



***Decibell Consulting* pty Ltd**

**Proposed Reconfiguration
Of a Lot
673 Silverwood Drive,
Flagstone**

ENVIRONMENTAL NOISE IMPACT REPORT

Prepared for

**The Trustee for Chang Family Trust
T/A Oris Accessories Pty Ltd**

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1.0 INTRODUCTION

This report is submitted in response to a request by JFP Urban Consultants on behalf The Trustee for Change Family Trust T/A Oris Accessories Pty Ltd for an environmental acoustic report. This report forms part of a Development Application to be submitted to the Economic Development Queensland.

On-site noise logging and attended noise measurement were conducted, and through modelling, predictions of noise impacts on 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 reconfigure a large 27.336 Ha site located at 673 Silverwood Drive, Flagstone to yield 527 new Residential Lots. The site will be developed in seven stages.

Along the western boundary of the site runs the Interstate Rail Line. This Rail line runs between the Brisbane and Sydney and carries freight and passenger services. Given the proximity of the line to the site train noise could impact the proposed development and will be considered in this report.

Refer to the appendix for site locale and site plans.

2.0 EQUIPMENT

2.1 Rail Noise Assessment

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

- Bruel & Kjaer 4231 Calibrator;
- Rion NA 27 Sound Level meter;
- Rion NI 31 Environmental Noise Logger.

3.0 MEASUREMENT PROCEDURE

3.1 Logger Noise Measurement

A logger was located towards the rear of the site closest to the railway line to best capture train bypass noise levels. As the site is completely vacant measurements can therefore be regarded as free field. The location of the measurement position is indicated on the aerial photograph included below.



Figure 1: Logger Measurement Location

The logger was set to record noise statistics in 15-minute blocks continually over 48-hour period from Wednesday 18/02/26 to Friday 20/02/26. Measurement of ambient noise levels were conducted generally in accordance with Australian Standard AS1055.1 - 2018 '*Acoustics - Methods for the 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 were fine, with light winds and temperatures ranging from 19° C to 32° C over the measurement period.

4.0 NOISE CRITERIA

4.1 Train Noise

A portion of the mapping associated with the Logan Planning Scheme 2015 showing the site has been reproduced below. This mapping identifies the site as falling into the *Greater Flagstone Priority Development Area*.

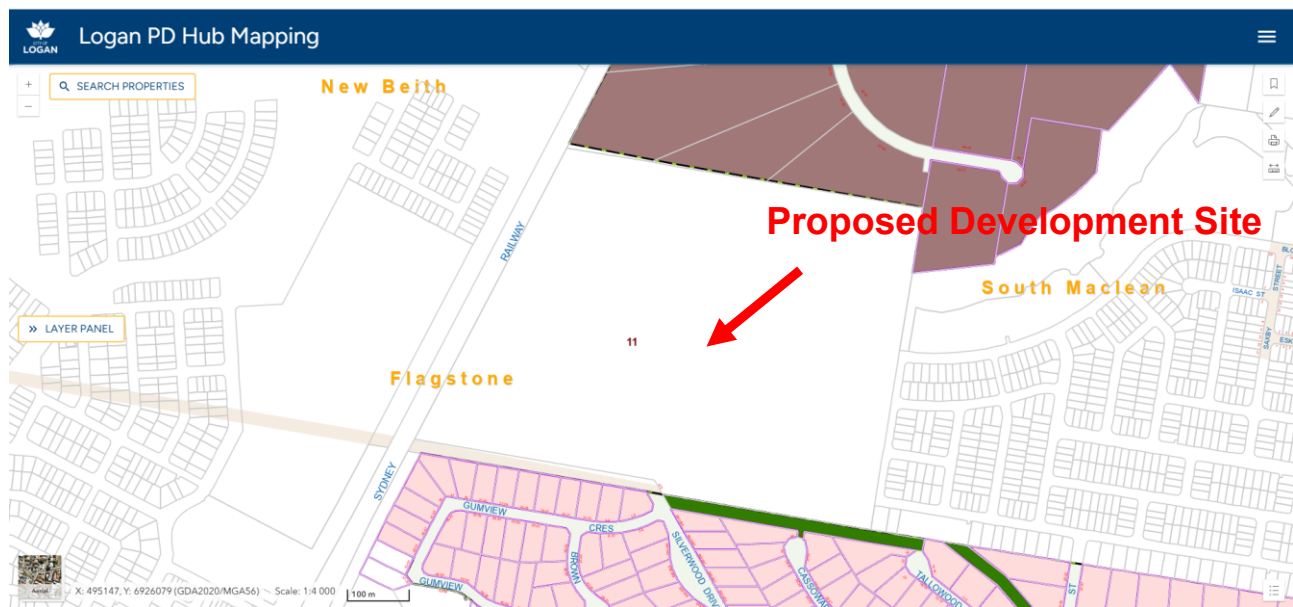


Figure 2: Logan Planning Scheme 2015 Zoning Map

In assessing development applications in this area reference must be made to the *Greater Flagstone Urban Development Area Development Scheme*.

Along the western boundary of the site runs the interstate rail line. If reference is made to the *Greater Flagstone Urban Development Area Development Scheme* for guidance no assessment criteria is provided in relation to train noise. So, reference will be made to the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3*

The purpose of *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* is to:

“protects the community from significant adverse impacts resulting from environmental emissions generated by a railway.”

The Performance Outcomes and Acceptable Outcomes for assessment for train noise in outdoor areas from the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* are contained in Table 2.4 Environmental Emissions. Performance Outcome 40 of the Code relating to developments creating 6 or more new residential lots adjacent to a railway has been reproduced below:

Involving the creation of 6 or more new residential lots adjacent to a railway or type 2 multi-modal corridor	
PO40 Reconfiguring a lot minimises free field noise intrusion from a railway .	AO40.1 Development provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1); 2. in accordance with: a. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO40.2 Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.

Reference Table 2 of *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* which has been referred to in Performance Outcome 40 of the Code has also been reproduced below:

Table 2: Maximum free field acoustic levels

Applicable use	Acoustic levels
2.1: Private open space for residential lots	a. ≤62 dB(A) Leq (24 hour) free field
2.2: Private open space for an accommodation activity (including allotments created for a future accommodation activity)	AND b. ≤84 dB(A) (single event maximum sound pressure level) free field

4.2 Queensland Development Code MP 4.4

As the site is adjacent to a rail line reference will also be made to the Queensland Development Mandatory Code *MP 4.4 – Buildings in a Transport Noise Corridor*. This Code details particular Performance Requirements with respect to Residential buildings constructed in a transport corridor. These Performance Requirements are:

P1 Habitable rooms in residential building located in a transport corridor are adequately protected from transport noise to safeguard occupants' health and amenity.

In order to achieve the Performance Requirements the following *Acceptable Solutions* are proposed under the Code:

A1 The external envelope of habitable rooms in a residential building located in a transport noise corridor complies with the minimum R_w for each building component specified in Schedule 1 to achieve a minimum transport noise reduction level for the relevant noise category by:

(a) Using materials specified in Schedule 2; Or

(b) Using materials with manufacture's specifications that, in combination, achieve the minimum R_w value for the relevant building component and applicable noise category.

The applicable noise category for a particular part or entire building is determined from Table 1 of Schedule 3 of *MP 4.4 – Building in a Transport Noise Corridor* from the Queensland Development Code and relates to the measured or predicted noise level 1m from the façade of the proposed or existing building. This table has been reproduced below and details noise levels relating to road noise and the appropriate *Noise Category Level*:

Table 1 – Noise Category Levels

Noise Category	Single event maximum noise* (L_{max}) for railway land
Category 4	≥ 85 dB(A)
Category 3	80 – 84 dB(A)
Category 2	75 – 79 dB(A)
Category 1	70 – 74 dB(A)
Category 0	≤ 69 dB(A)

* Measured at 1 m from the façade of the proposed or existing building

Under the Code once the relevant Noise Category has been determined for a particular building or level of a particular building a minimum transport noise reduction level must be achieved in the building. In order to determine that R_w rating for each building component to meet the requirement of code materials can be chosen from Schedule 2 of the code or an equivalent combination of materials can be determined.

5.0 RESULTS & CALCULATIONS

5.1 Rail Traffic Noise

5.1.1 Measured Train By Pass Levels

A logger was set to record train by pass levels at the rear of the site. The logger first recorded train noise levels over a 48-hour period. The total noise level for this period is recorded in the table below.

Descriptor	Time Period	Measured Level dB(A)
L _{Aeq} , 24hr	-	40

Table 1: Measured train noise levels at proposed site.

Individual train bypass noise levels were also recorded at the site. The Tennyson Rail Line is primarily used for Coal Train and Diesel Freight Services. No regular electric passenger services use the line, but some empty electric trains are moved along the line between the Ipswich and Beenleigh Lines. Maximum levels associated with fifteen loudest train bypasses are presented in the table below.

Noise Source	Time	Measured bypass Level dB(A) L _{Amax}
Diesel Train	6.24 pm	82.4
Diesel Train	9.05 pm	83.0
Diesel Train	11.05 pm	84.0
Diesel Train	2.55 am	83.6
Diesel Train	3.40 am	78.6
Diesel Train	5.55 am	79.1
Diesel Train	9.00 am	79.0
Diesel Train	6.00 pm	85.6
Diesel Train	6.35 pm	89.5
Diesel Train	7.00 pm	84.6
Diesel Train	7.55 pm	80.0
Diesel Train	10.45 pm	78.9
Diesel Train	2.45 am	84.9
Diesel Train	3.10 am	78.2
Diesel Train	4.40 am	83.1
Diesel Train	5.45 am	77.8
Single Event Maximum Sound Pressure Level		82.0

Table 2: Measured maximum noise levels from train bypass.

5.1.2 Modelled Train Noise Levels – Existing Situation

Rail noise predictions were conducted using PEN 3D 2000, a software model produced by Ask Software Engineers. To verify Rail noise prediction model, the $L_{A,Max}$ rail noise levels were calculated and compared to the measured noise levels for each track. The following assumptions were made in the verification of the noise model:

- Tracks are assumed to jointed and not continuously welded;
- The source line for diesel trains is assumed to be 3.5 m above track level (as Advised by QR);
- Source train L max levels are as supplied by Queensland rail and are included in the appendix to this report;
- The train speeds are assumed be 80 km/hr for all trains:

A print out of the calculations performed by the model is included in the appendix to this report. The results are compared to the measured value in the table below.

Train Type	Predicted* $L_{A,Max}$	Measured* $L_{A,Max}$
Diesel Train	82.3	82.0

Table 3: A Comparison of Predicted and Measured Traffic Noise Levels at the Logger Location
*Levels Recorded in the Table are Free Field

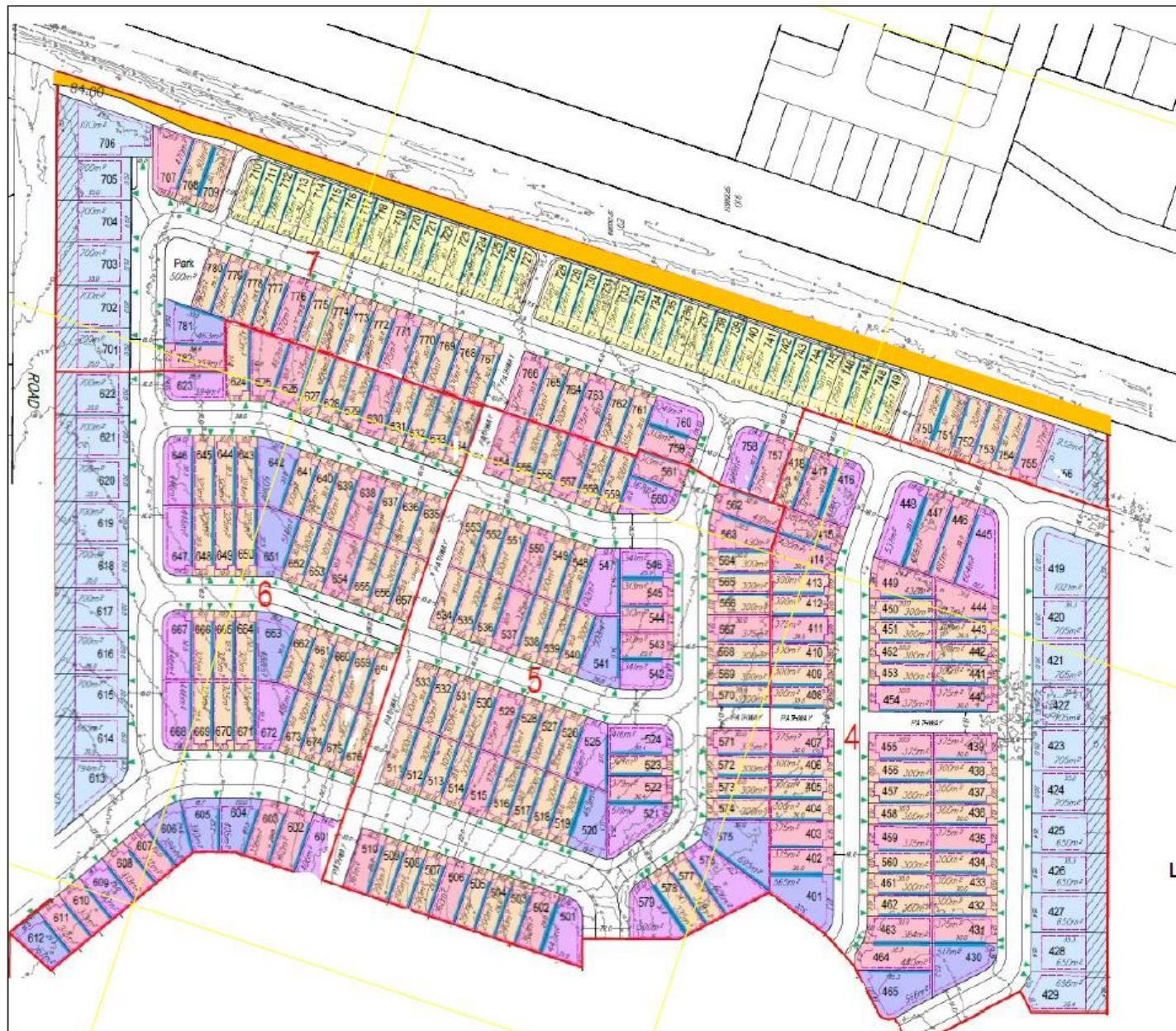
From the table above it can be seen that all predictions by the software model are within +/- 2 dB(A) of the measured levels. This is an acceptable level accuracy allowing for the nature of field measurements.

5.1.3 Modelled Noise Levels

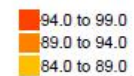
If the validity of the model is now accepted, the predicted train noise levels in the outdoor areas of the development can be determined. To best present the results of modelling the PEN 3D 2000 model will be used to map the 84 dB(A) L_{max} free field noise contour. This relates to the Maximum free Field Acoustic Level for outdoor areas from Table 2 of the *State Development Assessment Provisions – State Code 2 – Development in a railway environment ver 3*.

The modelled train noise levels are based on the ground contours from the *Reconfiguration Master Plan* Job Number *B4942PA1_DA1* Plan *D1* Issue *A* and assume that two storey dwellings have been constructed on those lots along the boundary of the site and have been constructed to the extent of the building envelopes draw on the plans.

Following the noise contours mapping relating to the outdoor areas from the *State Development Assessment Provisions – State Code 2 – Development in a railway environment ver 3* are two noise contour maps relating to the Queensland Development Mandatory Code *MP 4.4 – Buildings in a Transport Noise Corridor*. The first contour map relates to the ground level of future dwellings, while the second contour map relates to the upper level of future dwellings. The mapped contours level relate to the Noise Category levels from the Code. It has been assumed the ground level receivers are 1.8 m above ground level, while upper storey receivers are 4.5 m above ground level.



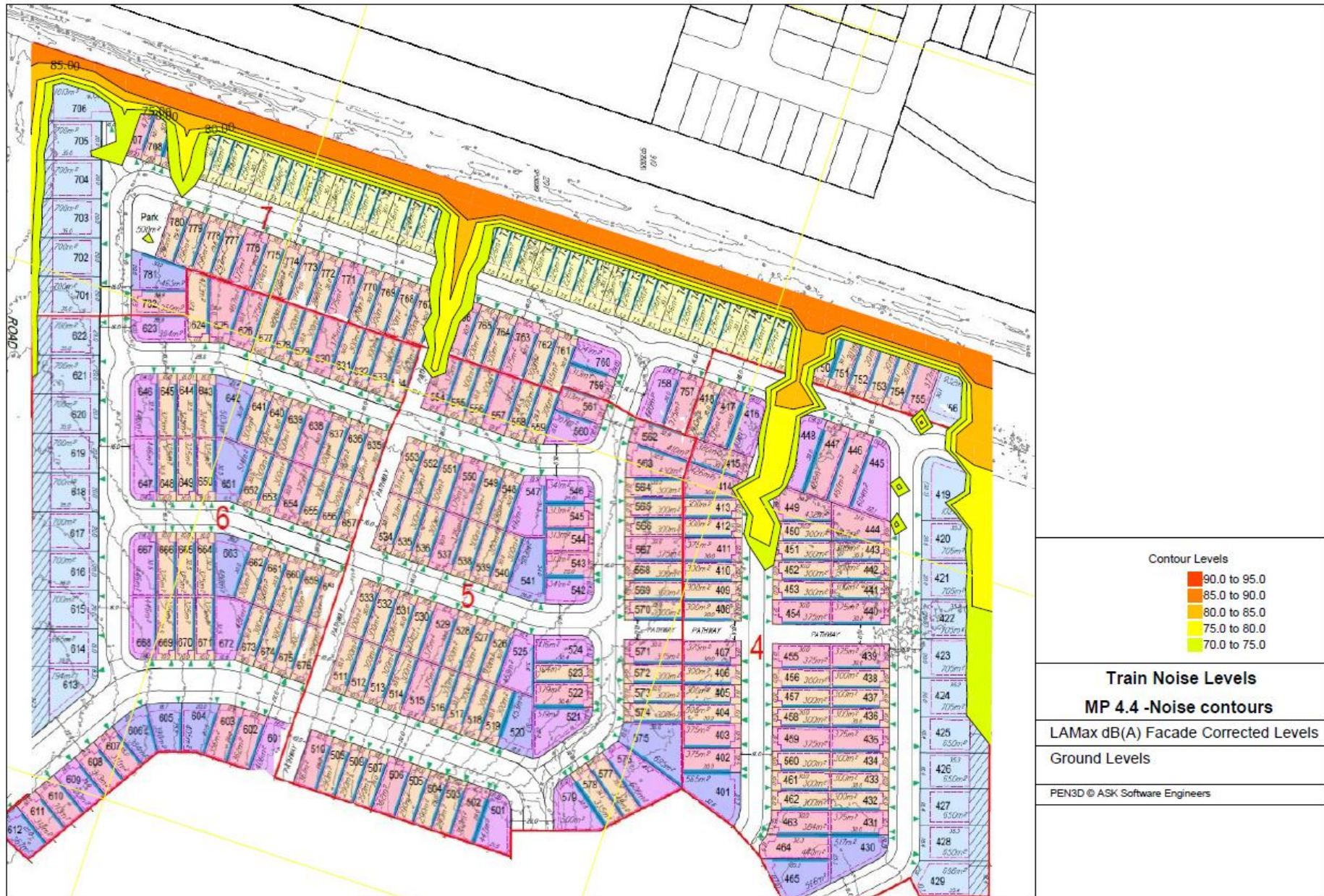
Contour Levels

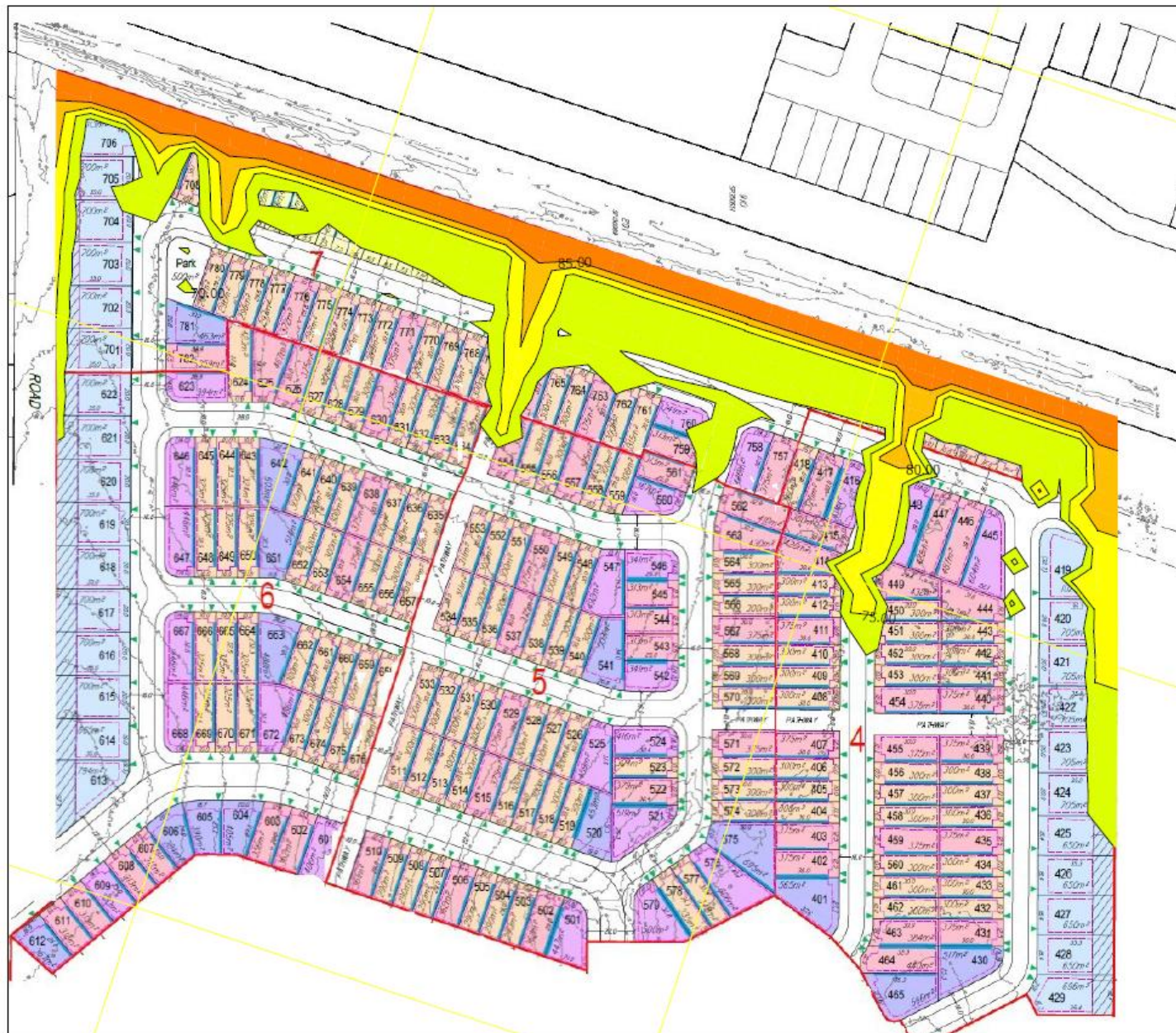


Train Noise Levels

LAMax dB(A) Outdoor Free Field levels

PEN3D © ASK Software Engineers





Contour Levels

- 90.0 to 95.0
- 85.0 to 90.0
- 80.0 to 85.0
- 75.0 to 80.0
- 70.0 to 75.0

Train Noise Levels

MP 4.4 -Noise Contours

LAMax dB(A) Facade Corrected Levels

Upper Storey Level

PEN3D © ASK Software Engineers

6.0 RECOMMENDED ACOUSTIC TREATMENTS

6.1 Train Noise

6.1.1 Outdoor Areas

Train noise levels in the outdoor areas associated with the proposed development were modelled in Section 5.1.3 of this report. A noise contour map was produced relating to the Maximum free Field Acoustic Level for outdoor areas from Table 2 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3*. This noise contour map shows that train noise levels exceed the Maximum Free Field Acoustic Level for outdoor areas from Table 2 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* for a small portion of the site adjacent to the rail line. However, this portion of the site has been set aside as *New Road* and not outdoor recreation space. Given that train noise levels do not exceed the required Maximum Free Field Acoustic Level in any of the outdoor recreation space within the development the requirements of PO 41 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* are achieved at the site and **no** acoustic barriers are required to be constructed at the site.

6.1.2 Modelled Noise Levels -Future Dwellings

Following the noise contour map relating to the outdoor recreation space are two noise contour maps following are related to *Noise Categories* from the *MP 4.4 – Building in a Transport Noise Corridor* from the Queensland Development Code. Contour mapping relating to the *Noise Categories* from the *MP 4.4* have been mapped at ground and upper storey level. This mapping shows that that some Lots within the development adjacent to the rail line can be classified into *Noise Categories* from the *MP 4.4* greater than 0. This means that future dwellings on these lots will require to be acoustically treated to mitigate train noise to achieve the requirements of the *Queensland Development Code MP 4.4- Building in a Transport Noise Corridor*. In order that the required acoustic treatments carried through into the construction of future dwellings on these Lots it is recommended that Property Notes be recorded on them identifying them as affected by train noise. To Clarify which lots are impacted by train noise and the required acoustic treatments for future dwellings to be constructed on the lots the required Noise Category for future dwellings on each of the lots has been included in the tables below and over the next four pages.

Lot Number	Noise Category QDC MP4.4	
	Ground Level	Upper level
Stage 1		
Lots 101 to 174	0	0
Stage 2		
Lots 201 to 278	0	0

Table 4: Noise Categories Lots Stage 1 and 2

Lot Number	Noise Category QDC MP4.4	
	Ground Level	Upper level
Stage 3		
Lots 301 to 373	0	0
Stage 4		
Lots 401 to 413	0	0
Lot 414	1	1
Lot 415	1	1
Lot 416	2	2
Lot 417	0	0
Lot 418	0	0
Lot 419	2	2
Lot 420	2	2
Lot 421	2	2
Lot 422	1	1
lot 423	1	1
Lot 424	1	1
Lot 425 to 447	0	0
Lot 448	2	2
Lot 449	2	2
Lot 450	1	1
lot 451	1	1
Lot 452 to 465	0	0
Stage 5		
Lot 501 to 553	0	0
Lot 554	2	2
Lot 555 to 579	0	0
Stage 6		
Lot 601 to 633	0	0
Lot 634	0	1
lot 635 to 676	0	0

Table 5: Noise Categories Lots Stage 3 and 6

Lot Number	Noise Category QDC MP4.4	
	Ground Level	Upper level
Stage 7		
Lot 701	0	0
lot 702	0	0
lot 703	0	0
Lot 704	0	1
Lot 705	1	1
Lot 706	4	4
Lot 708	4	4
Lot 709	4	4
Lot 710	4	4
Lot 711	4	4
Lot 712	4	4
Lot 713	4	4
Lot 714	4	4
Lot 715	4	4
Lot 716	4	4
Lot 717	4	4
Lot 718	4	4
Lot 719	4	4
Lot 720	4	4
Lot 721	4	4
Lot 722	4	4
Lot 723	4	4
Lot 724	4	4
Lot 725	4	4
Lot 726	4	4
Lot 727	4	4
Lot 728	4	4
Lot 729	4	4
Lot 730	4	4
Lot 731	4	4
Lot 732	4	4
Lot 733	4	4
Lot 734	4	4
Lot 735	4	4
Lot 736	4	4
Lot 737	4	4
Lot 738	4	4
Lot 739	4	4

Table 6: Noise Categories Lots Stage 701 and 739

Lot Number	Noise Category QDC MP4.4	
	Ground Level	Upper level
Stage 7		
Lot 740	4	4
Lot 741	4	4
Lot 742	4	4
Lot 743	4	4
Lot 744	4	4
Lot 745	4	4
Lot 746	4	4
Lot 747	4	4
Lot 748	4	4
Lot 749	4	4
Lot 750	4	4
Lot 751	4	4
Lot 752	4	4
Lot 753	4	4
Lot 754	4	4
Lot 755	4	4
Lot 756	4	4
Lot 757	0	0
Lot 758	0	0
Lot 759	0	1
Lot 760	0	1
Lot 761	0	1
Lot 762	0	1
lot 763	0	1
Lot 764	0	1
Lot 765	0	1
Lot 766	2	2
Lot 767	2	2
Lot 768	0	0
Lot 769	0	0

Table 7: Noise Categories Lots Stage 740 and 769

Lot Number	Noise Category QDC MP4.4	
	Ground Level	Upper level
Stage 7		
Lot 770	0	0
Lot 771	0	0
Lot 772	0	0
Lot 773	0	0
Lot 774	0	0
Lot 775	0	0
Lot 776	0	0
Lot 777	0	0
Lot 778	0	0
Lot 779	0	0
Lot 780	0	0
Lot 781	0	0
Lot 782	0	0

Table 8: Noise Categories Lots Stage 770 and 782

In order that the required acoustic treatments carried through into the construction of future dwellings on these Lots identified in the previous tables it is recommended that Property Notes be recorded on them identifying them as affected by train noise.

The required minimum Rw ratings relating to various building component for each Noise Category are contained in Schedule 1 of the Code. Schedule 1 has been reproduced in the appendix of this report. In addition to the acoustic treatments, it is also recommended that air conditioning or another means of mechanical ventilation be provided to all noise affected units such that they can meet the ventilation requirements from the *Building Code of Australia* even with the extended closure of windows and doors.

7.0 DISCUSSION & CONCLUSIONS

An assessment of train noise impacts on the proposed development has been undertaken in this report. As the *Greater Flagstone Urban Development Area Development Scheme* provides no assessment criteria is provided in relation to train noise reference was made to the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* and the Queensland Development Mandatory Code MP 4.4 – *Buildings in a Transport Noise Corridor*.

Train noise levels in the outdoor areas associated with the proposed development were modelled in Section 5.1.3 of this report. A noise contour map was produced relating to the Maximum free Field Acoustic Level for outdoor areas from Table 2 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3*. This noise contour map shows that train noise levels exceed the Maximum Free Field Acoustic Level for outdoor areas from Table 2 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* for a small portion of the site adjacent to the rail line. However, this portion of the site has been set aside as *New Road* and not outdoor recreation space. Given that train noise levels do not exceed the required Maximum Free Field Acoustic Level in any of the outdoor recreation space within the development the requirements of PO 41 of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3* are achieved at the site and **no** acoustic barriers are required to be constructed at the site.

Following the noise contour map relating to the outdoor recreation space two noise contour maps related to *Noise Categories* from the MP 4.4 – *Building in a Transport Noise Corridor* from the Queensland Development Code were produced. This mapping shows that that some Lots within the development adjacent to the rail line can be classified into *Noise Categories* greater than Category 0. This means that future dwellings on these lots will require to be acoustically treated to mitigate train noise to achieve the requirements of the *Queensland Development Code MP 4.4- Building in a Transport Noise Corridor*. The required Noise Category for future dwelling on lots within the development has been recorded in Tables 4 to 8. In order that the required acoustic treatments carried through into the construction of future dwellings on these Lots it is recommended that Property Notes be recorded on them identifying them as affected by train noise.

Based on the measurements and modelling included in this report, and the required acoustic treatments on the lots identified in Section 6.1.2 of this report, we believe that the development will meet all requirements of the *State Development Assessment Provisions – State Code 2 –Development in a railway environment ver 3*, the *Queensland Development Code MP 4.4- Building in a Transport Noise Corridor* and the *Greater Flagstone Urban Development Area Development Scheme* and should be approved.

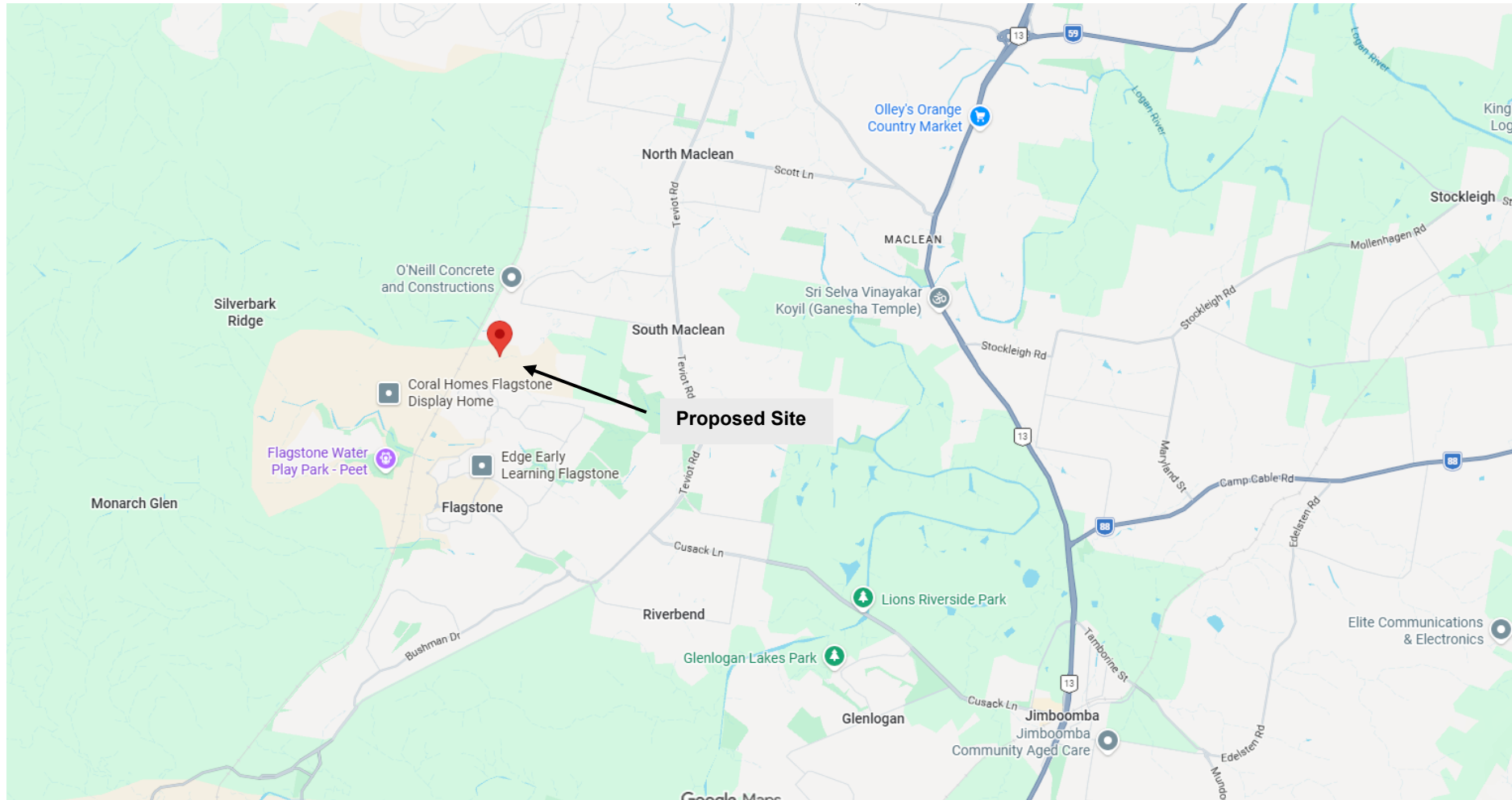
Report Compiled by:



John Cristaudo
Acoustic Engineer
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Decibell Consulting

APPENDIX

Proposed Development Site Sketch No. 1-Locality



Propose Development Site Sketch No.2
Aerial Photograph



[illegible]

* Excludes Open Space

LEGEND

- | | | | |
|---|----------------------------|---|--|
|  | SUBJECT SITE |  | OPEN SPACE (3.44ha)
(Major Linear Park) |
|  | CORE KOALA HABITAT AREA |  | NEIGHBOURHOOD RECREATION PARK (0.5ha) |
|  | VEGETATION RETENTION AREA |  | STORMWATER BASIN (1.38ha) |
|  | FLAGSTONE CREEK CENTRELINE |  | LOCAL RECREATION PARK (300m ²) |
|  | 30m CREEK OFFSET LINE |  | 400m PARK RADIUS |
|  | 100m CREEK OFFSET LINE |  | 10m-11m LANDSCAPE BUFFER (INTERFACE LOTS) |
|  | 10m NEW ROAD (BUFFER) | | |

PROPERTY DESCRIPTION

LOT 1 ON RP45241
TOTAL AREA 32.924 ha (Survey)
32.949 ha (Deed)
LOGAN CITY COUNCIL

NOTES

(1) This plan was prepared for the purpose and exclusive use of THE TRUSTEE FOR CHANG FAMILY TRUST T/A ORIS ACCESSORIES PTY LTD to accompany an application to LOGAN CITY COUNCIL for a Development Permit to Reconfigure the land described in the plan and is not to be used for any other purpose or by any other person or corporation. JFP URBAN CONSULTANTS PTY LTD accepts no responsibility for any loss or damage suffered however arising to any person or corporation who may use or rely on this plan in contravention to the terms of this clause or clauses 2, 3, 4, 5, 6 or 7 hereof.

(3) The dimensions, areas, size and location of improvements, flood information (if shown) and number of lots shown on this plan are approximate only and may vary.

(4) The base information shown on this plan is from JFP detail survey plan (B4942SA1 01A) dated 11/12/2025.

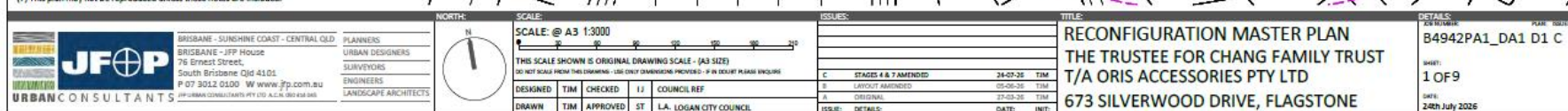
(5) **Safety in Design**
The Urban Design for the layout proposal has been developed to meet the stated project brief, as expressed in JFP Urban Consultants Offer for the works, and the Design Standards stipulated by the Local Authority named on this plan.

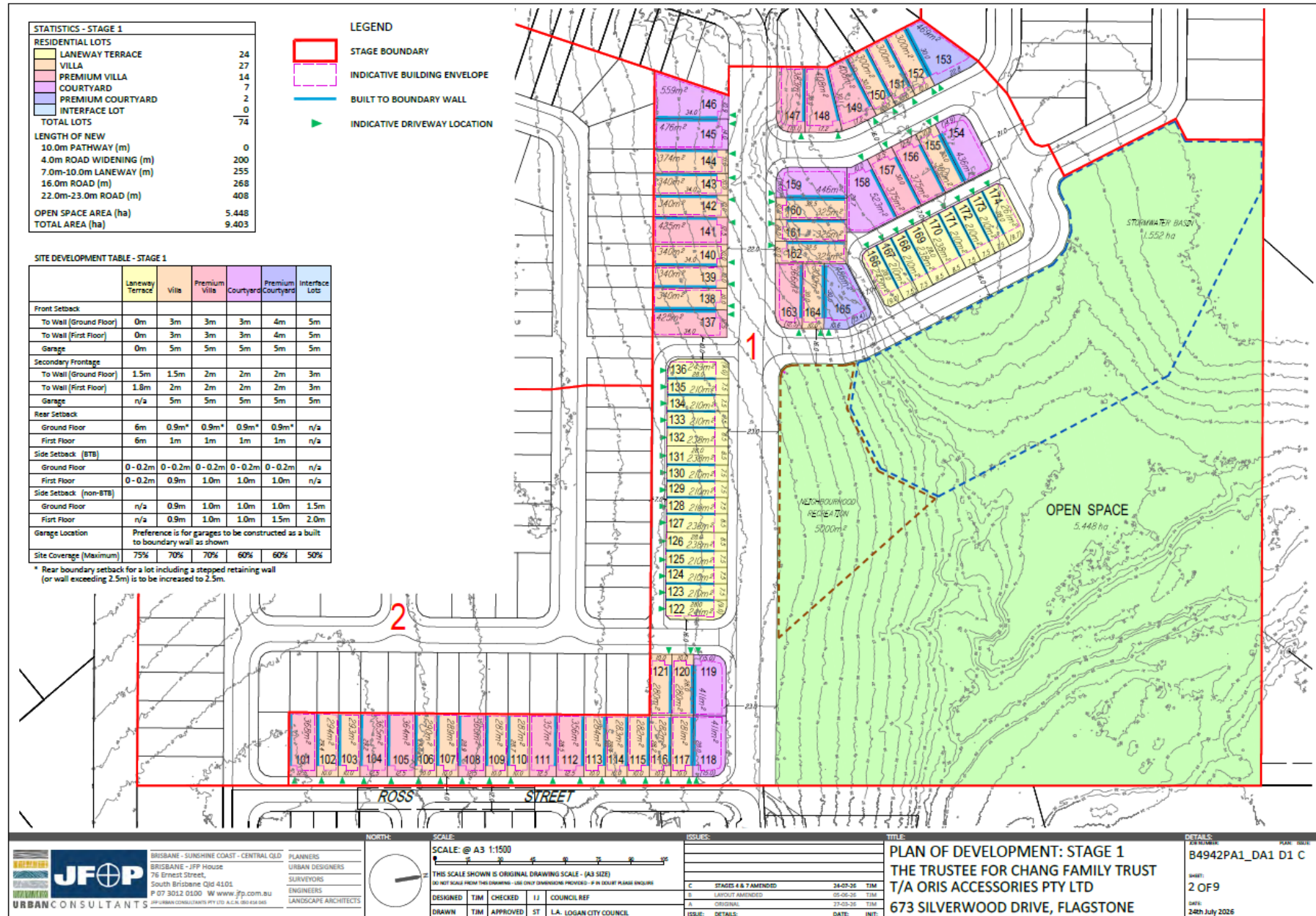
Non-standard design solutions adopted in the preparation of the layout are listed as follows;

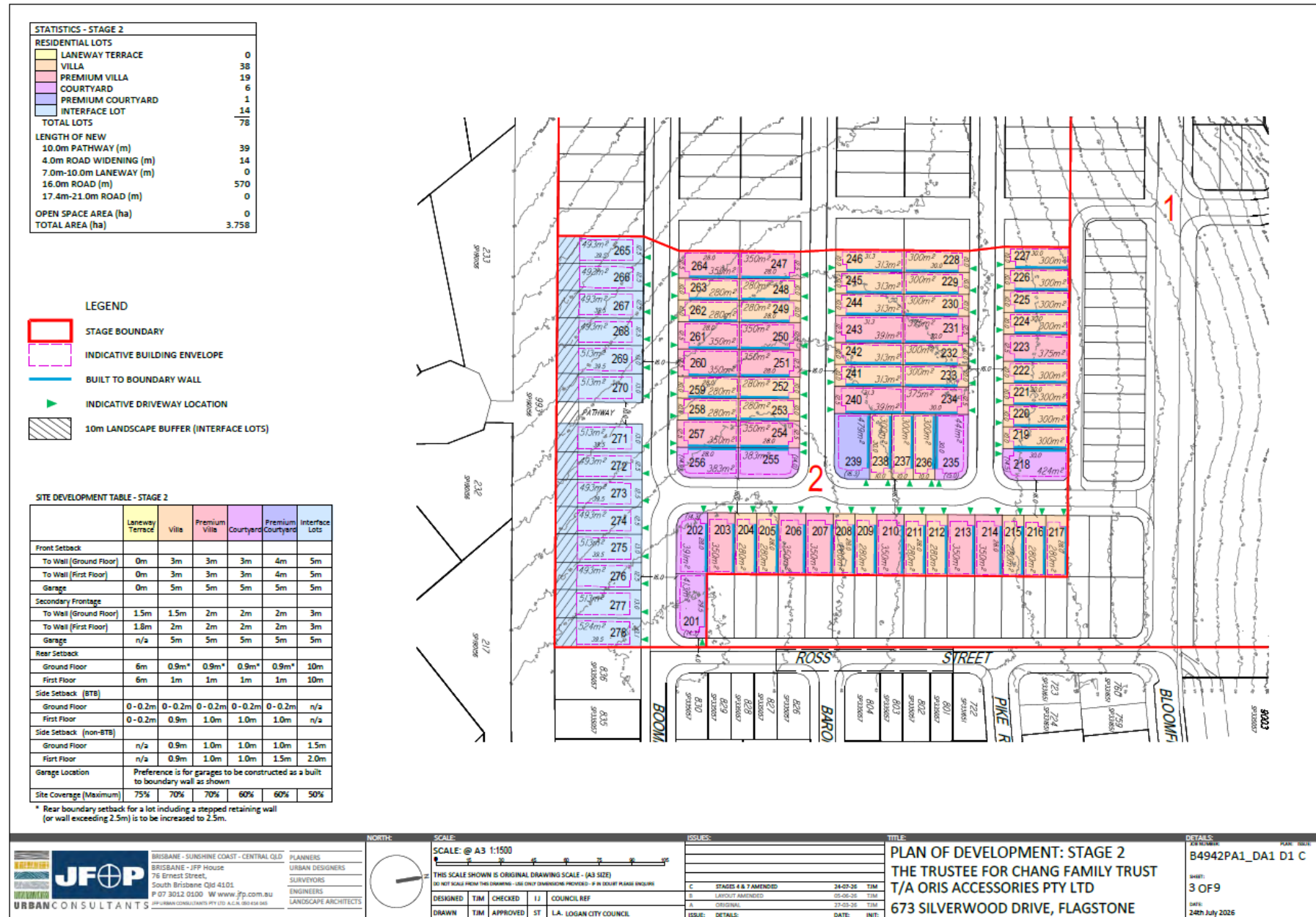
- None

(6) The State Government proposes changes to the Queensland Development Code to reflect the provisions of the National Construction Code 2022. These changes once implemented will have an impact on the design of the future dwellings on the proposed allotments identified on this plan. The amendments to the QDC may also be subject to transitional provisions and we would strongly recommend that you discuss these matters further with your preferred Building Certifier.

(7) This plan may not be reproduced unless these notes are included.







STATISTICS - STAGE 3	
RESIDENTIAL LOTS	
LANEWAY TERRACE	0
VILLA	31
PREMIUM VILLA	12
COURTYARD	17
PREMIUM COURTYARD	4
INTERFACE LOT	9
TOTAL LOTS	73
LENGTH OF NEW	
10.0m PATHWAY (m)	177
4.0m ROAD WIDENING (m)	0
7.0m-10.0m LANEWAY (m)	0
16.0m ROAD (m)	526
17.4m-21.0m ROAD (m)	0
OPEN SPACE AREA (ha)	0
TOTAL AREA (ha)	3.848

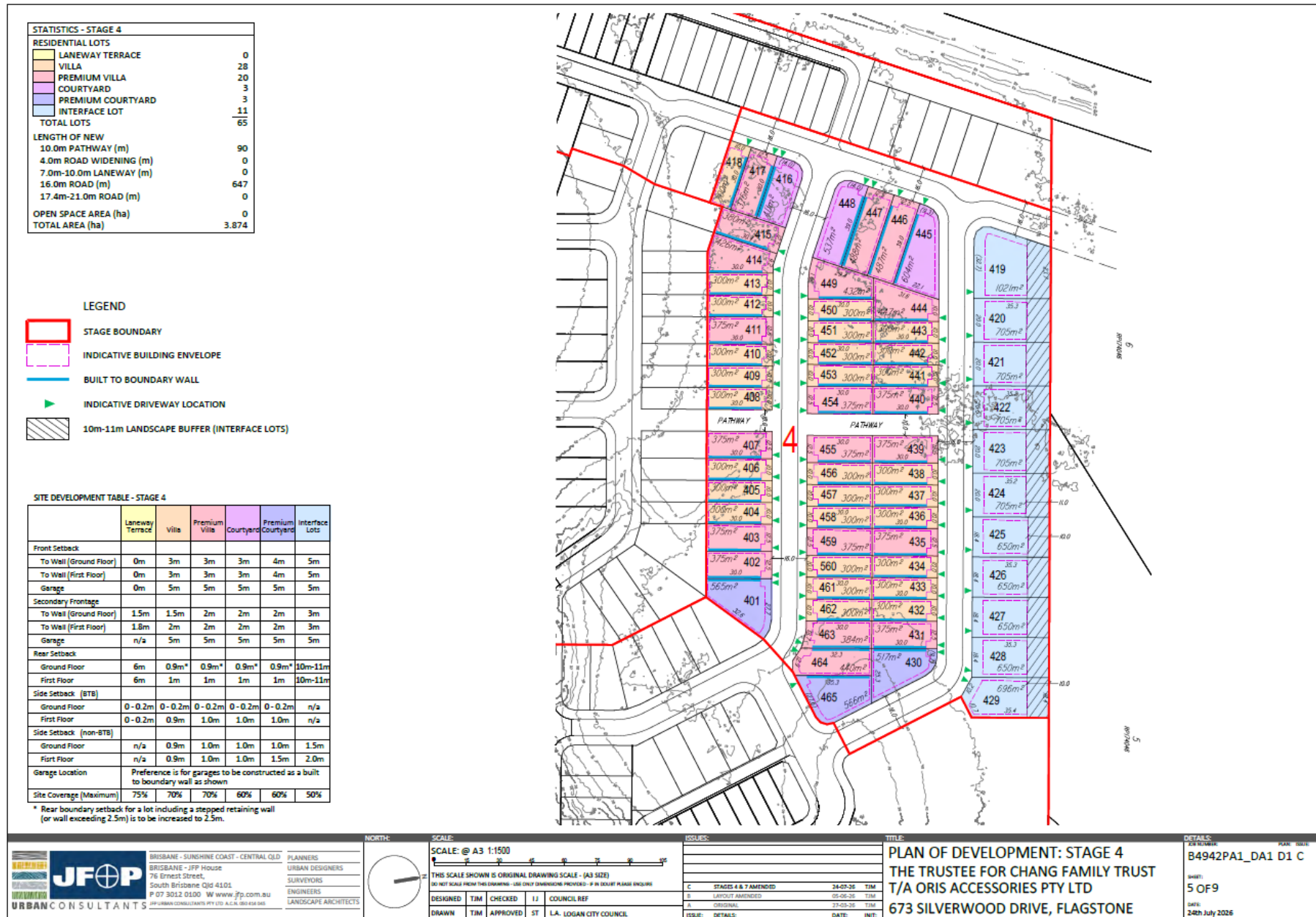
LEGEND	
	STAGE BOUNDARY
	INDICATIVE BUILDING ENVELOPE
	BUILT TO BOUNDARY WALL
	INDICATIVE DRIVEWAY LOCATION
	10m LANDSCAPE BUFFER (INTERFACE LOTS)

SITE DEVELOPMENT TABLE - STAGE 3						
	LaneWAY Terrace	Villa	Premium Villa	Courtyard	Premium Courtyard	Interface Lots
Front Setback						
To Wall (Ground Floor)	0m	3m	3m	3m	4m	5m
To Wall (First Floor)	0m	3m	3m	3m	4m	5m
Garage	0m	5m	5m	5m	5m	5m
Secondary Frontage						
To Wall (Ground Floor)	1.5m	1.5m	2m	2m	2m	3m
To Wall (First Floor)	1.8m	2m	2m	2m	2m	3m
Garage	n/a	5m	5m	5m	5m	5m
Rear Setback						
Ground Floor	6m	0.9m*	0.9m*	0.9m*	0.9m*	10m
First Floor	6m	1m	1m	1m	1m	10m
Side Setback (BTB)						
Ground Floor	0 - 0.2m	0 - 0.2m	0 - 0.2m	0 - 0.2m	0 - 0.2m	n/a
First Floor	0 - 0.2m	0.9m	1.0m	1.0m	1.0m	n/a
Side Setback (non-BTB)						
Ground Floor	n/a	0.9m	1.0m	1.0m	1.0m	1.5m
First Floor	n/a	0.9m	1.0m	1.0m	1.5m	2.0m
Garage Location	Preference is for garages to be constructed as a built to boundary wall as shown					
Site Coverage (Maximum)	75%	70%	70%	60%	60%	50%

* Rear boundary setback for a lot including a stepped retaining wall (or wall exceeding 2.5m) is to be increased to 2.5m.



 BRISBANE - SUNSHINE COAST - CENTRAL QLD BRISBANE - JFP House 76 Ernest Street, South Brisbane Qld 4101 P 07 3012 0100 W www.jfp.com.au JFP URBAN CONSULTANTS PTY LTD A.C.N. 604 638 388	PLANNERS URBAN DESIGNERS SURVEYORS ENGINEERS LANDSCAPE ARCHITECTS	NORTH SCALE: SCALE: @ A3 1:1500 THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE - (A3 SIZE) DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE	ISSUES: C STAGES 4 & 7 AMENDED 28-07-26 TIM S LAYOUT AMENDED 05-08-26 TIM A CORRECTION 24-09-26 TIM ISSUE: DETAILS DATE: INT:	TITLE PLAN OF DEVELOPMENT: STAGE 3 THE TRUSTEE FOR CHANG FAMILY TRUST T/A ORIS ACCESSORIES PTY LTD 673 SILVERWOOD DRIVE, FLAGSTONE	DETAILS PLAN: B84942PA1_DA1 D1 C SHEET: 4 OF 9 DATE: 24th July 2026



STATISTICS - STAGE 5	
RESIDENTIAL LOTS	
LANEWAY TERRACE	0
VILLA	48
PREMIUM VILLA	18
COURTYARD	10
PREMIUM COURTYARD	3
INTERFACE LOT	0
TOTAL LOTS	79
LENGTH OF NEW	
10.0m PATHWAY (m)	210
4.0m ROAD WIDENING (m)	0
7.0m-10.0m LANEWAY (m)	0
16.0m ROAD (m)	436
17.4m-21.0m ROAD (m)	147
OPEN SPACE AREA (ha)	0
TOTAL AREA (ha)	3.962

LEGEND	
	STAGE BOUNDARY
	INDICATIVE BUILDING ENVELOPE
	BUILT TO BOUNDARY WALL
	INDICATIVE DRIVEWAY LOCATION

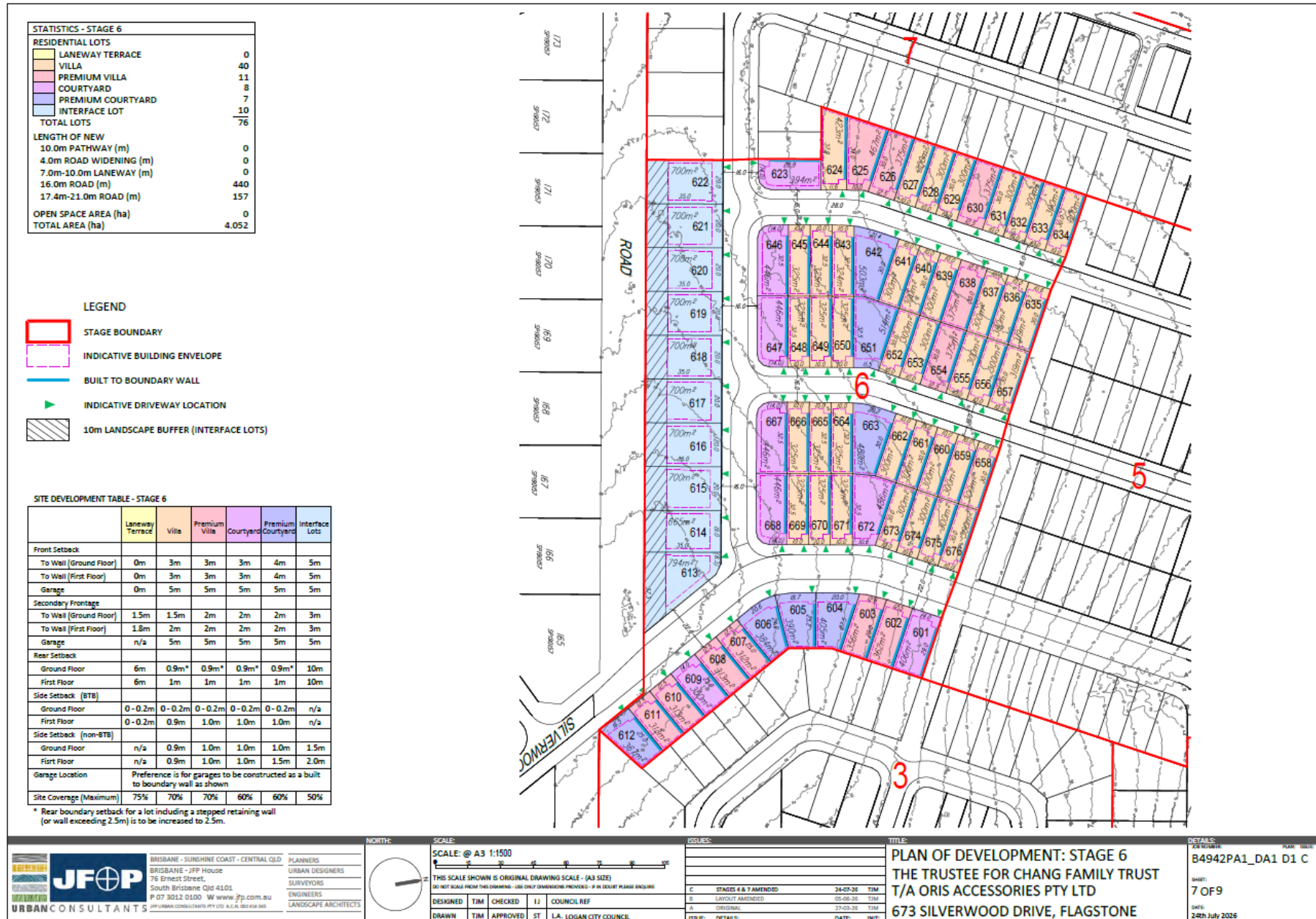
SITE DEVELOPMENT TABLE - STAGE 5

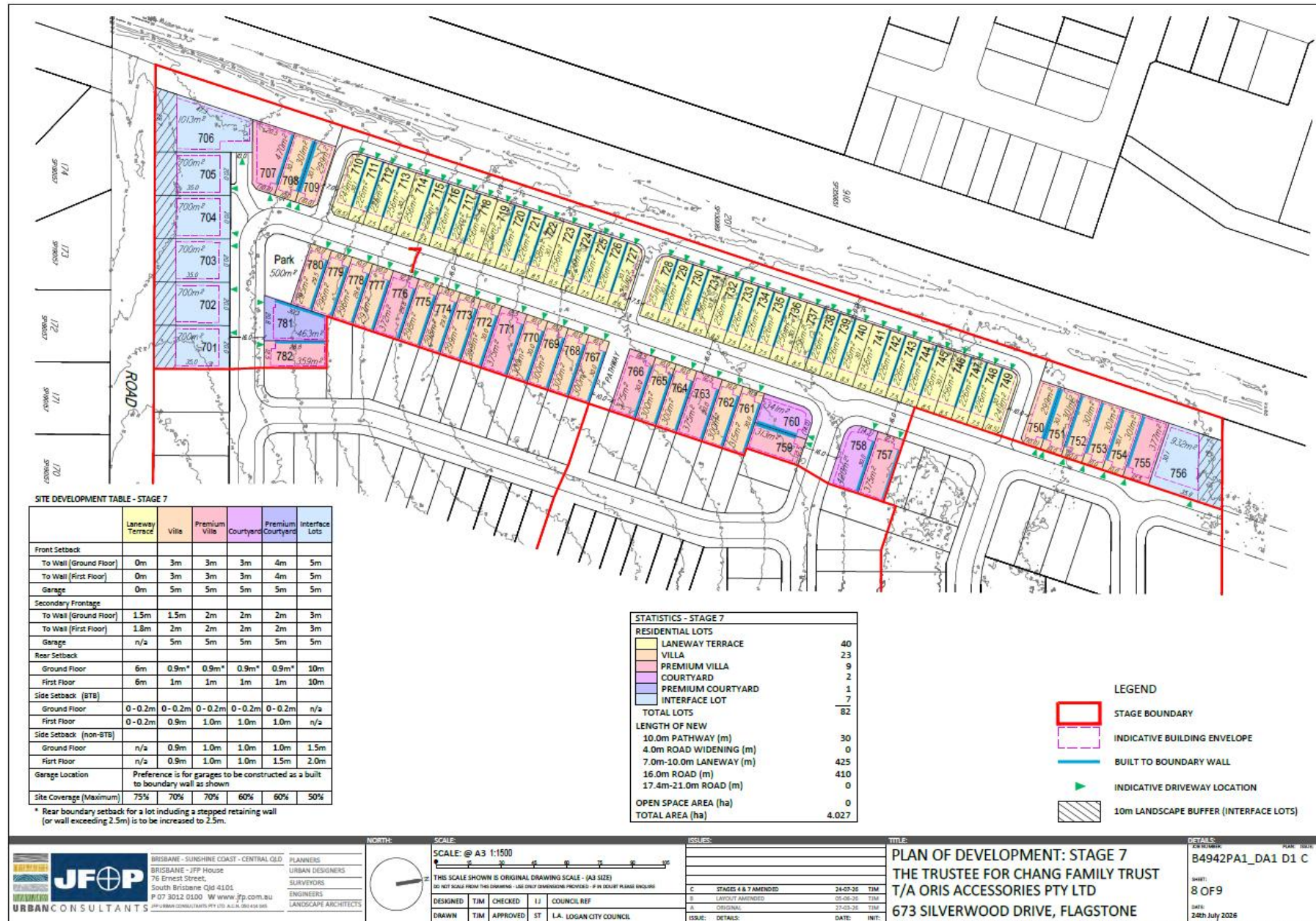
	Laneway Terrace	Villa	Premium Villa	Courtyard	Premium Courtyard	Interface Lots
Front Setback						
To Wall (Ground Floor)	0m	3m	3m	3m	4m	5m
To Wall (First Floor)	0m	3m	3m	3m	4m	5m
Garage	0m	5m	5m	5m	5m	5m
Secondary Frontage						
To Wall (Ground Floor)	1.5m	1.5m	2m	2m	2m	3m
To Wall (First Floor)	1.8m	2m	2m	2m	2m	3m
Garage	n/a	5m	5m	5m	5m	5m
Rear Setback						
Ground Floor	6m	0.9m*	0.9m*	0.9m*	0.9m*	n/a
First Floor	6m	1m	1m	1m	1m	n/a
Side Setback (STB)						
Ground Floor	0-0.2m	0-0.2m	0-0.2m	0-0.2m	0-0.2m	n/a
First Floor	0-0.2m	0.9m	1.0m	1.0m	1.0m	n/a
Side Setback (non-STB)						
Ground Floor	n/a	0.9m	1.0m	1.0m	1.0m	1.5m
First Floor	n/a	0.9m	1.0m	1.0m	1.5m	2.0m
Garage Location						
	Preference is for garages to be constructed as a built to boundary wall as shown					
Site Coverage (Maximum)						
	75%	70%	70%	60%	60%	50%

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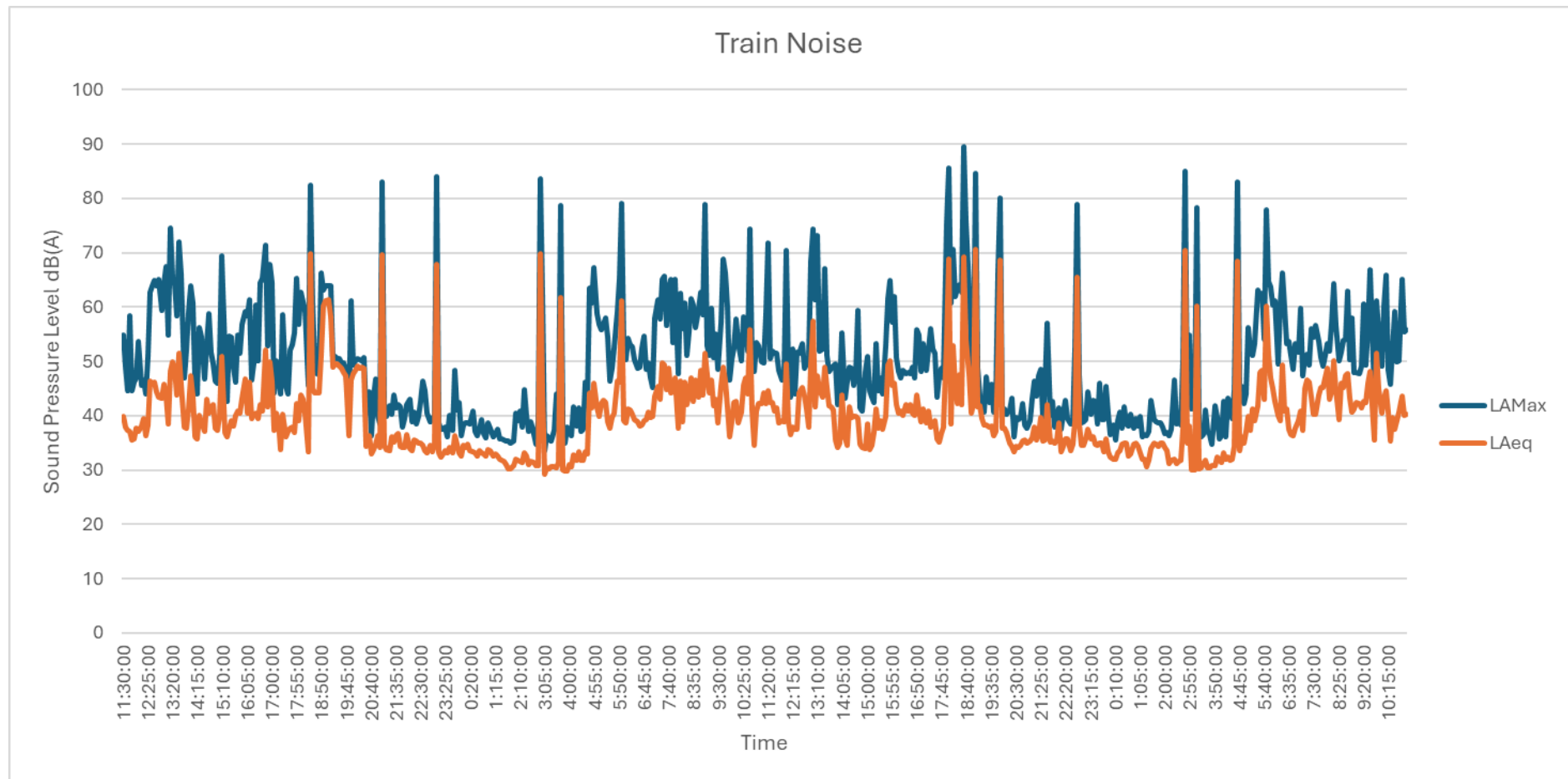


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RAIL NOISE MEASUREMENTS



RAIL NOISE MODELLING

POINT CALCULATIONS

Pen3D2000 V1.9.8

Project Code:Pen

Project Description: PEN noise model

File:C:\dB consulting\Noise Jobs\673 Silverstone Dr Flagstone\673 Silverstone Dr Flagstone.PEN

File Description:Logger

Wednesday 18 Mar, 2026 at 06:11:09

Environmental Calculations (Railway - Moving Line Source)

All railway (moving line) sources included. Line source segmentation angle: 10 degrees. Calculations for specified meteorology.

Noise level results include the maximum of all the noise sources

Meteorology :

Wind speed 0.0 (m/s) Wind direction 0 Mast height 10.0 (m)

Temperature 20.0 (C) Temperature Gradient 0.0 (C/100m) Humidity 50.0 (%)

Surface Roughness of terrain 0.023000000 (m) Zero plane offset 0.080000000 (m)

Receptor

logger

X Posn

(m)

103.7

Y Posn

(m)

90.8

Height

(m)

1.5

Ground

(m)

82.3

Noise Level

(dB(A))