

APPENDIX F

Noise Impact Assessment

Prepared by:

MWA Environmental



NOISE IMPACT ASSESSMENT

PROPOSED SERVICE STATION AND

FOOD AND DRINK OUTLETS DEVELOPMENT

286 LAKESIDE DRIVE

OONOONBA

Prepared for:
Bower Group Pty Ltd
C/- Property Projects Australia

Prepared by:
MWA Environmental

6 August 2025

DOCUMENT CONTROL SHEET

MWA Environmental

Level 8 241 Adelaide Street
GPO Box 3137 Brisbane 4001

Job Name: Ooononba

Job No: 26109

Telephone: 07 3002 5500

Original Date of Issue: 6 August 2026

Email: mail@mwaenviro.com.au

DOCUMENT DETAILS

Title: Noise Impact Assessment – Proposed Service Station and Food and Drink Outlets Developments – 286 Lakeside Drive, Ooononba

Principal Author: Mr Elton Singh

Client: Bower Group Pty Ltd
C/- Property Projects Australia

Client Contact: Mr Toby Fiorillo

REVISION/CHECKING HISTORY

Version Number	Date	Issued By		Checked By	
1 DA Report	06.08.2026	ES		BH	
2					
3					
4					
5					
6					

DISTRIBUTION RECORD

Destination	Version Number								
	1	2	3	4	5	6	7	8	9
Client (electronic)	1								
PPA (electronic)	1								
File Copy	1								
MWA Library									

CONTENTS TABLE

1.0	INTRODUCTION	1
1.1	STUDY BRIEF	1
1.2	SITE DESCRIPTION	1
1.3	PROPOSED DEVELOPMENT	1
2.0	RELEVANT PLANNING SCHEME PROVISIONS	3
2.1	ACOUSTIC QUALITY OBJECTIVES	3
2.2	CONTROLLING BACKGROUND CREEP	4
2.3	SLEEP DISTURBANCE	5
3.0	NOISE IMPACT ASSESSMENT	6
3.1	NEAREST NOISE SENSITIVE RECEPTORS	6
3.2	CONTINUOUS NOISE - MECHANICAL PLANT ASSESSMENT	7
3.3	TIME-VARYING NOISE ASSESSMENT	8
3.3.1	SERVICING RELATED NOISE IMPACT	9
3.3.2	CAR PARKING, OPERATIONAL AND SITE TRAFFIC NOISE IMPACT 10	
3.4	OVERALL DEVELOPMENT NOISE LEVELS	11
4.0	CONCLUSION	13

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

1.1 STUDY BRIEF

MWA Environmental has been engaged to prepare a Noise Impact Assessment for a proposed service station and two food and drink outlets development at 286 Lakeside Drive, Oonoonba (Lot 6000 on SP302846).

The assessment has considered the potential noise amenity impacts upon surrounding noise sensitive receptors. The assessment is based on noise measurements conducted of key sources associated with the proposed uses and detailed noise propagation modelling.

This report has addressed the development against the Townsville City Plan provisions and provides an assessment of predicted noise impacts of the use upon the nearest noise sensitive receptors against relevant noise standards.

1.2 SITE DESCRIPTION

The site is located on land described as Lot 6000 on SP302846, Oonoonba.

Surrounding land uses are described as follows:

To the North:	Lakeside Drive to the north with future residential allotments beyond.
To the East:	North Coast Railway Line adjacent to the site with and Abbott Street further to the east.
To the South:	Vacant land to the south
To the West:	Lakeside Drive with existing park and residential dwellings beyond the road.

It is noted that land to the north is subject to an application for future residential subdivision, formerly identified as Stages 7C and 7D of 'The Village'. The site is situated within *The Village, Oonoonba Priority Development Area (PDA)*.

The site and surrounding land uses are shown on **Figure 1** and Townsville CityPlan zoning on **Figure 2**.

1.3 PROPOSED DEVELOPMENT

The application seeks a Development Permit for a service station and two food and drink outlets on the subject site. The total land area is 8,545m² and 7,796m² of development area.

The proposed service station (T1) has four (4) double-sided refuelling bays, seven car parking bays and a loading / refuse area on the eastern side of the building.

There is a proposed food and drink outlet (T2) with a single lane drive-thru ordering system that is attached on the western side of the service station building. The other food and drink outlet (T3) is located on the southern part of the subject site and has a dual lane drive-thru ordering system.

A total of 27 parking spaces are provided for the food and drink outlets. The proposed uses each have a dedicated refuse collection and loading area.

The service station and food and drink outlets are proposed to trade 24 hours / 7 days a week subject to satisfaction of the relevant noise amenity criteria.

Proposed development plans are included in **Attachment 1**.

The following noise sources associated with the proposed development have been considered in this assessment:

- Mechanical plant and equipment noise (i.e. air-conditioning units, refrigeration plant, compressors and exhaust ventilation fans);
- Servicing activities (i.e. fuel tanker, truck airbrake, MRV movements and loading bay/waste collection activities); and
- Vehicles and carparking and ordering system (i.e. slow speed traffic on-site, engine starts, door slams, order point noise).

2.0 RELEVANT PLANNING SCHEME PROVISIONS

The proposed development is located in the Oonoonba Priority Development Area with a Preliminary Approval over the site. The Preliminary Approval references development outcomes to comply with the Environmental Protection (Noise) Policy 2008 ('EPP').

2.1 ACOUSTIC QUALITY OBJECTIVES

The 'Acoustic Quality Objectives' from Schedule 1 of the EPP for residential dwellings are presented in **Table 1**.

Table 1: Acoustic Quality Objectives

SENSITIVE RECEPTOR	PERIOD	ACOUSTIC QUALITY OBJECTIVES (MEASURED AT THE RECEPTOR) DB(A)			ENVIRONMENTAL VALUE
		($L_{Aeq,adj,1-hour}$)	($L_{A10,adj,1-hour}$)	($L_{A1,adj,1-hour}$)	
Dwelling (for outdoors)	Daytime and evening	50	55	65	Health and wellbeing
Dwelling (for indoors)	Daytime and evening	35	40	45	Health and wellbeing
	Night-time	30	35	40	Health and wellbeing, in relation to the ability to sleep

Previous experience with noise measurements conducted at similar facilities demonstrates that the most stringent of the Acoustic Quality Objective parameter for dwellings are the L_{Aeq} levels for each period of the day.

A typical 7 dBA reduction by the building envelope with windows and/or doors open was considered to derive the representative external noise criteria from the respective indoors noise limits¹.

¹ AS3671 states approximate 10 dB(A) noise reduction through a façade with 10% open area. Thus approximately 7 dB(A) noise reduction through a façade with 20% open area. A large 1200x1800 sliding window relates to approximately 10% open area. A large 2100x2300 sliding glass door represents approximately 20% open area. Thus, 7dB(A) noise reduction is conservatively adopted based upon a large sliding glass door in the affected façade. Openings larger than 20% open area are unlikely to be necessary for ventilation during the night period.

Given proximity of the subject site and surrounding residential interfaces to major roadways (Abbott Street and Lakeside Drive) and the North Coast railway the Acoustic Quality Objectives are expected to be currently exceeded, as indicated by noise monitoring previously conducted by MWA Environmental at a development site approximately 2km to the south of the subject land in proximity to Lakeside Drive. Therefore, Acoustic Quality Objectives are not considered the appropriate basis for determination of project noise criteria to protect the environmental values of the nearby sensitive receptors.

The 'Controlling Background Creep' criteria specified in the EPP are applied for this assessment as per **Section 2.2** in order to assess the development impact on the environmental values of the receiving environment.

2.2 CONTROLLING BACKGROUND CREEP

Considering the nature of noise emissions from the development, the 'controlling background creep' criteria specified for both 'continuous noise' and 'noise that varies over time' are relevant, as follows:

10 Controlling Background Creep

(1) *This section states the management intent for an activity involving noise.*

Note—

See section 51 of the Environmental Protection Regulation 2008.

(2) *To the extent that it is reasonable to do so, noise from an activity must not be—*

(a) *for noise that is continuous noise measured by $L_{A90,T}$ – more than nil dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$; or*

(b) *for noise that varies over time measured by $L_{Aeq,adj,T}$ - more than 5 dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$.*

As such, the adopted noise criteria for this assessment of noise impacts from the proposed development are that:

- the noise from **mechanical plant** (continuous steady-state noise) measured as the $L_{A90,adj,T}$ does not exceed the otherwise prevailing $L_{A90,T}$; and
- the **overall noise** from the use measured as the $L_{Aeq,adj,T}$ including vehicle and operation activities (noise that varies over time) does not exceed the otherwise prevailing $L_{A90,T}$ by more than 5 dB(A).

MWA Environmental has previously conducted noise monitoring for a development site approximately 2km to the south of the subject land in proximity to Lakeside Drive. The previous noise monitoring location is considered to be a representative but conservative assessment of the ambient background (L_{A90}) noise levels at the subject site. The conservative rating background noise levels (L_{A90}) recorded at the site to the south and adopted for this assessment are:

Day (7am to 6pm): 43 dB(A)
 Evening (6pm to 10pm): 39 dB(A)
 Night (10pm to 7am): 37 dB(A)

The applicable criteria are presented in **Table 2**.

Table 2: Background Creep Criteria

Period	Rating Background Noise Level (L_{A90}) – dB(A)	Mechanical Plant Noise Criteria (L_{A90}) – dB(A)	Overall Noise Criteria (L_{Aeq}) – dB(A)
Daytime (7:00am to 6:00pm)	43	43	48
Evening (6:00pm to 10:00pm)	39	39	44
Night-time (10:00pm to 7:00am)	37	37	42

2.3 SLEEP DISTURBANCE

As the site will operate during the night period it is appropriate to consider the potential for sleep disturbance at nearby sensitive receptors. Queensland *Ecoaccess Guideline: Noise - Planning for Noise Control* (2015) indicates that unreasonable sleep disturbance impacts can occur when short duration noise peaks in the range 45 to 50 dB(A) within a bedroom occur more than 10 to 15 times per night.

Consideration of potential sleep disturbance noise criteria should also give regard to the ambient noise environment i.e. whether noise from vehicles on public roads results in noise levels above the default planning criteria.

Given the elevated ambient transportation noise at the locality (Abbott Street, Lakeside Drive and railway) and during the 10pm to 7am period the higher range sleep disturbance noise criterion of 50 dB(A) L_{max} noise level within a bedroom due to noise from vehicle movements and car starts / door slams during the night period is appropriate. Adopting a typical 7 dB(A) noise reduction through an open window relates to a sleep disturbance criterion of **L_{max} 57 dB(A) external** to a bedroom window.

3.0 NOISE IMPACT ASSESSMENT

3.1 NEAREST NOISE SENSITIVE RECEPTORS

Assessment of noise impacts from the proposed development has been made at the nearest noise sensitive receptor locations as shown on **Figure 3** and described below.

R1 (North):	Future residential lots - highset dwelling
R2 (Northwest):	1 Darter Street – highset dwelling
R3 (West):	4 Bushlark Street – single storey dwelling
R4 (Southwest):	40 Northshore Circuit – single storey dwelling
R5 (Southwest):	42 Northshore Circuit – single storey dwelling
R6 (South):	44 Northshore Circuit – single storey dwelling
R7 (Northeast):	Abbott Street – above ground single storey dwelling
R7 (Southeast):	2 Abbott Street – above ground single storey dwelling

It is noted that Receptor 1 (R1) is located on land subject to an application for future residential subdivision, formerly identified as Stages 7C and 7D of The Village. The site is situated within *The Village, Oonoonba Priority Development Area (PDA)*. The development design of the residential lots including setbacks have been relied upon for assessment of noise impact upon the future lots.

As part of the development approval for The Village, an acoustic assessment prepared by Colliers and approved by SARA evaluated noise impacts from the adjacent rail corridor and road traffic on Lakeside Drive ². The assessment recommended acoustic barriers along the southern and eastern boundaries of the development to achieve compliance with the requirements of State Code 1. The recommended barrier heights range from 1.8 metres to 3.0 metres.

Although the acoustic barriers form part of the approved residential development and are required to achieve the state noise criteria, they have not been relied upon for this assessment.

² Noise Impact Assessment Report, The Village - Stage 7C and 7D Residential Subdivision
At Abbott Street, Oonoonba, 24GCA0050 R01_2 dated 30.10.25

3.2 CONTINUOUS NOISE - MECHANICAL PLANT ASSESSMENT

No detailed specification for external mechanical plant associated with the development is available at this stage. The architectural plans indicate screened areas on the roof top of the building. The external mechanical plant is likely to include:

- air-conditioning units;
- refrigeration plant; and
- exhaust fans and/or other similar units

Any air conditioning units and other mechanical plant and equipment associated with the development should be selected, located and acoustically treated and/or shielded to achieve the relevant noise criteria depending upon the operating periods of the equipment.

The more stringent night-time noise criteria of **37 dB(A) L_{A90}** is applicable to the nearest residential receptors for plant that will operate during the night period (10pm to 7am). Higher noise criteria are applicable for plant that does not operate during the night period.

Based upon typical requirements for mechanical plant for similar developments, the following indicative plant items have been represented in the SoundPLAN model:

Food and Drink Outlet (each tenancy)

- | | |
|-----------------------------------|--------------|
| • Package air-conditioning unit 1 | 80 dB(A) SWL |
| • Package air-conditioning unit 2 | 70 dB(A) SWL |
| • Package refrigeration unit | 80 dB(A) SWL |
| • Exhaust fan 1 | 73 dB(A) SWL |
| • Exhaust fan 2 | 73 dB(A) SWL |
| • Exhaust fan 3 | 73 dB(A) SWL |
| • Exhaust fan 4 | 79 dB(A) SWL |
| • Exhaust fan 5 | 67 dB(A) SWL |

Service Station

- | | |
|-----------------------------------|--------------|
| • Package air-conditioning unit 1 | 80 dB(A) SWL |
| • Package air-conditioning unit 2 | 70 dB(A) SWL |
| • Package refrigeration unit | 80 dB(A) SWL |
| • Exhaust fan 1 | 73 dB(A) SWL |
| • Exhaust fan 2 | 67 dB(A) SWL |

The predicted noise levels at the nearest noise sensitive receptors are summarised in **Table 3** for assessment of compliance with the adopted noise criteria.

The SoundPLAN noise contour maps of the predicted L_{A90} noise levels of the mechanical plant noise sources are provided in **Attachment 2**.

Table 3: Predicted Mechanical Plant Noise Levels at Surrounding Sensitive Receptors

Receptors	Floor Level	Predicted Noise Level L_{A90} dB(A)
R1	Ground	33
	Upper	32
R2	Ground	28
	Upper	29
R3	Ground	32
R4	Ground	34
R5	Ground	33
R6	Ground	30
R7	Ground (elevated)	29
R7	Ground (elevated)	28
L_{A90} Noise Criterion		43 dB(A) 7am to 6pm 39 dB(A) 6pm to 10pm 37 dB(A) 10pm to 7am

The above demonstrates that mechanical plant noise associated with the development can comply with the adopted noise criteria. Review of mechanical plant noise emissions should be undertaken at the detailed design stage of the project once specific plant items have been selected to ensure compliance with the relevant noise criteria.

3.3 TIME-VARYING NOISE ASSESSMENT

This section addresses potential noise amenity impacts from the intermittent short duration noise sources associated with vehicle movements, servicing, operational noise and carparking at the proposed service station and food and drink outlets.

3.3.1 SERVICING RELATED NOISE IMPACT

The proposed development provides loading and refuse collection areas for each use. The layout of the development has been designed to accommodate various light and heavy vehicle swept paths. The assessed service vehicle movement is based upon the Swept Path diagram provided by Colliers.

Servicing activities for similar sites would typically occur as follows:

- Several small rigid vehicle goods deliveries per day (24 hours)
- Several medium rigid vehicle goods deliveries per week (24 hours)
- Several bulk fuel tanker deliveries per week (24 hours)
- Several refuse collections per week (7am to 10pm only)

Based on this, the SoundPLAN model was conservatively setup to consider noise emissions from the following servicing events occurring within the same 1 hour period, concurrent with peak passenger vehicle traffic:

- 1 fuel tanker delivery for service station (7am to 10pm period);
- 1 refuse collection per proposed use (7am to 10pm period); and
- 2 MRV deliveries per proposed use (24 hours).

Measured noise levels for various loading areas and servicing bays have been recorded by MWA Environmental and others and are summarised in **Table 4**.

Table 4: Servicing Related Noise Sources

Modelled Noise Source	Modelled Source Type	Sound Power Level – dB(A)		Source Height (m)
		L _{eq} , 1hr	L _{max}	
Slow moving large truck (refuelling truck)	Line Source	64/m ³	101	2.5
MRV/RCV Truck Movement	Line Source	59/m ⁴	99	2.5
Truck unloading and refuse collection	Point Source	83 ⁵	101	2.5
Truck air line bleed	Point Source	110 ⁶	110	0.5
Reserving Alarm	Point Source	103 ⁷	103	1.0

The predicted overall development L_{Aeq} noise levels at the nearest sensitive receptors are summarised in **Section 3.4, Table 7** for assessment against the adopted noise criteria.

3.3.2 CAR PARKING, OPERATIONAL AND SITE TRAFFIC NOISE IMPACT

The projected peak hour traffic volumes through the site were based on traffic engineering advice from Colliers. The trip generation is presented in **Table 5** for the highest period being the PM peak.

Table 5: Site Traffic Generation

Use	Peak Generation (vph)
Service Station	127
Food and Drink (T2)	70
Food and Drink (T3)	82
Total	279

³ SWL per truck event based on 1 truck movements per hour travelling at average of 5km/hr.

⁴ SWL per truck event traveling at average of 10km/hr. Activity rate adjusted for 2 delivery/collection trips per hour per use during the 7am to 10pm period and scaled down to 1 delivery/collection trip per hour per use during the 10pm to 7am period.

⁵ 1 hour Leq for activity including unloading or refuse collection during day and evening period only.

⁶ Activity rate adjusted for 2 second noise event per truck movement

⁷ Activity rate adjusted for 30 second noise event per truck event

Source noise levels for vehicle movements and car parking activities have been measured by MWA Environmental and others and the sound power levels (SWLs) are summarised in **Table 6**.

Table 6: Site Traffic and Carparking Noise Sources

Noise Source	Sound Power Level – dB(A)		Source Height (m)
	L _{max}	L _{eq, 1hr}	
Slow moving car enter/exit each use	89	49 dB/metre ⁸	0.5
Slow moving car via drive-thru	89	52 dB/metre ⁹	0.5
Bowser parking area (includes car starts / door slams)	89	84 dB for represented bowser area	0.5
Car parking bays (includes car starts / door slams)	89	77 - 80 dB for represented car parking areas	0.5
Bowser	66	63 dB(A)	1.0
Order Point	85	82	1.0
Paybooth	81	78	1.0
Air Inflation Pressure Release	87	71 ¹⁰	0.5
Air Inflation Beepers	90	74 ¹⁰	0.5

For the purpose of representing varying activity rates during the day, evening and night periods, the evening and night period peak hour traffic generation volumes were represented as 50 percent and 25 percent of the day period peak, respectively.

The predicted overall development L_{Aeq} and L_{Amax} noise levels at the nearest sensitive receptors are summarised in **Section 3.4, Table 7** for assessment against the adopted noise criteria.

3.4 OVERALL DEVELOPMENT NOISE LEVELS

The predicted overall cumulative noise levels the proposed service station and fast food outlets development at the nearest noise sensitive receptors are summarised in **Table 7** below for assessment against the adopted noise criteria.

⁸ SWL for 1 vehicle trip with activity rate adjusted for peak trips per hour per use traveling at average 10km/hr which is reduced by 50% for evening period and 25% for night-time period.

⁹ Based on 70% of peak trips per food and drink per hour using the drive-thru facility at 5km/hr on average.

¹⁰ 96 Seconds per hour during day period was selected (Peak of 79 vehicles per hour, assume 10% use the Air Bay, therefore 8 vehicles per hour x 4 tyres x 3 seconds per tyre = 96 seconds/hour) reduce to 50% use for evening period.

The SoundPLAN noise contour maps of the predicted overall cumulative L_{Aeq} and L_{Amax} noise levels of the noise sources are provided in **Attachment 3**.

Table 7: Predicted Cumulative Noise Levels at Nearest Sensitive Receptors - dB(A)

Sensitive Receptors	Predicted Noise Level $L_{Aeq,1hr}$ dB(A) Day	Predicted Noise Level $L_{Aeq, 1hr}$ dB(A) Evening	Predicted Noise Level $L_{Aeq, 1hr}$ dB(A) Night	Predicted Noise Level L_{Amax} dB(A) Night
R1 - Ground	46	44	41	55
R1 - Upper	47	44	41	56
R2 – Ground	40	38	36	45
R2 - Upper	41	39	37	47
R3	42	41	39	46
R4	43	42	41	51
R5	45	43	41	53
R6	43	41	39	54
R7	41	39	36	47
R8	39	37	34	47
Noise Criteria - $L_{Aeq,1hr}$	48 dB(A)	44 dB(A)	42 dB(A)	-
Sleep Disturbance Criteria - L_{Amax}				57 dB(A)

The modelling undertaken demonstrates that noise emissions from the proposed development can comply with the relevant noise criteria during day, evening and night-time periods at surrounding sensitive receptors.

4.0 CONCLUSION

MWA Environmental has been engaged to prepare a Noise Impact Assessment for a proposed service station and two food and drink outlets development at 286 Lakeside Drive, Oonoonba (Lot 6000 on SP302846).

The assessment has considered the potential noise amenity impacts upon surrounding noise sensitive receptors. The assessment is based on noise measurements conducted of key sources associated with the proposed uses and detailed noise propagation modelling.

The assessment has demonstrated that the proposed development can achieve the relevant noise criteria for protection of environmental values at surrounding sensitive land uses.

The recommended noise control measures are summarised below.

- Mechanical plant and equipment is to be selected to achieve appropriate source noise levels and acoustically screened if necessary based upon assessment at the detailed design stage.
- Where selected mechanical plant varies from the assumptions included in the report, a further assessment of mechanical plant noise impacts may be conducted at the detailed design stage once equipment has been selected to ensure compliance with development approval conditions.
- Refuse collection and bulk refuel deliveries are to be limited to between 7am and 10pm.
- It is recommended that service station tyre inflation beepers be programmed to turn off during night-time period.

In summary, the assessment has determined that the proposed food and drink outlets and service station development can operate on a 24 hour basis in compliance with the relevant noise amenity criteria subject to the implementation of the recommended noise control measures.

MWA Environmental
6 August 2026

FIGURES



LEGEND
 SITE LOCATION

DRAWING REFERENCE
© THE STATE OF QUEENSLAND 2026
(DEPARTMENT OF NATURAL RESOURCES
AND MINES, MANUFACTURING AND
REGIONAL AND RURAL DEVELOPMENT)
QLDGLOBE.

CLIENT
BOWER GROUP PTY LTD
C/- PROPERTY SERVICES AUSTRALIA

PROJECT
**NOISE IMPACT
ASSESSMENT**
PROPOSED COMMERCIAL
DEVELOPMENT
286 LAKESIDE DRIVE
OONOONBA QLD

TITLE
**SITE LOCATION
AND SURROUNDING
LAND USES**

JOB	OONOONBA	FIGURE 1
JOB NO.	26109	
DATE	06/08/26	
SCALE	1:2500 (A4)	
REV.		26109-1

Max Winders & Associates Pty Ltd t/as MWA Environmental
Level 8, 241 Adelaide St, Brisbane. GPO BOX 3137, Brisbane Qld 4001.
P 07 3002 5500 E mail@mwaenviro.com.au
W www.mwaenviro.com.au
ABN 94 010 833 084



LEGEND

— SITE LOCATION

TOWNSVILLE CITY PLAN 2014 ZONES

- COMMUNITY FACILITIES
- LOW DENSITY RESIDENTIAL
- EMERGING COMMUNITY
- SPORT AND RECREATION
- ENVIRONMENTAL MANAGEMENT AND CONSERVATION

DRAWING REFERENCE
CITY OF TOWNSVILLE, 2026,
TOWNSVILLEMAPS, TOWNSVILLE
CITY PLAN ZONING.

N

0 20 40 60 80m

CLIENT
BOWER GROUP PTY LTD
C/- PROPERTY SERVICES AUSTRALIA

PROJECT
NOISE IMPACT ASSESSMENT
PROPOSED COMMERCIAL DEVELOPMENT
286 LAKESIDE DRIVE
OONOONBA QLD

TITLE
ZONING MAP

JOB	OONOONBA	FIGURE 2
JOB NO.	26109	
DATE	06/08/26	DWG NUMBER
SCALE	1:2500 (A4)	26109-2
REV.		

mwa
ENVIRONMENTAL

Max Winders & Associates Pty Ltd t/as MWA Environmental
Level 8, 241 Adelaide St, Brisbane, QPO BOX 3137, Brisbane Qld 4001.
P 07 3002 5500 E mail@mwaenviro.com.au
W www.mwaenviro.com.au
ABN 94 010 833 084

ATTACHMENT 1

Proposed Development Plans

ARCHITECTURAL DA DRAWINGS

PROPOSED MIXED USE DEVELOPMENT

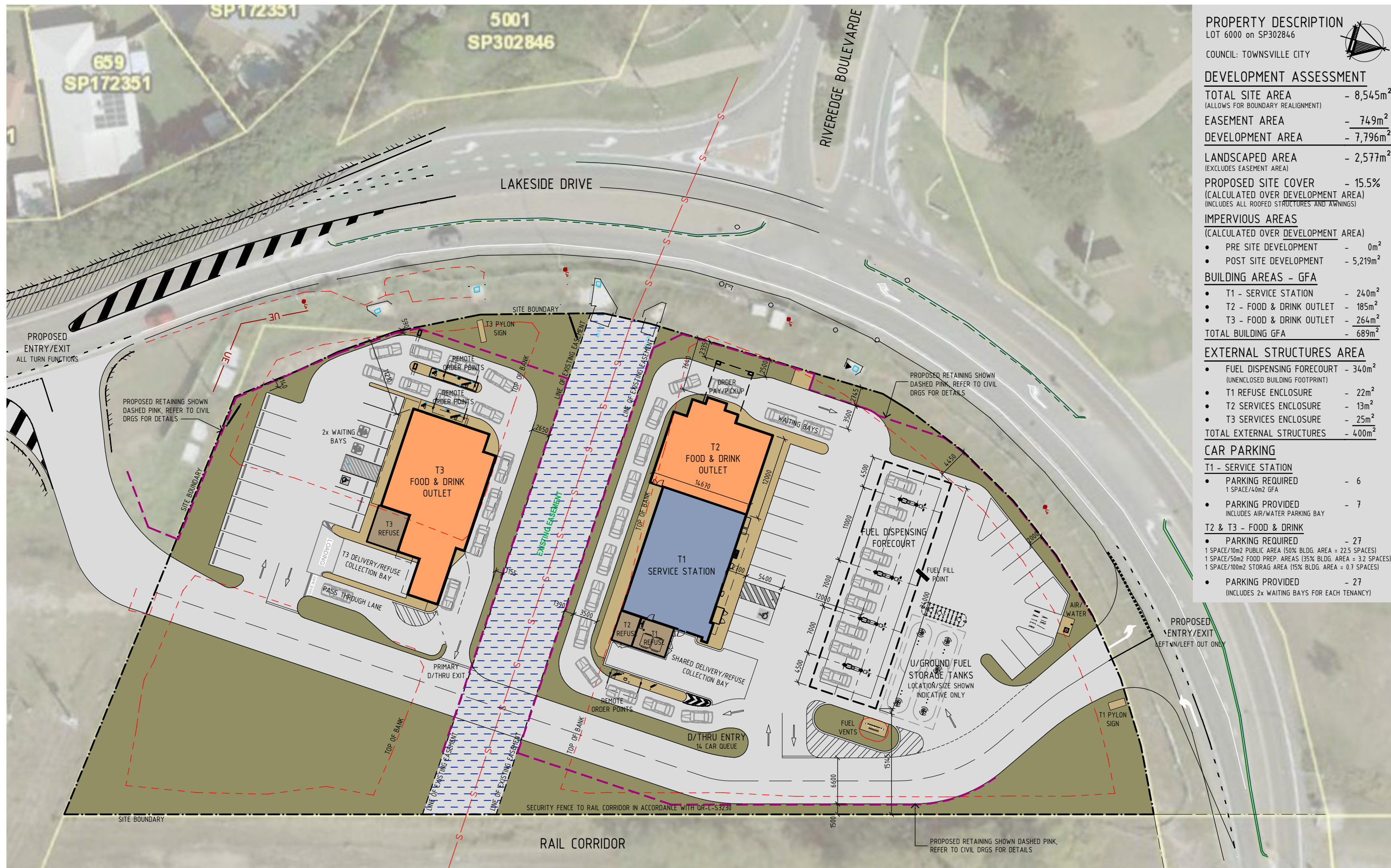
286 LAKESIDE DRIVE, OONOONBA QLD 4811



LOCATION MAP
NOT TO SCALE

ARCHITECTURAL DRAWINGS - DA	
DRG No.	DRAWING TITLE
DA01	COVER PAGE
DA02	PROPOSED SITE PLAN
DA03	CONCEPT SITE PLAN - T1/T2
DA04	BUILDING ELEVATIONS & PERSPECTIVES - T1/T2
DA05	BUILDING ELEVATIONS & PERSPECTIVES - T1/T2
DA06	BUILDING ELEVATIONS & PERSPECTIVES - T3

THIS DRAWING PACKAGE IS FOR D.A. PURPOSES ONLY AND IS NOT TO BE USED FOR TENDER PURPOSES.
ALL DESIGN COMPONENTS ARE SHOWN INDICATIVE ONLY AND ARE SUBJECT TO FINAL DESIGN DURING DETAILED DESIGN BY THE RESPECTIVE CONSULTANT.
ANY PRICING BASED UPON THE DETAILS SHOWN IN THESE DRAWINGS ARE COMPLETELY AT THE RESPONSIBILITY OF THE TENDERER.
VERVE BUILDING DESIGN CO. SHALL NOT BE HELD RESPONSIBLE FOR ANY REQUIRED CHANGES OR UPDATES TO THE DESIGN, POST D.A. THAT ARE PRICE IMPACTED.



PROPERTY DESCRIPTION

LOT 6000 on SP302846

COUNCIL: TOWNSVILLE CITY

DEVELOPMENT ASSESSMENT

TOTAL SITE AREA - 8,545m²
(ALLOWS FOR BOUNDARY REALIGNMENT)EASEMENT AREA - 749m²DEVELOPMENT AREA - 7,796m²LANDSCAPED AREA - 2,577m²
(EXCLUDES EASEMENT AREA)PROPOSED SITE COVER - 15.5%
(CALCULATED OVER DEVELOPMENT AREA)
(INCLUDES ALL ROOFED STRUCTURES AND AWNINGS)

IMPERVIOUS AREAS

(CALCULATED OVER DEVELOPMENT AREA)

- PRE SITE DEVELOPMENT - 0m²
- POST SITE DEVELOPMENT - 5,219m²

BUILDING AREAS - GFA

- T1 - SERVICE STATION - 240m²
- T2 - FOOD & DRINK OUTLET - 185m²
- T3 - FOOD & DRINK OUTLET - 264m²
- TOTAL BUILDING GFA - 689m²

EXTERNAL STRUCTURES AREA

- FUEL DISPENSING FORECOURT - 340m²
(UNENCLOSED BUILDING FOOTPRINT)
- T1 REFUSE ENCLOSURE - 22m²
- T2 SERVICES ENCLOSURE - 13m²
- T3 SERVICES ENCLOSURE - 25m²
- TOTAL EXTERNAL STRUCTURES - 400m²

CAR PARKING

T1 - SERVICE STATION

- PARKING REQUIRED - 6
1 SPACE/40m² GFA
- PARKING PROVIDED - 7
INCLUDES AIR/WATER PARKING BAY

T2 & T3 - FOOD & DRINK

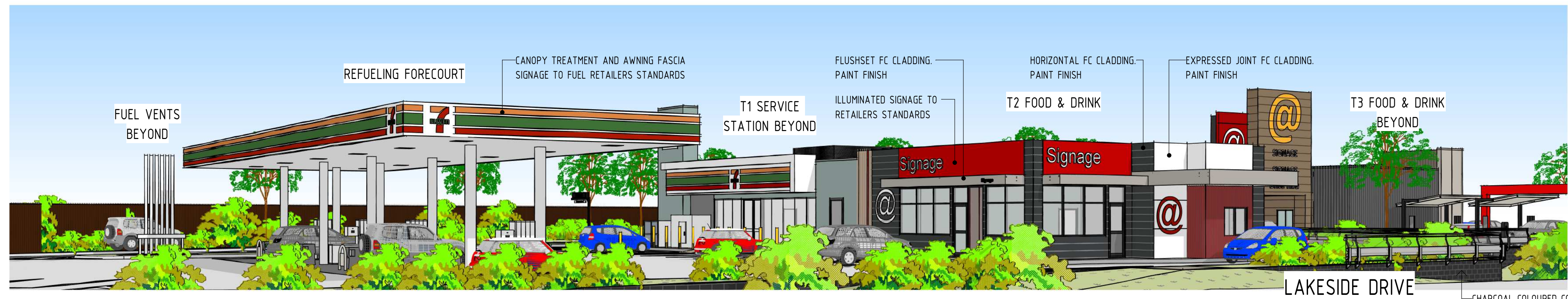
- PARKING REQUIRED - 27
1 SPACE/10m² PUBLIC AREA (50% BLDG. AREA = 22.5 SPACES)
1 SPACE/50m² FOOD PREP. AREAS (35% BLDG. AREA = 3.2 SPACES)
1 SPACE/100m² STORAGE AREA (15% BLDG. AREA = 0.7 SPACES)
- PARKING PROVIDED - 27
(INCLUDES 2x WAITING BAYS FOR EACH TENANCY)

Architectural site plan and floor plan for a proposed petrol station and convenience store. The plan includes the following details:

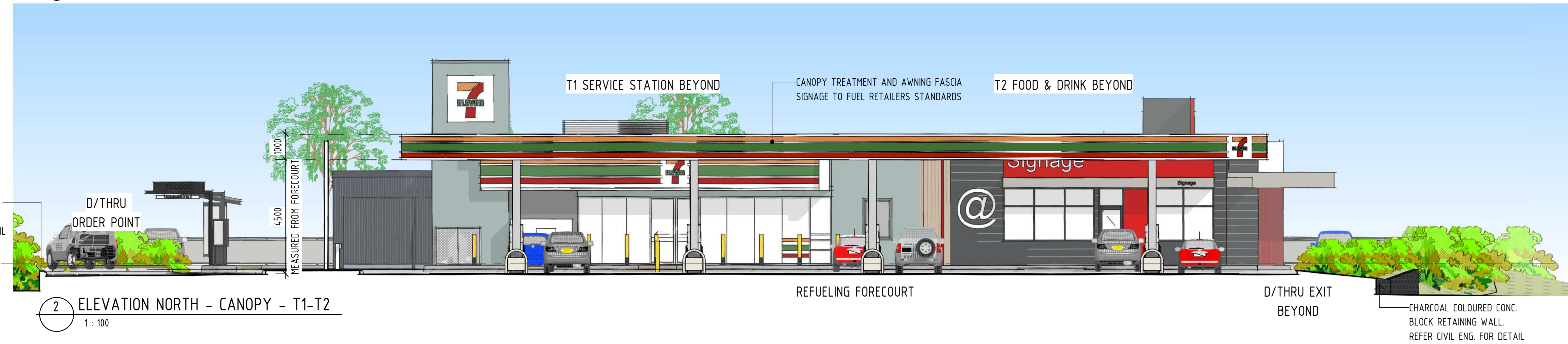
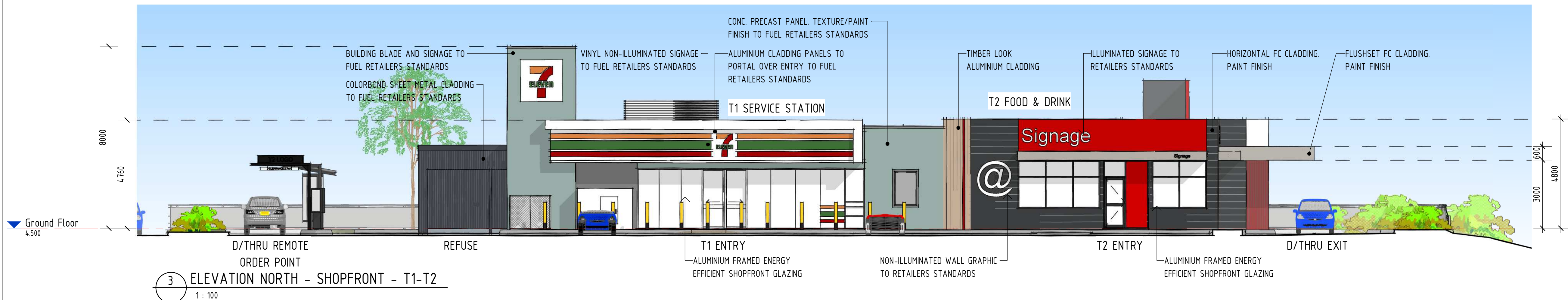
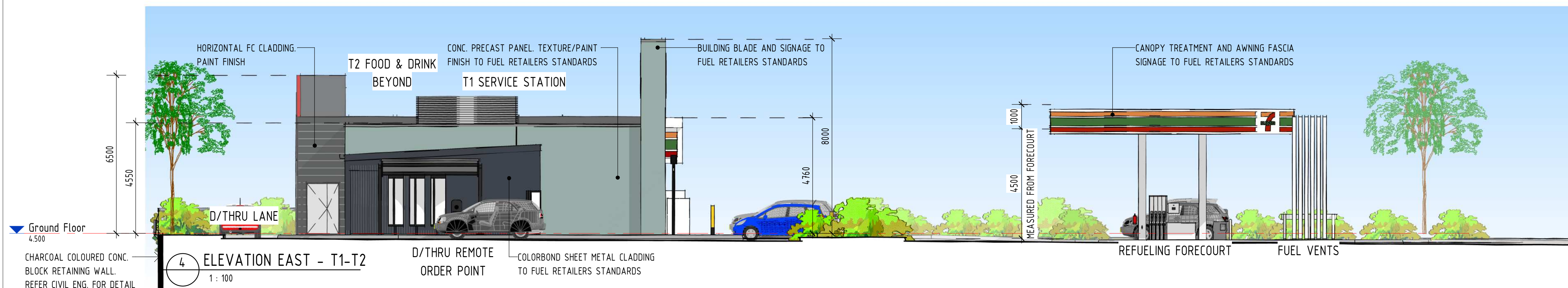
- Building Footprint:**
 - T1 SERVICE STATION:** Includes SHOP/SALES, COLDROOM, and STORAGE.
 - T2 FOOD & DRINK:** Includes BACK OF HOUSE/FOOD PREP, FRONT OF HOUSE/INTERNAL SEATING PUBLIC SPACE, C/ROOM, FZR, and ORDER PAY/PICKUP WINDOW.
 - Other Rooms:** T1 REFUSE, T2 REFUSE, REFUSE ACCESS, AIR COMPRESSOR, T1 DELIVERY, T2 DELIVERY, STAFF WC, UNISEX PWD W.C., MALE W.C., FEMALE W.C., AIRLOCK, OFFICE, FUEL/FOOD SALES CONSOLE, and SHOPFRONT GLAZING.
- Customer Entry:** AUTO BI-PARTING DOORS.
- Shared Delivery/Refuse Collection Bay:** Located adjacent to the T1 and T2 refuse areas.
- Fuel Forecourt:** 8 fuel pumps, 4500m x 10000m.
- Parking:** 10 spaces, 4500m x 10000m.
- Dimensions:**
 - Building: 3800m x 2700m.
 - Forecourt: 4500m x 10000m.
 - Parking: 4500m x 10000m.
- Note:** NOTE: INTERNAL TENANCY PLANS SHOWN INDICATIVE ONLY, AND SUBJECT TO CHANGE.

NOTE:

1. ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY & SUBJECT TO FINAL TENANT STANDARDS
2. ALL DIMENSIONS MEASURED FROM FINISHED GROUND FLOOR LEVEL UNLESS NOTED OTHERWISE
3. ALL SIGNAGE INCLUDING LOCATIONS & HEIGHTS ARE SUBJECT TO A SEPARATE SIGNAGE APPLICATION & APPROVAL BY LOCAL AUTHORITY
4. LANDSCAPING IS SHOWN FOR "ARTIST IMPRESSION" PURPOSES ONLY. REFERENCE SHOULD BE MADE TO THE LANDSCAPE DRAWINGS PREPARED BY THE RELEVANT CONSULTANT



1 PERSPECTIVE 1 - T1-T2

2 ELEVATION NORTH - CANOPY - T1-T2
1 : 1003 ELEVATION NORTH - SHOPFRONT - T1-T2
1 : 1004 ELEVATION EAST - T1-T2
1 : 100

THIS DRAWING PACKAGE IS FOR **D.A. PURPOSES ONLY** AND IS **NOT** TO BE USED FOR TENDER PURPOSES.
ALL DESIGN COMPONENTS ARE SHOWN INDICATIVE ONLY AND ARE SUBJECT TO FINAL DESIGN DURING DETAILED DESIGN BY THE RESPECTIVE CONSULTANT.
ANY PRICING BASED UPON THE DETAILS SHOWN IN THESE DRAWINGS ARE COMPLETELY AT THE **RESPONSIBILITY OF THE TENDERER**.
VERVE BUILDING DESIGN CO. SHALL NOT BE HELD RESPONSIBLE FOR ANY REQUIRED CHANGES OR UPDATES TO THE DESIGN, POST D.A. THAT ARE PRICE IMPACTED.

VERVE SCHEDULES DISCLAIMER:

1. ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET.
2. SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES.
3. ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED.
4. ALL AREAS ARE GROSS AREAS, UNLESS NOTED OTHERWISE

CONSULTING ENGINEER



- | | |
|---------------------------------------|--|
| ☐ commercial | ☐ service stations |
| ☐ mixed-use | ☐ quick service restaurants |
| ☐ self storage | ☐ child care centres |
| ☐ industrial | ☐ large format retail |

© 2011 copyright, all rights reserved.
This drawing is the © copyright & property of VERVE DESIGN GROUP and must not be used or duplicated without authorisation.
Do not scale this drawing.
Check all dimensions on site prior commencement of works

Revision and approvals				
Rev	Date	Drn	Description	Appr
A	18.06.2021	TD	DA ISSUE	
B	16.11.2021	TD	REVISED DA ISSUE	
C	05.10.2022	GN	UPDATES TO T2 TENANCY	
D	28.10.2022	NG	UPDATES TO T2 TENANCY	
P2	29.04.2025	TM	PRELIMINARY ISSUE	
E	29.05.2025	TM	DA ISSUE	
F	13.07.2025	TH	ISSUE FOR D.A.	

Project Description	
PROPOSED MIXED USE DEVELOPMENT 286 LAKESIDE DRIVE, OONONBA QLD 4811	
Scale @A1 As indicated	Date JUNE 2021
Drawn TD	Approved By GN

Drawing Title	
BUILDING ELEVATIONS & PERSPECTIVES - T1/T2	
Job Number - Drawing Number 19212 DA04	Revision F

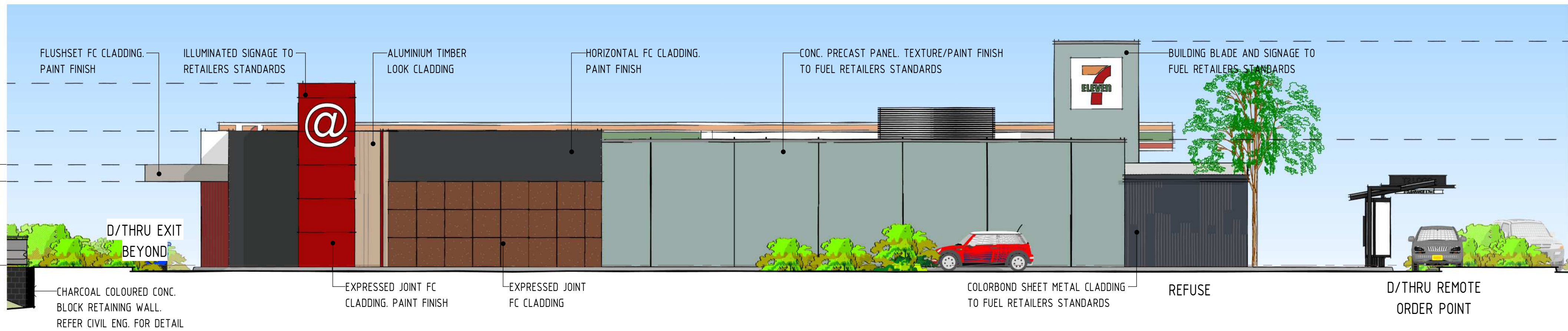
DA ISSUE

THIS DRAWING IS NOT FOR CONSTRUCTION

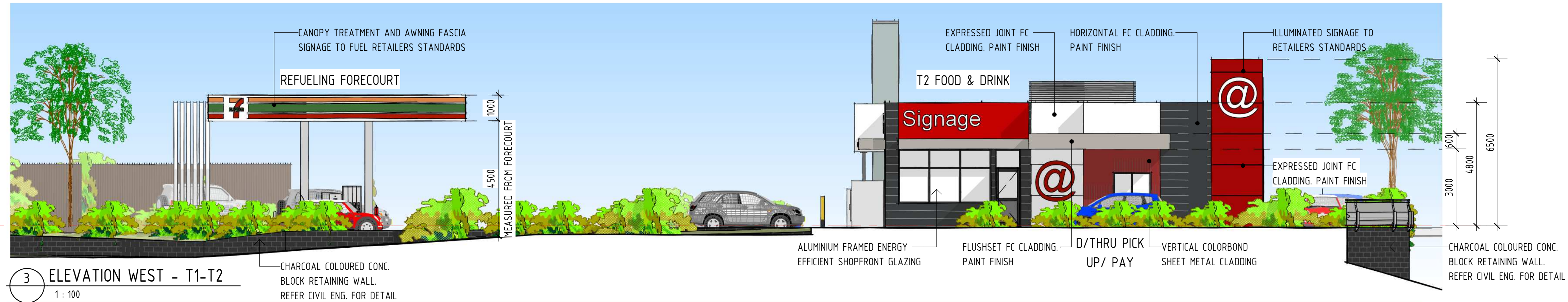
- NOTE:
1. ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY & SUBJECT TO FINAL TENANT STANDARDS
 2. ALL DIMENSIONS MEASURED FROM FINISHED GROUND FLOOR LEVEL UNLESS NOTED OTHERWISE
 3. ALL SIGNAGE INCLUDING LOCATIONS & HEIGHTS ARE SUBJECT TO A SEPARATE SIGNAGE APPLICATION & APPROVAL BY LOCAL AUTHORITY
 4. LANDSCAPING IS SHOWN FOR "ARTIST IMPRESSION" PURPOSES ONLY. REFERENCE SHOULD BE MADE TO THE LANDSCAPE DRAWINGS PREPARED BY THE RELEVANT CONSULTANT

LAKESIDE DRIVE

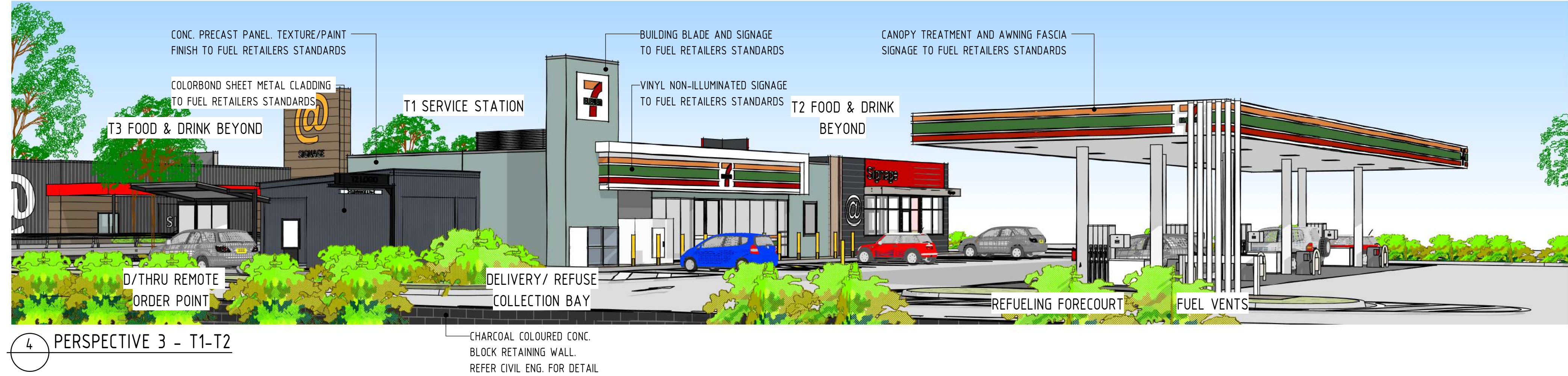
1 PERSPECTIVE 2 - T1-T2



2 ELEVATION SOUTH - T1-T2



3 ELEVATION WEST - T1-T2



4 PERSPECTIVE 3 - T1-T2

THIS DRAWING PACKAGE IS FOR **D.A. PURPOSES ONLY** AND IS **NOT** TO BE USED FOR TENDER PURPOSES. **ALL** DESIGN COMPONENTS ARE SHOWN INDICATIVE ONLY AND ARE SUBJECT TO FINAL DESIGN DURING DETAILED DESIGN BY THE RESPECTIVE CONSULTANT. ANY PRICING BASED UPON THE DETAILS SHOWN IN THESE DRAWINGS ARE COMPLETELY AT THE **RESPONSIBILITY OF THE TENDERER**. VERVE BUILDING DESIGN CO. SHALL NOT BE HELD RESPONSIBLE FOR ANY REQUIRED CHANGES OR UPDATES TO THE DESIGN, POST D.A. THAT ARE PRICE IMPACTED.

VERVE SCHEDULES DISCLAIMER:

1. ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET.
2. SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES.
3. ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED.
4. ALL AREAS ARE GROSS AREAS, UNLESS NOTED OTHERWISE

CONSULTING ENGINEER



- ☐ commercial
- ☐ mixed-use
- ☐ self storage
- ☐ industrial
- ☐ service stations
- ☐ quick service restaurants
- ☐ child care centres
- ☐ large format retail

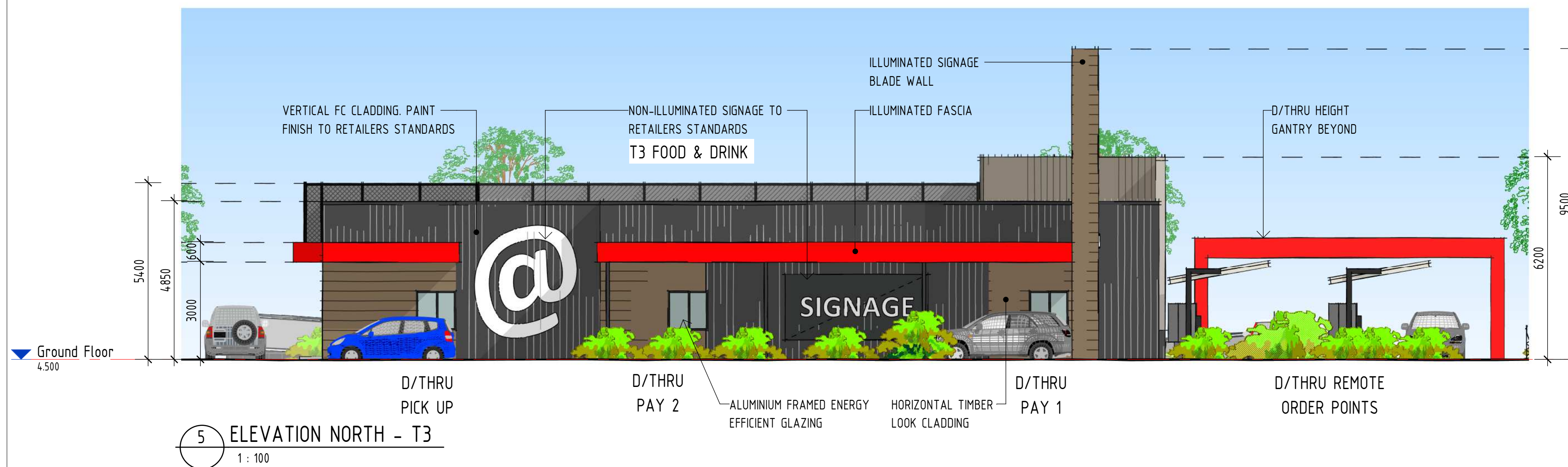
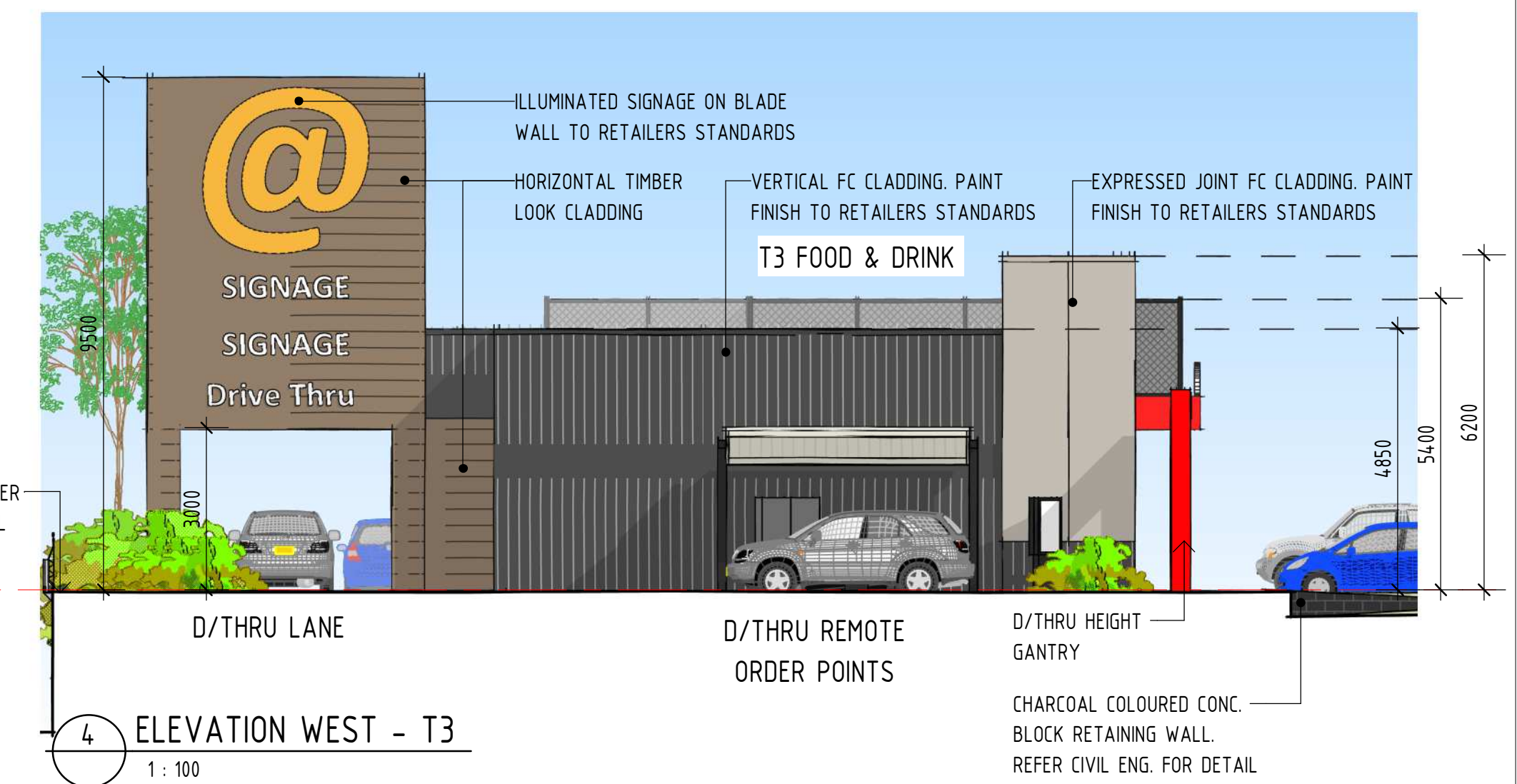
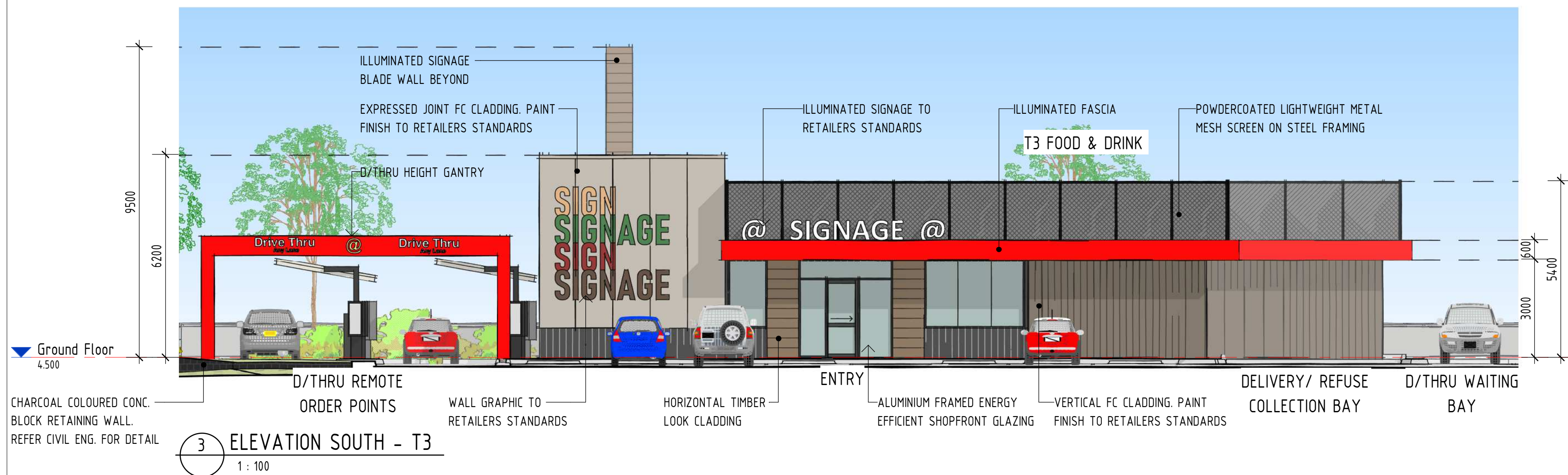
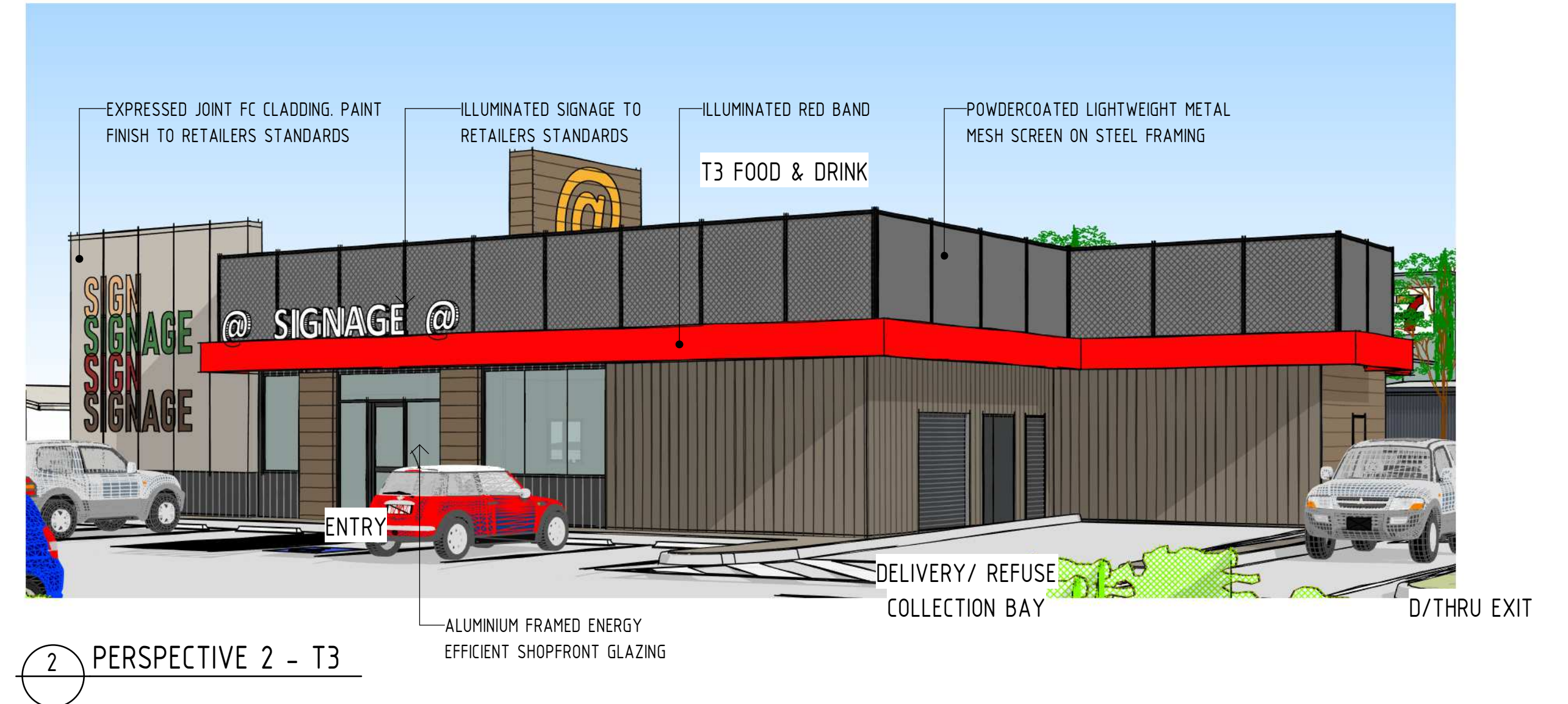
© 2011 copyright, all rights reserved.
This drawing is the © copyright & property of VERVE DESIGN GROUP and must not be used or duplicated without authorisation.
Do not scale this drawing.
Check all dimensions on site prior commencement of works

Revision and approvals					
Rev	Date	Drn	Description	Appr	
A	18.06.2021	TD	DA ISSUE		
B	16.11.2021	TD	REVISED DA ISSUE		
C	05.10.2022	GN	UPDATES TO T2 TENANCY		
D	28.10.2022	NG	UPDATES TO T2 TENANCY		
P2	29.04.2026	TM	PRELIMINARY ISSUE		
E	29.05.2026	TM	DA ISSUE		
F	13.07.2026	TH	ISSUE FOR D.A.		

Project Description	
PROPOSED MIXED USE DEVELOPMENT 286 LAKESIDE DRIVE, OONONBA QLD 4811	
Scale @A1 As indicated	Date JUNE 2021
Drawn TD	Approved By GN

Drawing Title	
BUILDING ELEVATIONS & PERSPECTIVES - T1/T2	
Job Number - Drawing Number 19212 DA05	Revision F

- NOTE:
1. ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY & SUBJECT TO FINAL TENANT STANDARDS
 2. ALL DIMENSIONS MEASURED FROM FINISHED GROUND FLOOR LEVEL UNLESS NOTED OTHERWISE
 3. ALL SIGNAGE INCLUDING LOCATIONS & HEIGHTS ARE SUBJECT TO A SEPARATE SIGNAGE APPLICATION & APPROVAL BY LOCAL AUTHORITY
 4. LANDSCAPING IS SHOWN FOR "ARTIST IMPRESSION" PURPOSES ONLY. REFERENCE SHOULD BE MADE TO THE LANDSCAPE DRAWINGS PREPARED BY THE RELEVANT CONSULTANT



THIS DRAWING PACKAGE IS FOR D.A. PURPOSES ONLY AND IS NOT TO BE USED FOR TENDER PURPOSES. ALL DESIGN COMPONENTS ARE SHOWN INDICATIVE ONLY AND ARE SUBJECT TO FINAL DESIGN DURING DETAILED DESIGN BY THE RESPECTIVE CONSULTANT. ANY PRICING BASED UPON THE DETAILS SHOWN IN THESE DRAWINGS ARE COMPLETELY AT THE RESPONSIBILITY OF THE TENDERER. VERVE BUILDING DESIGN CO. SHALL NOT BE HELD RESPONSIBLE FOR ANY REQUIRED CHANGES OR UPDATES TO THE DESIGN, POST D.A. THAT ARE PRICE IMPACTED.

VERVE SCHEDULES DISCLAIMER:

1. ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET.
2. SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES.
3. ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED.
4. ALL AREAS ARE GROSS AREAS, UNLESS NOTED OTHERWISE

CONSULTING ENGINEER



- | | |
|---------------------------------------|--|
| ☐ commercial | ☐ service stations |
| ☐ mixed-use | ☐ quick service restaurants |
| ☐ self storage | ☐ child care centres |
| ☐ industrial | ☐ large format retail |

© 2011 copyright, all rights reserved.
This drawing is the © copyright & property of VERVE DESIGN GROUP and must not be used or duplicated without authorisation.
Do not scale this drawing.
Check all dimensions on site prior commencement of works

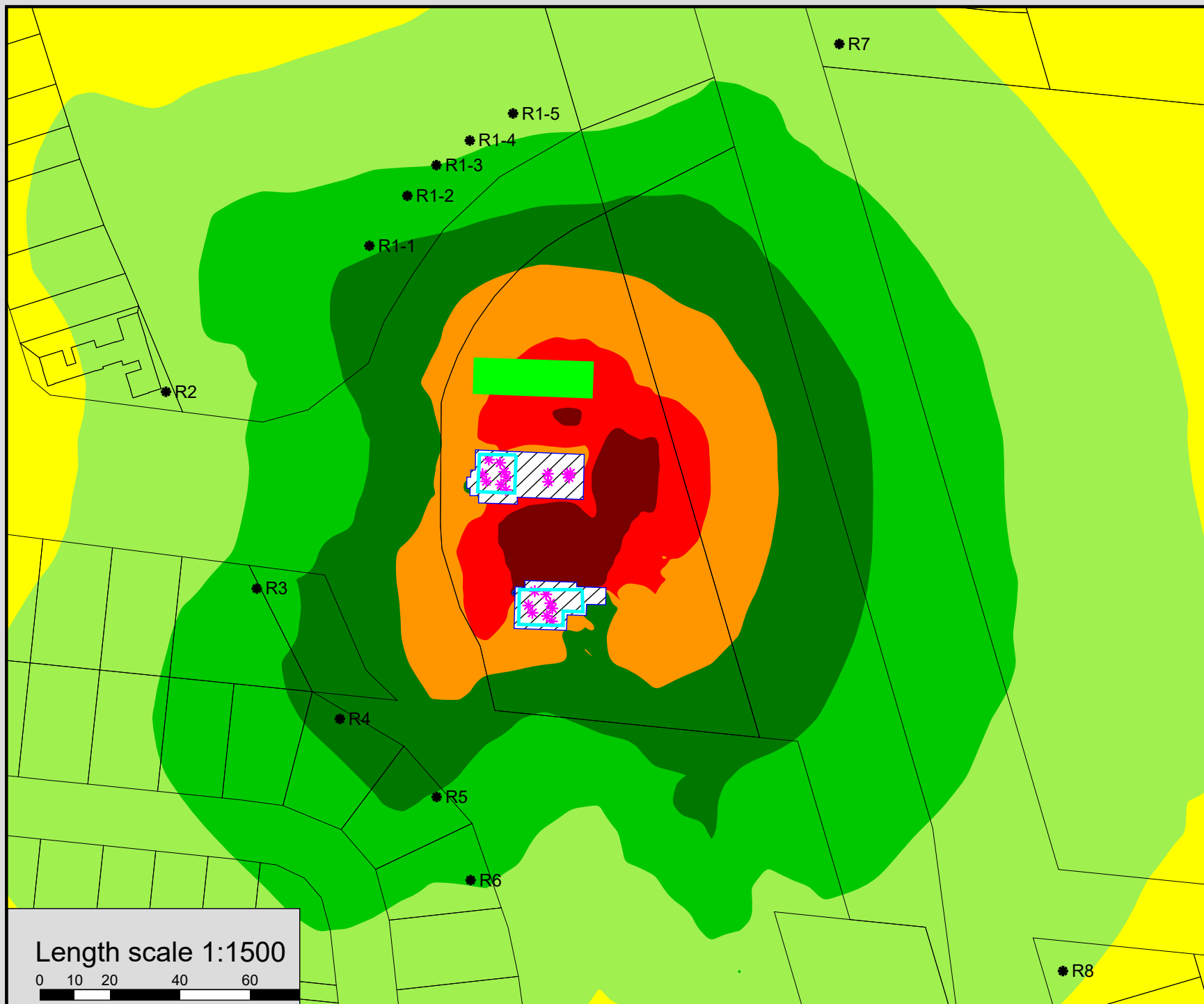
Revision and approvals				
Rev	Date	Drn	Description	Appr
A	18.06.2021	TD	DA ISSUE	
B	16.11.2021	TD	REVISED DA ISSUE	
C	05.10.2022	GN	UPDATES TO T2 TENANCY	
D	28.10.2022	NG	UPDATES TO T2 TENANCY	
E	29.05.2026	TM	DA ISSUE	
F	13.07.2026	TH	ISSUE FOR D.A.	

Project Description	
PROPOSED MIXED USE DEVELOPMENT 286 LAKESIDE DRIVE, OONONBA QLD 4811	
Scale @A1 As indicated	Date MAY 2026
Drawn TM	Approved By GN

Drawing Title	
BUILDING ELEVATIONS & PERSPECTIVES - T3	
Job Number - Drawing Number 19212 DA06	Revision F

Attachment 2

SoundPLAN Model Results Mechanical Plant



Noise level
LA90
in dB(A)

	<= 27
27 <	<= 30
30 <	<= 33
33 <	<= 36
36 <	<= 39
39 <	<= 42
42 <	<= 45
45 <	<= 48
48 <	

Legend

- Cadastral
- Point receiver
- * Point source
- ▨ Main building
- Roof area

26109 Ooononba

Service Station and Food
and Drink Noise Impact

Mechanical Plant Noise

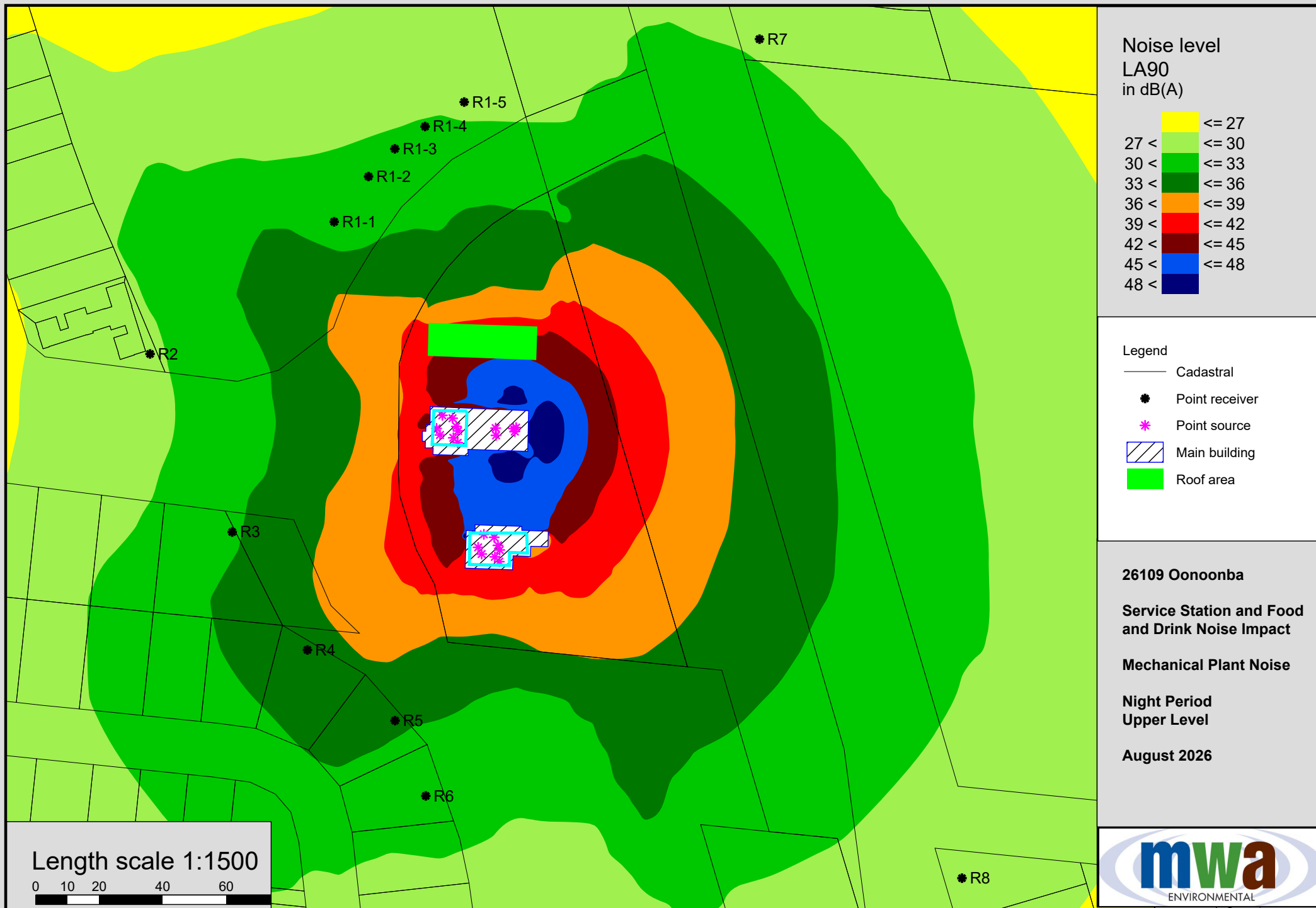
Night Period
Ground Level

August 2026

Length scale 1:1500

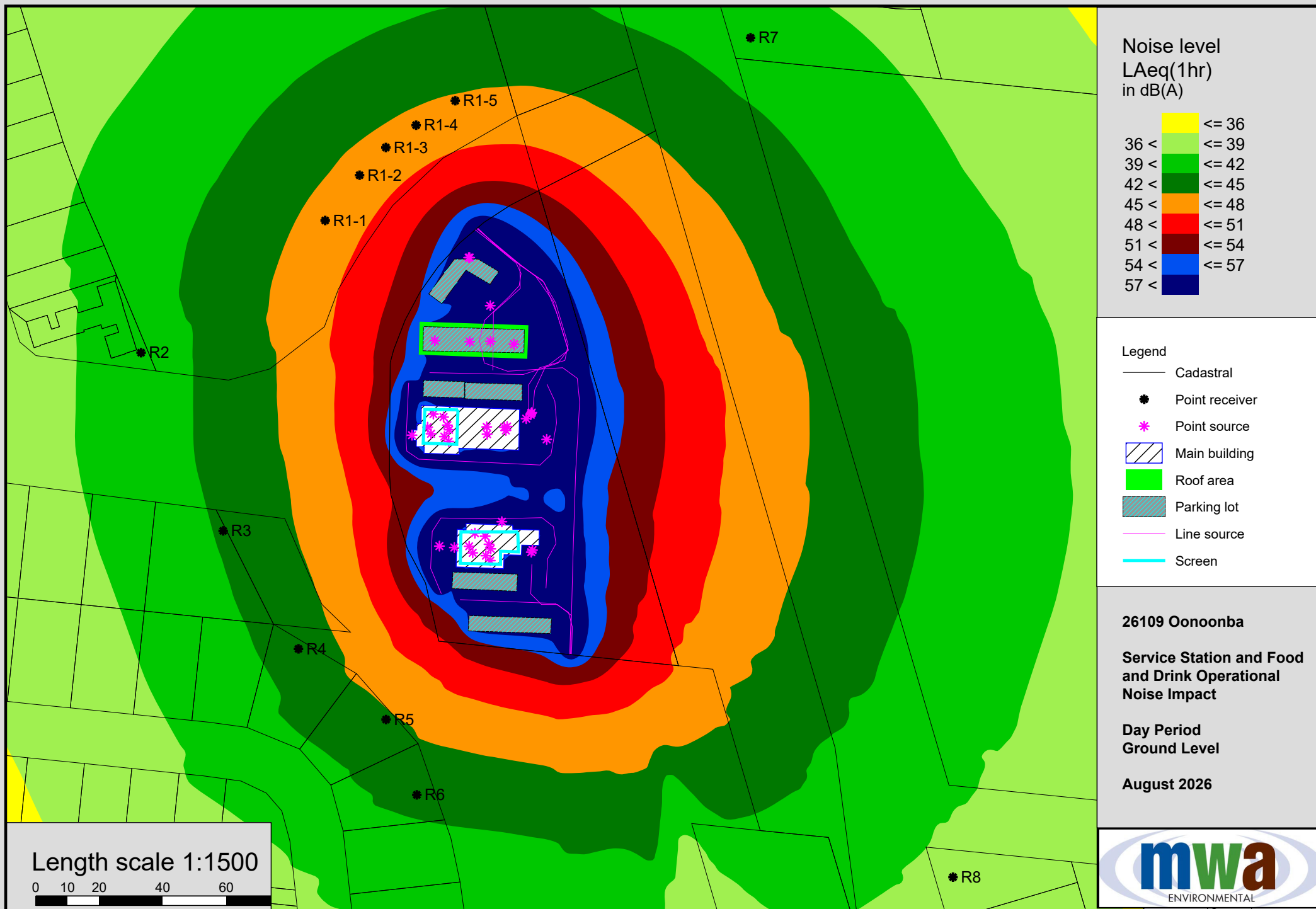
0 10 20 40 60

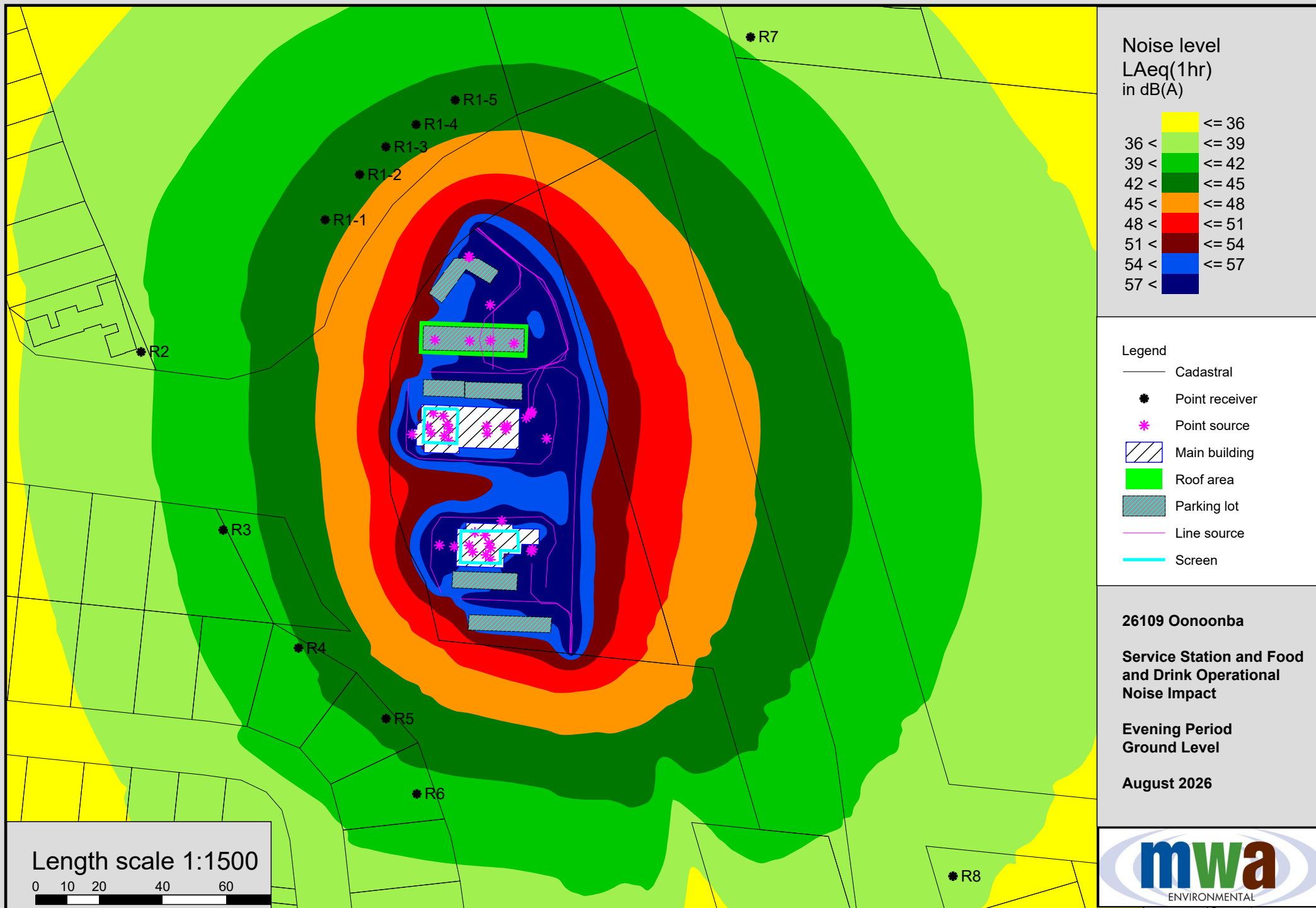


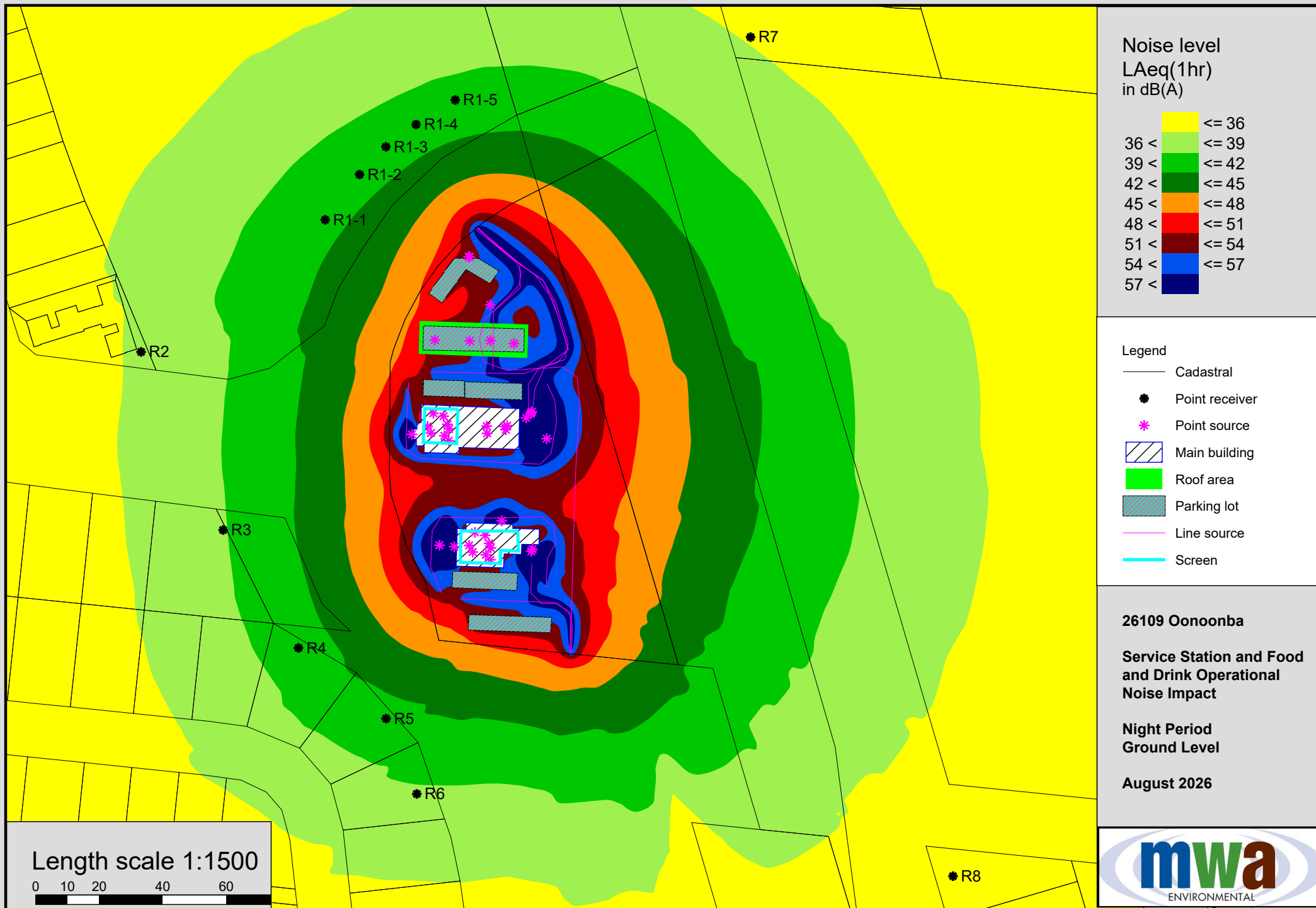


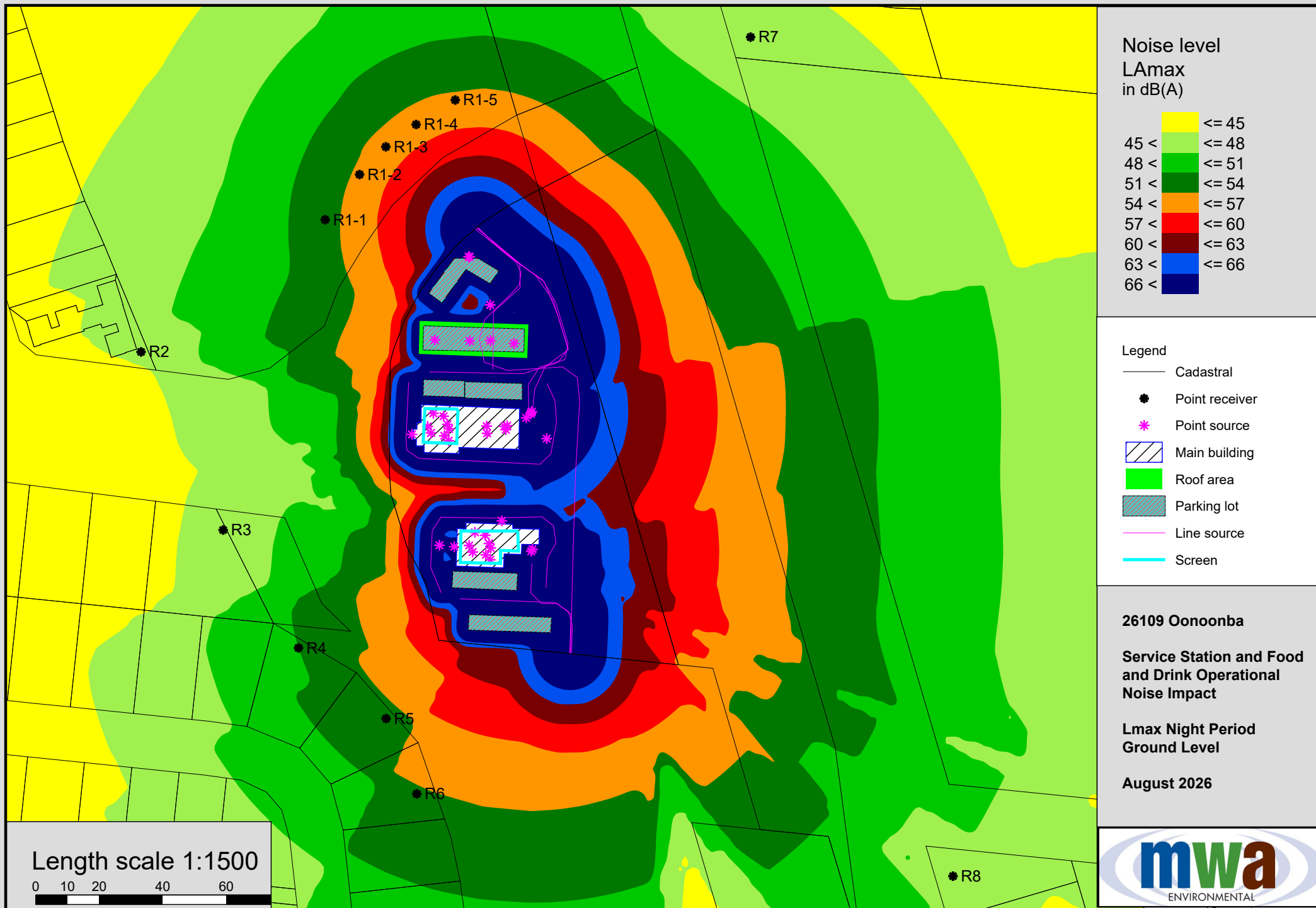
Attachment 3

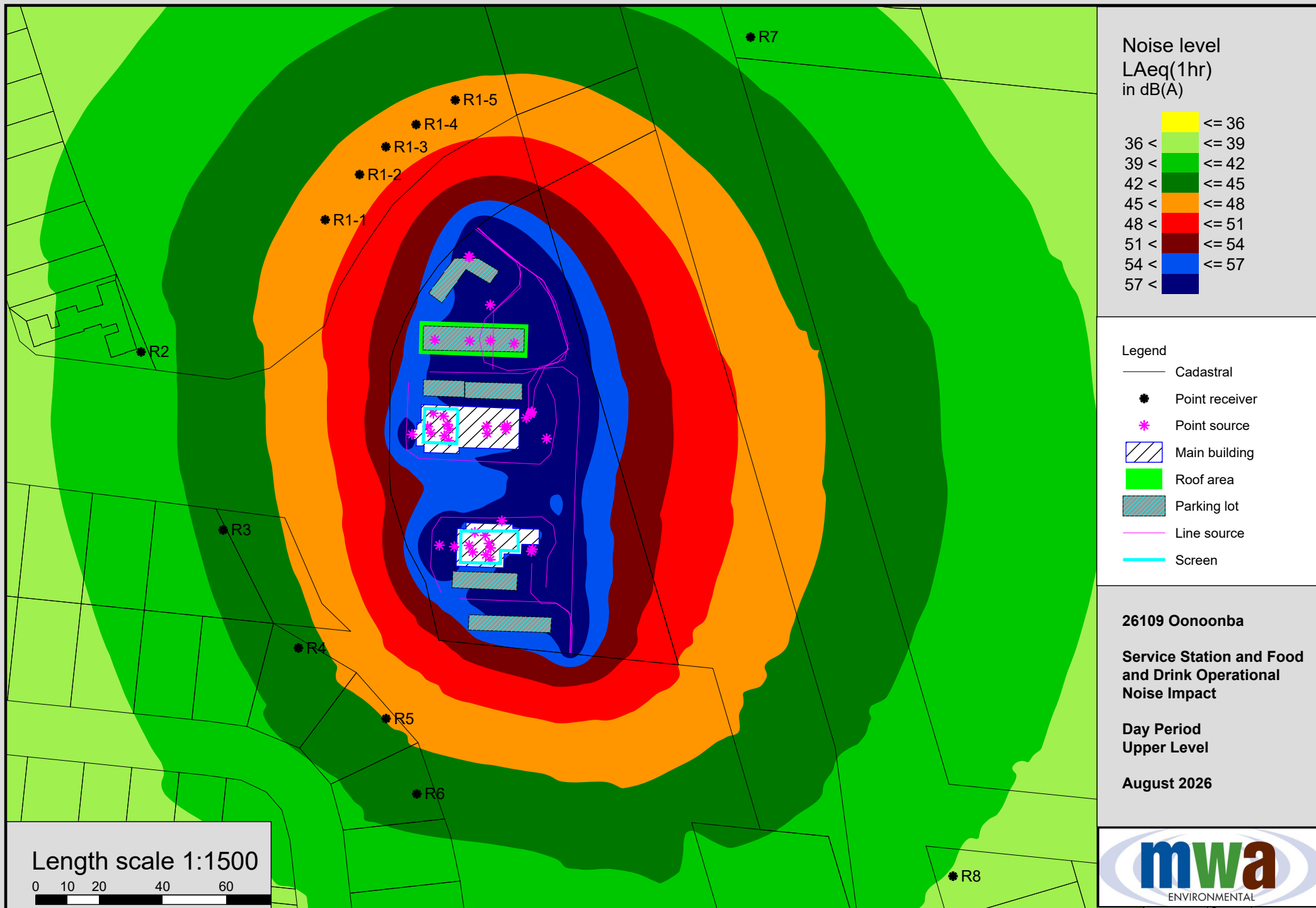
SoundPLAN Model Results Cumulative Model

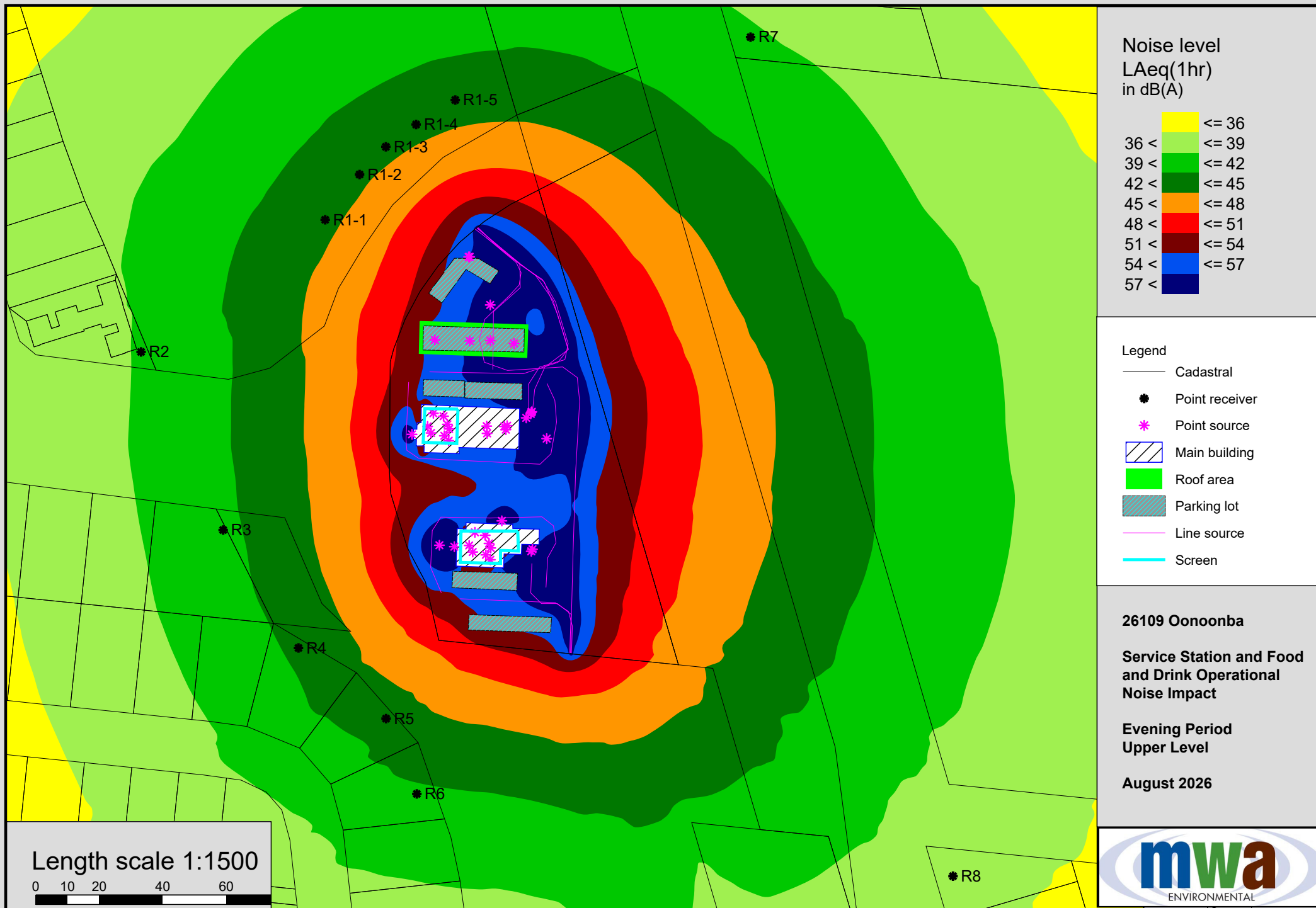












Noise level
LAeq(1hr)
in dB(A)

	<= 36
36 <	<= 39
39 <	<= 42
42 <	<= 45
45 <	<= 48
48 <	<= 51
51 <	<= 54
54 <	<= 57
57 <	

Legend

- Cadastral
- Point receiver
- * Point source
- ▨ Main building
- Roof area
- Parking lot
- Line source
- Screen

26109 Oonoonba

Service Station and Food
and Drink Operational
Noise Impact

Evening Period
Upper Level

August 2026



