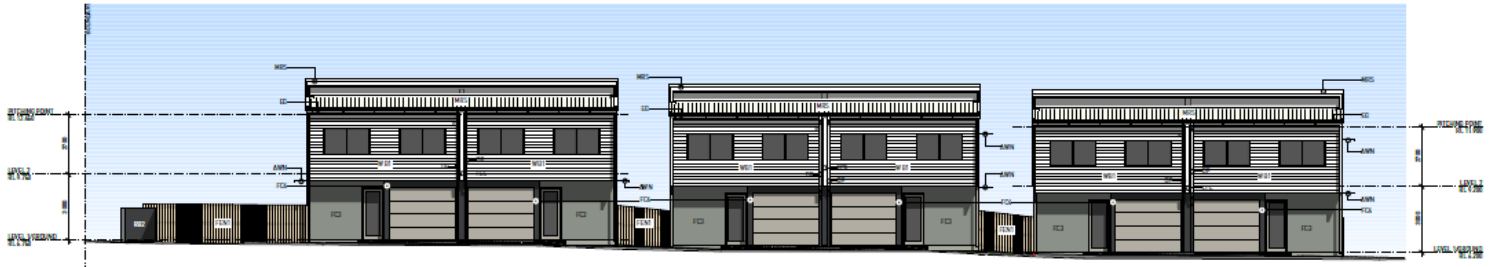
7340-DA12

BLACKBURNEJACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

01 BLDG 05 SOUTH ELEVATION
1:100

02 BLDG 05 WEST ELEVATION
1:100

03 BLDG 06/07/08 NORTH ELEVATION
1:100



04 BLDG 06/07/08 SOUTH ELEVATION
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

ELEVATIONS - BLDG 05 & 06, 07, 08

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 04 date : 22-10-25

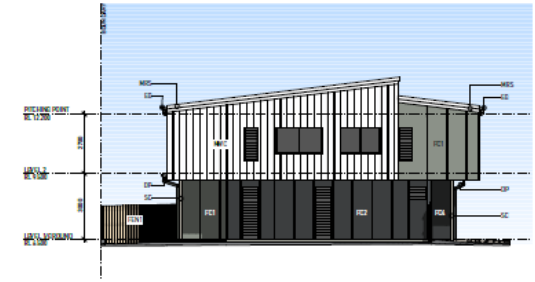
7340-DA13

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

01 BLDG 06 EAST ELEVATION
1:100

02 BLDG 06 WEST ELEVATION
1:100

03 BLDG 07 EAST ELEVATION
1:100



04 BLDG 07 WEST ELEVATION
1:100

05 BLDG 08 EAST ELEVATION
1:100

06 BLDG 08 WEST ELEVATION
1:100

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

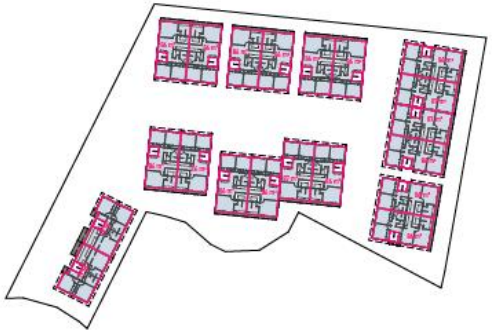
ELEVATIONS - BLDG 06 & 07 & 08

PRELIMINARY
scale : 1:100 @A1 1:200 @A3
issue : 06 date : 22-10-25

7340-DA14

BLACKBURNEJACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

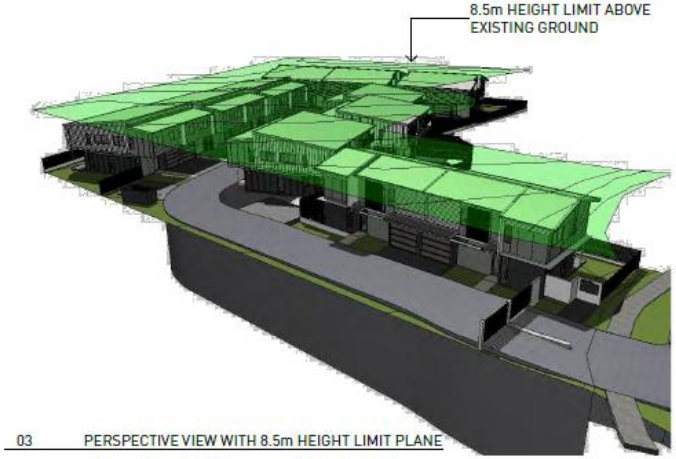
01 GROSS FLOOR AREA - LEVEL 1
1:500



02 GROSS FLOOR AREA - LEVEL 2
1:500

| GROSS FLOOR AREA | | |
|---|---|---|
| | LEVEL | GFA |
| BUILDING 1 | | |
| | LEVEL 1 | 109.0 |
| | LEVEL 2 | 158.0 |
| | | 267.0 m² |
| BUILDING 2 | | |
| | LEVEL 1 | 97.2 |
| | LEVEL 2 | 172.4 |
| | | 269.6 m² |
| BUILDING 3 | | |
| | LEVEL 1 | 194.4 |
| | LEVEL 2 | 345.3 |
| | | 539.7 m² |
| BUILDING 4 | | |
| | LEVEL 1 | 97.2 |
| | LEVEL 2 | 172.4 |
| | | 269.6 m² |
| BUILDING 5 | | |
| | LEVEL 1 | 194.8 |
| | LEVEL 2 | 345.6 |
| | | 540.4 m² |
| BUILDING 6 | | |
| | LEVEL 1 | 97.2 |
| | LEVEL 2 | 172.4 |
| | | 269.6 m² |
| BUILDING 7 | | |
| | LEVEL 1 | 97.2 |
| | LEVEL 2 | 172.4 |
| | | 269.6 m² |
| BUILDING 8 | | |
| | LEVEL 1 | 97.2 |
| | LEVEL 2 | 172.4 |
| | | 269.6 m² |
| | | 2695.1 m² |

| SITE CALCULATIONS | |
|---|---|
| COMMUNAL OPEN SPACE | 499.3 |
| PRIVATE OPEN SPACE | 1322.9 |
| | 1822.2 m² |




03 PERSPECTIVE VIEW WITH 8.5m HEIGHT LIMIT PLANE

04 LANDSCAPING SITE COVER PLAN
1:500

PROPOSED TOWNHOUSE DEVELOPMENT ,
10 POOLE WAY, BUSHLAND BEACH

POOLE WAY PTY LTD

SITE CALCULATIONS

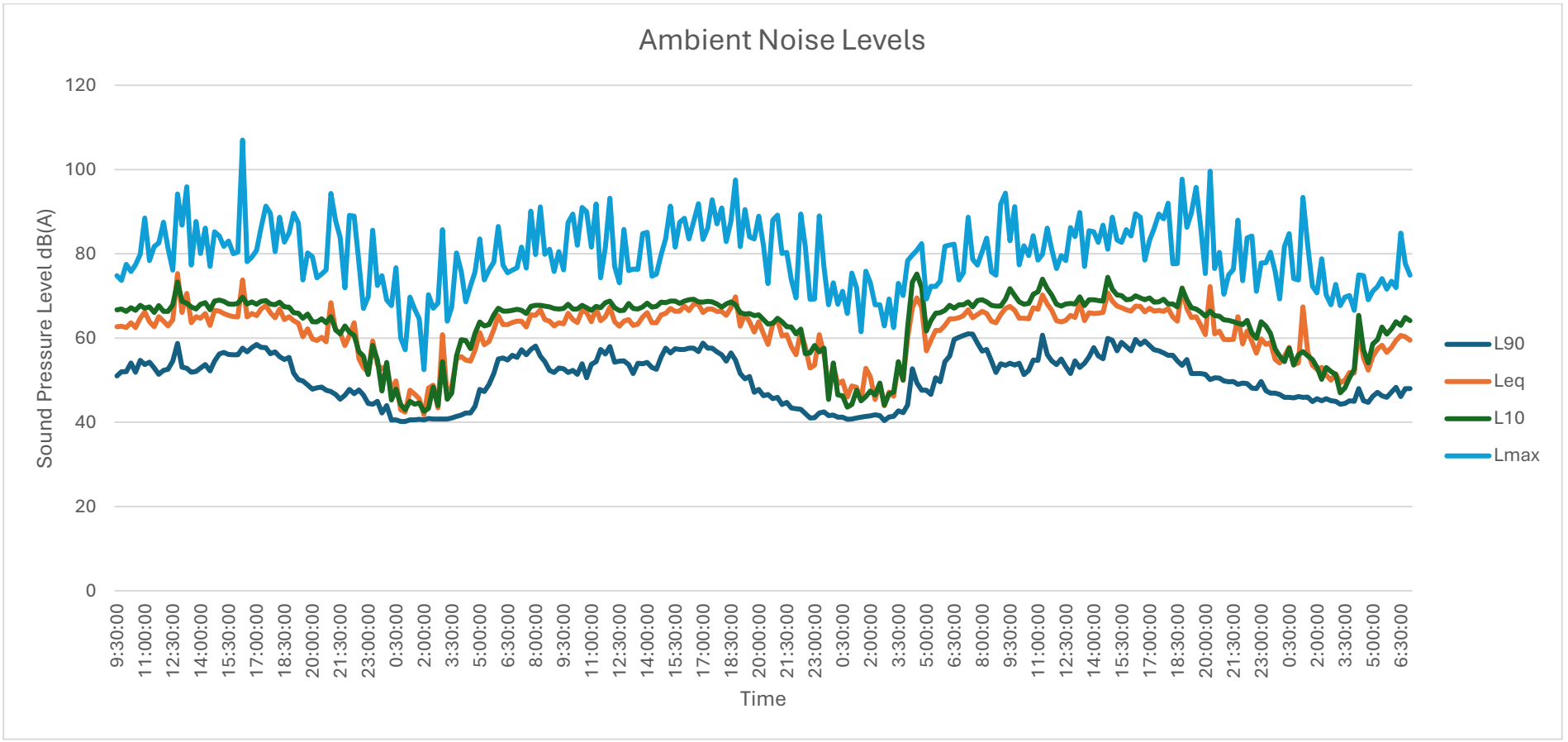
PRELIMINARY
scale : 1:500 @A1 1:1000 @A3
issue : 04 date : 22-10-25

7340-DA17

north

BLACKBURNE JACKSON
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

# NOISE MEASUREMENTS



# ACOUSTIC TREATMENT CALCULATIONS

**Rw Calculations**

| Space | Building Component | Impact | Criteria | TNR | Element Area | Floor Area | Height | RT60 | C | TNA | Rw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | dB(A) | dB(A) | dB(A) | (m2) | (m2) | (m) | (s) | | | |
| Townhouses U9, U10, U11, U12, U13, U14 | | | | | | | | | | | |
| **Bedroom 1** | | | | | | | | | | | |
| | Windows | 59 | 45 | 14.0 | 3 | 10 | 2.4 | 1.0 | 3 | 18 | **24** |
| | Wall | 59 | 45 | 14.0 | 14 | 10 | 2.4 | 1.0 | 3 | 24 | **30** |
| | Roof/Ceiling | 59 | 45 | 14.0 | 10 | 10 | 2.4 | 1.0 | 3 | 23 | **29** |