CITY OF MANDURAH

NOTICE OF MEETING

PLANNING AND COMMUNITY CONSULTATION COMMITTEE

Members of the Planning and Community Consultation Committee are advised that a meeting of the Committee will be held in the Council Chambers, 83 Mandurah Terrace, Mandurah on:

Monday 14 March 2022
at 5.30pm

MARK R NEWMAN
Chief Executive Officer
10 March 2022

Committee Members

Councillor R Burns
Councillor P Jackson
Councillor C Knight
Councillor B Pond
Mayor R Williams
Councillor J Green
Councillor A Kearns
Councillor D Pember
Councillor D Schumacher

AGENDA

1 OPENING OF MEETING AND ANNOUNCEMENT OF VISITORS

2 ELECTION OF CHAIRPERSON

3 APOLOGIES

4 IMPORTANT NOTE:

Members of the public are advised that the decisions of this Committee are referred to Council Meetings for consideration and cannot be implemented until approval by Council. Therefore, members of the public should not rely on any decisions of this Committee until Council has formally considered the resolutions agreed at this meeting.

5 RESPONSES TO QUESTIONS TAKEN ON NOTICE

6 PUBLIC QUESTION TIME

Public Question Time provides an opportunity for members of the public to ask a question of Council. For more information regarding Public Question Time please visit the City's website mandurah.wa.gov.au or telephone 9550 3787.

7 AMENDMENT TO STANDING ORDERS

Modification to *Standing Orders Local Law 2016* - electronic attendance at meeting.

8 PRESENTATIONS

9 DEPUTATIONS

Any person or group wishing to make a Deputation to the Committee meeting regarding a matter listed on this agenda for consideration must complete an application form. For more information regarding making a deputation please visit the City's website mandurah.wa.gov.au or telephone 9550 3787.

NB: Persons making a deputation to this Committee meeting will not be permitted to make a further deputation on the same matter at the successive Council meeting, unless it is demonstrated there is new, relevant material which may impact upon the Council's understanding of the facts of the matter.

10 CONFIRMATION OF MINUTES:

11 DECLARATIONS OF FINANCIAL, PROXIMITY AND IMPARTIALITY INTERESTS

12 QUESTIONS FROM COMMITTEE MEMBERS WITHOUT DISCUSSION

12.1 Questions of which due notice has been given

12.2 Questions of which notice has not been given

13 BUSINESS LEFT OVER FROM PREVIOUS MEETING

14 REPORTS:

No.	*Item*	*Page No*	*Note*
1	Proposed Child Care Centre: Lot 124, 28 Baloo Crescent, Falcon	3-111	

15 LATE AND URGENT BUSINESS ITEMS

16 CONFIDENTIAL ITEMS

17 CLOSE OF MEETING

1	**SUBJECT:**	Proposed Child Care Centre: Lot 124, 28 Baloo Crescent, Falcon
	DIRECTOR:	Business Services
	MEETING:	Planning and Community Consultation Committee
	MEETING DATE:	14 March 2022

Summary

Council is requested to consider a development application for a proposed Child Care Centre at Lot 124, 28 Baloo Crescent, Falcon. The subject site is currently vacant and informally used as a carpark for Falcon Primary School parents during drop off/pick up times. The proposed development is a one-storey building with a total floor area of 627m² and outdoor play areas. The proposed hours of operation are 6:30am to 6:30pm Monday to Friday, with noise management restrictions in place before 7:00am. The Child Care Centre intends to cater for a maximum of 74 children, and 15 employees. The proposed Child Care Centre is located on a site area of 1829m² and is accessible via Ferguson Street.

Under the Town Planning Scheme No. 3, the proposal is defined as a 'Child Care Centre' and is an 'SA' land use within the Residential zone meaning it is discretionary and must be advertised. The proposal was advertised to 12 surrounding land owners; five objections and one submission of support were received. Key comments raised relate to: land use, location, car parking, traffic noise, additional traffic congestion, waste management, property valuation and general noise.

Based on issues / concerns raised by the City and residents, the applicant has made some revisions to the proposal. It is recommended that Council resolves to approve the proposal subject to appropriate conditions to manage potential amenity impacts.

Disclosure of Interest

Nil

Location

Property Details

Applicant:	Alessandro Stagno, Apex Planning
Owner:	Gray & Gorman Developments Pty Ltd
Scheme No 3 Zoning:	Residential
Peel Region Scheme Zoning:	Urban
Lot Size:	1829m²
Topography:	3.5m slope from east to west corner
Land Use:	Child Care Centre

Background

The subject property is currently vacant, no previous planning or building approvals have been issued on the site. It is noted that the vacant land is informally used as a carpark for Falcon Primary School (located opposite the site). Rangers are frequently monitoring parking issues from the School relating to verge parking and on street parking. Parking management in the area is challenging at school drop off and pick up times.

Comment

Proposed Development

The applicant seeks to develop a Child Care Centre consisting of:

- Seventeen car bays (with an additional five angled bays within the verge as a condition of approval)
- Four activity rooms
- Office
- Staff room
- Kitchen
- Toilets
- Outdoor play area

The applicant intends opening hours Monday to Friday 6:30am – 6:30pm. Proposed site and floor plans are provided in *Attachment 1.1*.

Land Use and Planning Framework

In relation to land use, a 'Child Care Premises' is an 'SA' use (permissible subject to advertising) within the Residential zone. Local Planning Policy 3 – Non-Residential Uses in Residential Zone (LPP3) outlines the requirements of a 'Child Care Premises' within the Residential Zone and states the importance of minimising *"the impacts of non-residential land uses on the amenity of surrounding landowners".*

LPP3 outlines the assessment criteria that should be considered for a Child Care Centre which includes:

Criteria	Officer Comment
Located to provide maximum benefit to the community they serve	Subject site is located adjacent to Falcon Primary School and approximately 1.5km from Falcon Activity Centre
Compatible with surrounding uses	As per above comment
Serviced by public transport	Bus stop is located approximately 72m from subject site
Are of a sufficient size to accommodate the development without unreasonably affecting the amenity of the area	Subject site is compliant with LPP3 lot size requirement of 1000m²

It is considered that the proposed location satisfies the above criteria however there are some important issues that must be effectively managed.

A number of the submissions have raised concerns regarding the proposal being inappropriate within this residential area. The Schedule of Submissions is provided in *Attachment 1.2*. The zoning of the area as 'Residential' allows for a number of non-residential uses to be permissible subject to advertising and assessment against LPP3.

Access, Traffic Generation and Car Parking

Access is proposed from Ferguson Street allowing vehicles to enter and exit the site in a forward movement. The access is considered to be in the best location to accommodate sight lines and traffic flow, being positioned away from the nearby roundabout and sloping topography.

A Traffic Impact Statement (TIS) was submitted as a supporting report with the application (provided in *Attachment 1.5*. City of Mandurah Traffic Engineer Officers have reviewed and accepted the TIS. The traffic generated by this development is anticipated as up to 59 vehicle trips in the morning (AM) peak and 52 vehicle trips in the afternoon (PM) peak. It should be noted that Drop-offs commence from opening until around 10am, with the peak usually between 8am - 9am. Pick-ups commence from 3pm until closing. There is a peak during school pickups – at 3:30pm and then again for the 'after work' period – around 5pm.

Baloo Crescent currently operates at 940 vehicles per day with well-defined AM and PM peaks coinciding with the school drop off at Falcon Primary School. During both the AM and PM peaks, volumes are between 165-170 vehicles per hour which is greater than 17% of total daily volume. Traffic generated by the childcare centre will not be an issue regarding overall traffic volumes on Baloo Crescent, but will likely add to some of the congestion which currently occurs around Falcon Primary School. This is less likely to be a significant issue in the PM but may add additional cars to the AM drop of period.

It should be noted that the PM school pickups are generally more congested due to the need for parents to attend at the same time. AM drop offs are less intensive with parents having an increased window than at the end of the school day.

Engineering Services are proposing to undertake road works around the intersection of Baloo Crescent and Yeedong Road to address some issues that are present at this location during the peak hours, however these works were progressing despite this development application.

LPP3 requires car parking to be provided at a ratio of 4.5 parking bays per 100m², thus requiring 28 bays to be provided (in accordance with Local Planning Scheme 12). The proposed site layout indicates the provision of 17 bays which varies the requirement in LPP3.

The superseded *Local Planning Policy 13 – Child Care Premises* required 1 bay per 5 children, the applicant applied this previous requirement and provided 15 bays. As carparking was raised as a concern throughout the assessment, an additional 2 bays were provided on site and an additional 5 angled bays have been added within the verge along Ferguson Street (Condition of Approval). This provides 22 bays being provided in total. Bike racks for cyclists (staff/visitors) have also been provided.

The additional verge parking will assist in increased formalised parking for the school which is a potentially positive outcome for the area.

The site is also accessible via public transport. It should be noted that the timing of the use of parking will be for relatively short periods spread as children are dropped off and picked up over an extended period rather than all at the same time. Through the consultation process and with officer site visitation it is apparent the traffic generated by the adjacent school results in informal parking beyond the existing street bays marked for the school.

A number of these vehicles informally park/use the subject site during the peak school collection period. The development of anything on the subject property, be it a residential dwelling or a child care facility, would result in a 'loss' of this area for parents to park informally, however it is noted that the child care does provide 22 car bays as part of the application (verge bays as a condition of approval).

In taking the LPP3 (and TPS3) provisions into consideration, the proposed child care facility does not achieve the minimum requirement of car bays, however it is also relevant that the adjacent marked street parking will be largely available outside of the peak periods in the morning and afternoon. It is considered there would be certain reciprocity with parents dropping students to the school and potentially also dropping children to the child care facility.

Noise

The applicant originally placed the building in the centre of the subject site with outdoor play areas located in the north and south corners. As adjoining neighbours in the northern corner raised concerns relating to noise, the applicant amended plans to relocate the building closer to the northern corner, removing the outdoor play area, meaning all outdoor play is located in the east and south corners, closest to the Ferguson Street, Baloo Crescent roundabout. Separate outdoor and indoor play areas are provided for the children of varying ages. The proposed outdoor play closest to landowners on the east boundary is adjoining the baby rooms, which is expected to be the quietest, intending for minimal noise implications.

An Acoustic Report was submitted as a supporting report with the application. The City of Mandurah Environmental Health Officers have reviewed and accepted the Acoustic Report findings and recommendations. The recommendations provided in the report outline how noise impacts can be reduced. If approved, a condition requiring implementation of the acoustic report recommendations will be applied

During the consultation period, concern was expressed regarding noise, given the proximity of neighbouring residents. Whilst this concern is acknowledged, the size of the site and the daytime nature of the proposed activities are such that City officers are satisfied that the proposal meets the *Environmental Protection (Noise) Regulations 1997*.

Waste Management

A Waste Management Plan (WMP) was requested as part of the assessment, due to neighbours raising concerns regarding odour and waste. The City Waste Management officers consider the WMP acceptable. The bin store area is fitted with a tap for washing bins and the store area, smooth impervious floor sloped to a drain connected to the sewer system, doors to the Bin Storage Area are self-closing and vermin proof. These measures address concerns raised by surrounding land owners. Collection of waste is from Ferguson Street with trucks able to effectively service the site.

Advertising Signage

Any signage proposed is assessed against Local Planning Policy 2 – Signage.

Plans and elevations for signage are not provided in the proposal, therefore the signage is not included in this recommendation. Recommendation includes a condition requiring a development application for signage be applied for separately.

MEAG Comment

This item does not have any impact on the natural environment and therefore has not been referred to Mandurah Environmental Advisory Group for comment.

Consultation

The proposal was advertised to 12 surrounding properties for a period of 24 days between 23 November 2021 and 17 December 2021. Six submissions were received and have been recorded together with comments in *Attachment 1.2*.

The main concerns raised are in relation to the zoning of the property, noise, traffic generation, car parking and a general loss of amenity which have generally been reported on in the body of the report. The applicant submitted amended plans to try address concerns raised through advertising and it is clear that the residents maintain their objections.

Statutory Environment

- Town Planning Scheme No. 3
- Local Planning Scheme 12 (awaiting gazettal)

Policy Implications

- Local Planning Policy 3 – Non-Residential Uses in Residential Zone
- Local Planning Policy 2 – Signage

Financial Implications

The cost of the creation of the five verge parking bays will be met by the applicant. It is expected that the applicant will pay a contribution to the City to maintain these car parking bays within the road reserve that the City has management over.

Risk Analysis

Should the applicant feel aggrieved by the determination, then an appeal may be lodged with the State Administrative Tribunal.

Strategic Implications

The following strategies from the City of Mandurah Strategic Community Plan 2020 – 2040 are relevant to this report:

Economic:
- Facilitate and advocate for sustainable local job creation and industry diversification.
- Advocate for and facilitate opportunities for improved pathways to education and learning outcomes in Mandurah.

Social:
- Facilitate safe neighbourhoods and lifestyles by influencing the built form through urban design.

Organisational Excellence:
- Listen to and engage with our community in the decision-making process.

Conclusion

The subject application proposes the development of a Child Care Centre at Lot 124, No. 28 Baloo Crescent, Falcon.

Officers consider that the proposed location is suitable to the catchment it is proposing to serve, is serviced by public transport, can adequately accommodate the development including car parking, outdoor play areas and landscaping. It is noted that the area has a high intensity of traffic at school pick up and drop off periods. It is considered that morning peak period will create additional traffic however this impact is considered reasonable. In the afternoon additional verge bays will mitigate the loss of informal parking provided by the current vacant land.

Whilst the concerns of residents are acknowledged, the proposal is considered unlikely to have a significant adverse impact on the amenity of the neighbouring properties to warrant refusal of the proposal. Conditions applied to the development are considered to adequately control development outcomes.

It is recommended that Council approve the proposal subject to conditions.

NOTE:

- Refer ***Attachment 1.1 Proposed Site Plan & Floor Plans***
  Attachment 1.2 Schedule of Submissions
  Attachment 1.3 Waste Management Plan
  Attachment 1.4 Acoustic Report
  Attachment 1.5 Traffic Impact Report

RECOMMENDATION

That the Planning and Community Consultation Committee recommend to Council:

In accordance with Clause 68(2) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Deemed Provisions for Local Planning Schemes), grant development approval for a proposed Change of Use to Child Care Premises at Lot 124, No 28 Baloo Crescent, Falcon, subject to the following conditions:

1. **The development shall be carried out and fully implemented in accordance with the details indicated on the stamped approved plan(s) unless otherwise required or agreed in writing by the City of Mandurah.**

2. **The approved Waste Management Plan (refer to *Attachment 1.3*) must be implemented, constructed and thereafter maintained to the satisfaction of the City of Mandurah, for the life of the development.**

3. **The conclusions and recommendations made in the Environmental Noise Assessment (as detailed in *Attachment 1.4*) by Lloyd George Acoustic, Report 21106732-01, be fully implemented to the satisfaction of the City of Mandurah.**

4. **The hours of operation shall be limited to 6:30am to 6:30pm Monday to Friday and shall not occur at any time on Saturdays and Sundays. The outdoor play area is not to be used before the hours of 7am, unless otherwise agreed in writing by the City of Mandurah.**

5. **All delivery and service vehicles must be located entirely on the site, and have their engines and refrigeration units turned off during loading and unloading of goods associated with the use of the site, and shall only access the site during the 'day period'**

of 7:00am to 7:00pm Monday to Saturday, and 9:00am to 7:00pm Sunday to the satisfaction of the City of Mandurah.

6. **All uncovered car parking bays to be in accordance with Australian Standard AS2890.1. Any bays adjacent to kerbs or for those bays that are to be used for disabled parking, shall be in accordance with Australian Standards AS1428.1.**

7. **No parking except in marked bays, or display of vehicles and/or equipment is to occur within the road verge area at any time.**

8. **Verge parking is to be installed in accordance with the approved plan. Kerbing and drainage is to be undertaken to the satisfaction of the City of Mandurah.**

9. **Prior to occupancy the applicant shall pay a cost contribution to the City of Mandurah for the maintenance of the verge parking, at the sum of $863.13 per bay (including GST).**

10. **Trees shall be provided between car parking spaces within the lot boundary to the specification and satisfaction of the City of Mandurah and prior to the commencement of the use.**

11. **All services (e.g. air conditioners, water meters, hot water storage systems etc.) shall be designed to be integrated into the building design and/or screened from surrounding properties to the satisfaction of the City of Mandurah.**

12. **Prior to occupancy, a sign concept plan shall be submitted to and approved to the satisfaction of the City of Mandurah, and shall indicate all the intended locations of signs to be placed within the site and on any building(s).**

13. **All glazed surfaces shall be clear and free of posters, decals, heavy tinting or any other visual obscuring which prevents a clear view into the building, unless otherwise agreed in writing by the City of Mandurah.**

14. **Security, building, signage and carpark lighting must be located, designed and installed to prevent excess light spillage from the development. Reference should be made to AS4282 Control of the obtrusive effects of outdoor lighting and other relevant lighting standards.**

15. **Prior to the commencement of site works, a Construction Management Plan shall be submitted to and approved by the City of Mandurah. The Plan must detail how the site will be managed during and after works are completed, in order to minimise issues associated with dust/sand, erosion, noise, vibration, traffic and general construction issues. The approved plan must thereafter be implemented to the satisfaction of the City of Mandurah.**

16. **Prior to the commencement of site works, a detailed landscaping plan for the subject site and road verge(s) must be submitted to, and approved to the satisfaction of the City of Mandurah, and must include the following:**
    a. **The location, number and type of proposed trees and shrubs;**
    b. **Any existing vegetation and/or landscaped areas to be retained;**
    c. **Pedestrian, paving and lighting treatments;**
    d. **An implementation schedule; and,**
    e. **Maintenance/management responsibilities.**

    The approved landscaping plan must be fully implemented and maintained to the satisfaction of the City of Mandurah. Any species which fail to establish within the first two planting seasons following implementation must be replaced in consultation with and to the satisfaction of the City of Mandurah.

17. **Prior to the commencement of site works, a detailed stormwater plan must be submitted to and approved by the City of Mandurah showing all stormwater from roofed and paved areas being collected and disposed of on-site in landscaped areas in accordance with water sensitive design principles.**

18. **Prior to occupancy, the proposed development shall be connected to sewer to the satisfaction of the City of Mandurah.**

19. **Prior to occupancy, the road verge adjacent to the site shall be upgraded, including the provision of mature street trees, to the specification and satisfaction of the City of Mandurah.**

20. **Prior to occupancy, vehicle parking, manoeuvring and circulation areas shall be suitably constructed, sealed, drained, kerbed, marked (including loading and disabled bays), and thereafter maintained to the specification and satisfaction of the City of Mandurah.**

21. **Prior to occupancy, a vehicle crossover is to be constructed to the specification and satisfaction of the City of Mandurah. Once constructed, the vehicle cross over shall be maintained at all times to the satisfaction of the City of Mandurah. During construction, the existing landscaping, footpaths, infrastructure and associated brick paved areas within the road reserve shall be protected and/or re-instated to the satisfaction of the City of Mandurah.**

Advice Notes

1. **Careful consideration be given to location of mechanical noise sources (ventilation, fans & the like), to ensure compliance with *Environmental Protection (Noise) Regulations 1997* for nearby residential noise sensitive premises. Reference is given to this in the Environmental Noise Assessment by Lloyd George Acoustic, Report 21106732-01.**

2. **The kitchen facility to fully comply with the requirements of the *Food Act 2008* and subsidiary legislation. Guidance on the design and construction requirements for food premises can be found in the City's Guidelines for the fit out & construction of a food premises available from https://www.mandurah.wa.gov.au/business/permits-and-approvals/food%20business%20approvals%20and%20training**

3. **The applicant must apply for registration of a food business as required by the *Food Act 2008*. The business must not trade until a Registration certificate has been issued by the City's Health Services.**

4. **Any installation of a grease trap within the premises shall be subject to the following conditions:**

    a. **approval for the installation from the City and the Water Corporation of WA;**
    b. **the trap shall be constructed of solid impervious materials sealed to prevent the escape of odours;**
    c. **the door shall be fitted with a gasket to provide a seal when closed; and independent access to the trap for cleaning purposes shall be provided.**

PLANNING SUBMISSION
PROPOSED DEVELOPMENT TO LOT 124, No. 28
BALOO CRESCENT, FALCON

DWG 00: INDEX SHEET
DWG 01: SITE PLAN
DWG 02: FLOOR PLAN
DWG 03: ELEVATIONS
DWG 04: FENCE ELEVATIONS

REV No	DATE	DRAWN	PAGE No's	CHANGES / REVISIONS
REV A	28/10/21	jdr	ALL	MINOR REVISIONS THROUGHOUT TO CLIENTS REQUIREMENTS
REV B	05/11/21	jdr	ALL	ADDED FENCE ELEVATIONS TO CLIENTS REQUIREMENTS
REV C	31/01/22	jdr	ALL	RE-DESIGNED TO CLIENTS REQUIREMENTS
REV D	01/02/22	jdr	ALL	ADDED TANDEM BAY TO CLIENTS REQUIREMENTS

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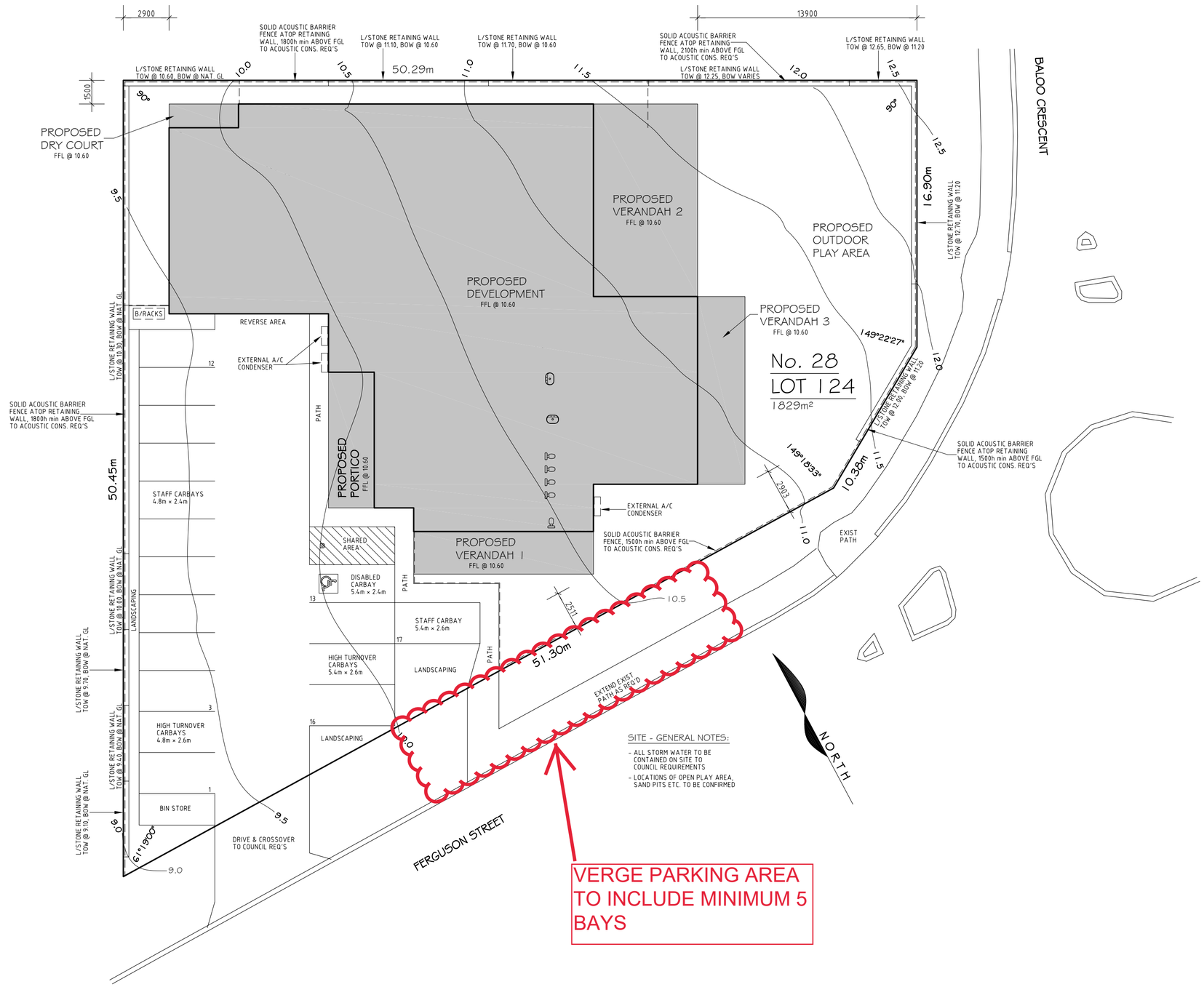
BUILDER :

DATE: 19/10/21
SCALE: NOT TO SCALE
DRAWN: jdr
REVISION: D
DRAWING No: 0:4

NOTES:
- ALL WORKMANSHIP & MATERIAL TO BE IN ACCORDANCE WITH ALL RELEVENT AUSTRALIAN STANDARDS, NCC REQUIREMENTS & LOCAL COUNCIL REQUIREMENTS
- DO NOT SCALE DRAWINGS
- CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE PRODUCTION OF ANY SHOP DRAWINGS WHICH MUST BE SUBMITTED AND APPROVED BEFORE MANUFACTURE.

JOB: PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET: INDEX SHEET



SITE PLAN
SCALE 1:200

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JOB: PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET: SITE PLAN

PLAN - GENERAL NOTES:

PATRON NUMBERS		
0 - 24 MONTHS	24 CHILDREN	= 78.00 sqm INTERNAL AREA REQUIRED = 168.00 sqm EXTERNAL AREA REQUIRED = 6 STAFF REQUIRED
24 - 36 MONTHS	20 CHILDREN	= 65.00 sqm INTERNAL AREA REQUIRED = 140.00 sqm EXTERNAL AREA REQUIRED = 4 STAFF REQUIRED
36 MONTHS +	30 CHILDREN	= 97.50 sqm INTERNAL AREA REQUIRED = 210.00 sqm EXTERNAL AREA REQUIRED = 3 STAFF REQUIRED
TOTAL	74 CHILDREN	= 240.50 sqm INTERNAL AREA REQUIRED 258.40 sqm INTERNAL AREA AVAILABLE = 518.00 sqm EXTERNAL AREA REQUIRED 551.67 sqm EXTERNAL AREA AVAILABLE

AREA: sqm	
FLOOR AREA	627.90 sqm
PORTICO	24.94 sqm
VERANDAH 1	30.75 sqm
VERANDAH 2	80.52 sqm
VERANDAH 3	35.67 sqm
DRY COURT	6.60 sqm
TOTAL	806.38 sqm

10100 | 230 | 3380 | 90 | 5400 | 90 | 1600 | 90 | 2750 | 90 | 2840 | 90 | 6510 | 230 | 3000

10100 | 2900 | 230 | 10500 | 90 | 2840 | 90 | 6510 | 230 | 3000

10100 | 2900 | 2500 | 11390 | 6600 | 3000

36490

FLOOR PLAN

SCALE 1:100

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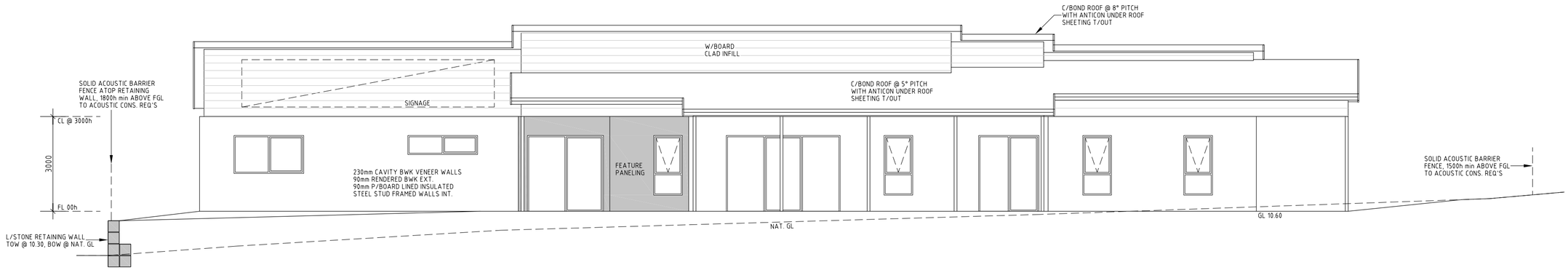
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
FLOOR PLAN



FRONT ELEVATION

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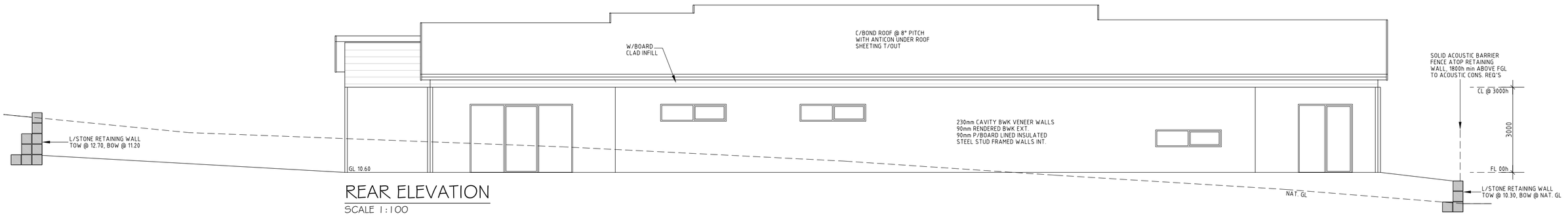
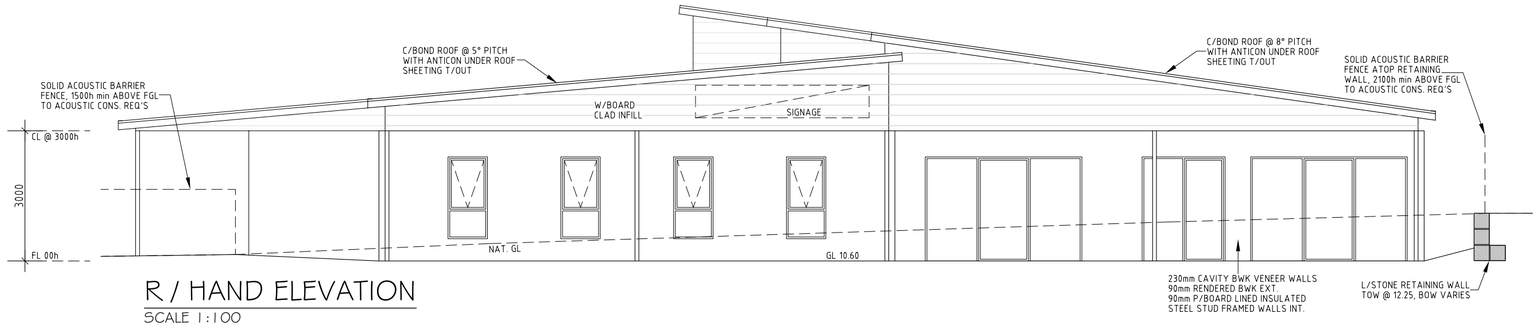


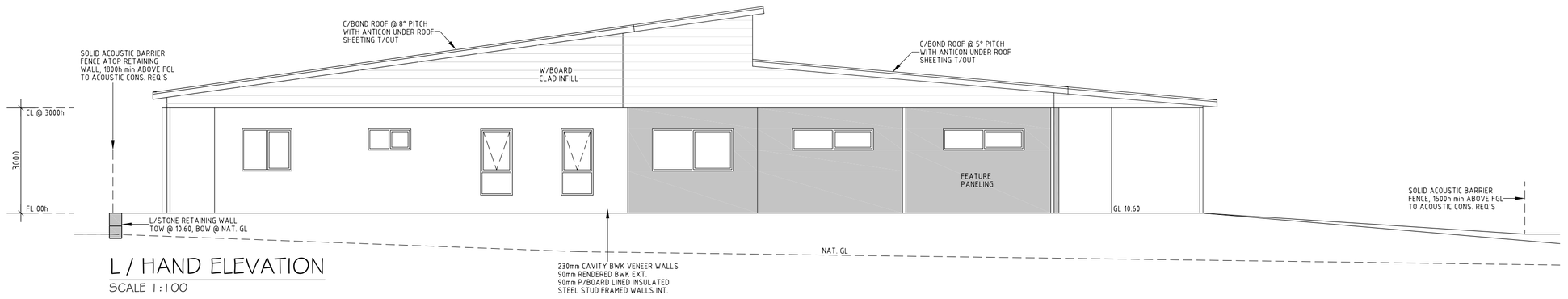
REAR ELEVATION

SCALE 1:100



R / HAND ELEVATION

SCALE 1:100



L / HAND ELEVATION

SCALE 1:100

ELEVATIONS - COLOUR PALETTE

- RENDER	DULUX 'MONK'
- FEATURE PANELING	JAMES HARDIE 'EASYLAP' DULUX 'RUSSET TAN'
- W/BOARD CLAD	JAMES HARDIE 'LINEA' DULUX 'ASHVILLE'
- ROOF SHEETS	CUSTOM ORB 'MONUMENT'

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DATE: 19/10/21
SCALE: 1:100 @ A2
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REVISION: D
DRAWING No: 3:4

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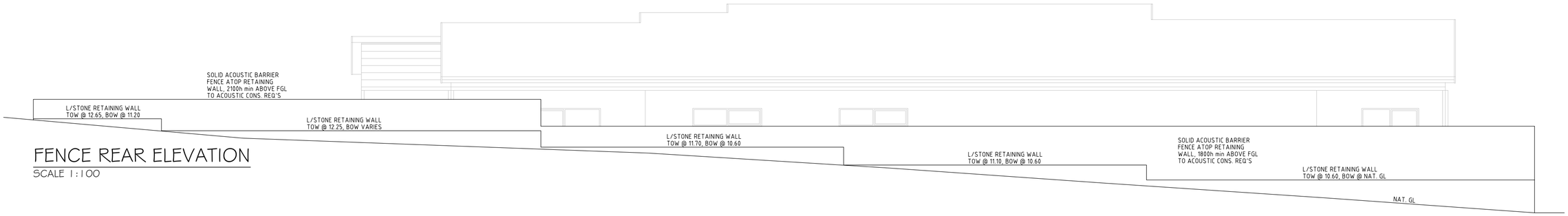
JOB: PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET: ELEVATIONS

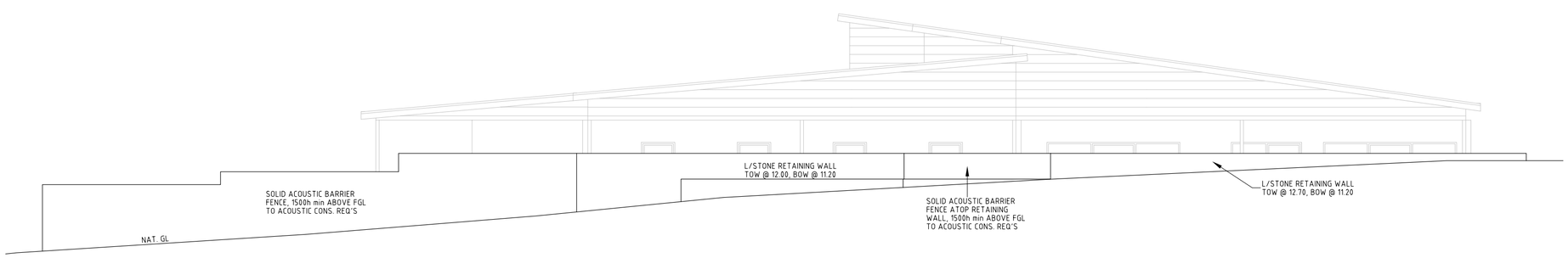
FENCE FRONT ELEVATION

SCALE 1:100



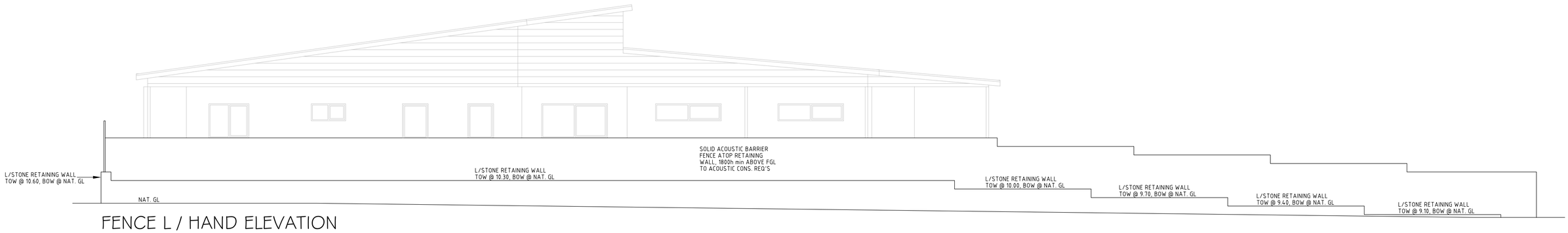
FENCE REAR ELEVATION

SCALE 1:100



FENCE R / HAND ELEVATION

SCALE 1:100



FENCE L / HAND ELEVATION

SCALE 1:100

NORTH COAST DESIGN

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BUILDER :

DATE: 19/10/21
SCALE: 1:100 @ A2
DRAWN: jdr
REVISION: D
DRAWING No: 4:4

NOTES:
-ALL WORKMANSHIP & MATERIAL TO BE IN ACCORDANCE WITH ALL RELEVENT AUSTRALIAN STANDARDS, NCC REQUIREMENTS & LOCAL COUNCIL REQUIREMENTS
-DO NOT SCALE DRAWINGS
-CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE PRODUCTION OF ANY SHOP DRAWINGS WHICH MUST BE SUBMITTED AND APPROVED BEFORE MANUFACTURE.

JOB:
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
FENCE ELEVATIONS

Verge Parking Indicative Plan:

Attachment 1.2

Proposed Child Care Centre No. 28 Baloo Crescent Falcon

Submissions Table

Owner / Address	Submission (Summarised comments)	Comment
1. J & L Ballantyne 24 Baloo Crescent, Falcon (neighbouring property to the north/east of the subject site)	Support the application: a. Think a day care centre at 28 Baloo crescent Falcon is a great idea	a. Noted.
2. N & D Wood 27 Ivanhoe Crescent, Falcon (neighbour property to the north of the subject site)	Oppose this application on the following grounds: a. Existing parking issue with Falcon Primary School. Parents parking on front lawns and driveways. Not enough proposed car bays. More traffic noise, fumes and safety concerns for children b. Waste Management. Increase in flies, odours, noise from trucks emptying large bins. Possibly more rodents as neighbours have chicken pens. c. Noise. More noise closer to our property from children being dropped off and picked up. Currently have a good buffer at the moment for the 8-hour day 5-day week. d. Property value. Believe the proposal will decrease our property value. e. Location. This area is meant to be residential only.	a. Whilst concern is acknowledged, there are 17 car bays, 5 verge bays proposed, bike racks, and public transport nearby. Carpark and Traffic Impact Statement is considered acceptable. b. A Waste Management Plan is supplied and acceptable. Bin storage is located at the front of the property, near one adjoining neighbour with self-closing doors, tap and drain for hosing down of bins. c. Retaining wall and 18m high fence will minimise noise travelling from carpark. An Acoustic Report has been assessed and is considered acceptable. d. Noted, however property value is not a material planning consideration e. Council has discretion to consider a number of non-residential uses in a residential zone in accordance with the provisions of the Scheme and Policy.
3. J & J Lynn 29 Ivanhoe Crescent, Falcon (adjoining property to the west of subject site)	Oppose this application on the following grounds: a. Traffic and noise associated with Falcon Primary School already an issue. The proposal will add to this. Increase traffic and congested parking. b. Noise will be increased and occur during school holidays, which is our only quiet time for the area. Adds stress to residing residence. c. References clause 3.2.1(a) from Local Planning Policy 3 – Non-Residential Uses in Residential Zone (LPP3) should be fronted onto a major road. Property located on corner block next to school, will add congestion.	a. See response 2a b. The acoustic report models the potential noise impacts and provides recommendations to control/minimise the noise impact. c. Clause 3.2.1(a) from LPP3 suggests the site fronts a major road, district integrator road or neighbourhood connector road. This is not a requirement and City of Mandurah Traffic Engineers have deemed the

	d. Concerned for property value decrease.	accessing road is able to manage the additional traffic generation. d. Noted, however property value is not a material planning consideration.
4. E Besson, 26 Baloo Crescent, Falcon (adjoining neighbour to the north, east of subject site)	Oppose this application on the following grounds: a. Don't believe a childcare centre is accepted in our neighbourhood. Live here for the tranquillity of the area/walking distance to beach. b. Current traffic issue with Falcon Primary School, chaos during peak hours, cars no place to park, park in front of properties access c. Increase of 100 vehicles movement per day morning and night for 50 children in a child care centre. If full capacity at 74 children, it will see an increase of 150 vehicles a day on top of what is happening at the school, it is going to be a huge problem. The shire should come and start to do their own investigation. d. The day time noise will be a major concern for us. Leaving next door to a child care centre, where children are always yelling and playing loudly or crying. It will certainly not be pleasant for all the neighbours surrounded by this child care centre. e. decrease in value of nearby properties will be affected f. don't believe is the right area to be building a child care centre. There is already an existing one on Yeedong Road and I believe the shire should be looking further towards Dawesville area where there is plenty of land	a. see response 2e b. see response 2a c. City of Mandurah Traffic Engineers have deemed the accessing road is able to manage the additional traffic generation. Rangers are managing the parking situation from the Primary School. Engineering Services plan to undertake road works around the intersection of Baloo Crescent and Yeedong Road to address some issues that are present at this location during the peak hours. d. The acoustic report models the potential noise impacts and provides recommendations to control/minimise the noise impact. The Building is positioned to have minimal noise activity rooms near adjoining residents (baby room). e. Noted, however property value is not a material planning consideration. f. Council has discretion to consider a number of non-residential uses in a residential zone. This is not a City led proposal, the subject property is privately owned and the land owner has applied for a proposed Child Care Centre on the property.
5. G Hopkinson, 30 Ivanhoe Crescent, Falcon (property to the east of the subject site)	Oppose this application on the following grounds: a. it is a dangerous place when congested. Crossing the road with double parked cars and all verge/footpath space used as parking is a concern. b. Concerns for safety of children with traffic movements, congestion and generation. c. Ferguson St is residential and wonder if a commercial enterprise is fitting for an unmarked back street.	a. Concern is acknowledged. Extending pedestrian path is proposed within verge making pedestrian crossing safer between the Child Care Centre and school. b. As above. Traffic movements and generation has been assessed and is deemed acceptable. c. See response 2e

6.	A Ginbey 31 Ivanhoe Crescent, Falcon (Adjoining neighbour to the West of the subject property)	Oppose this application on the following grounds:	
		a. Location: A commercial child care centre in lieu of a residential development will not maintain the local character of the residential area and will adversely affect the amenity of our residential property and the surrounding residential properties.	a. LPP3 provides a framework permitting non-residential uses in a residential zone while maintaining amenity through various requirements and assessment, including supporting reports; acoustic report, traffic impact statement, waste management plan etc.
		b. Ferguson Street not designed for high traffic volumes. Peak times around 8am and 3pm weekdays, the traffic loads are already extremely high from the school, childcare centre will increase traffic loads	b. City of Mandurah Traffic Engineer Officers have considered the traffic generation within existing road networks to be acceptable within capacity.
		c. School parking, parking on the street, illegal verge parking occurring due to the school, childcare will make this worse.	c. Existing parking issues are noted.
		d. Clause 3.2.1(a) of LPP3 requires Child Care Centres to front onto Major Roads, District Integrator Roads or Neighbourhood Connector Roads. Neither Baloo Crescent nor Ferguson Street are identified on Figure 1 of LPP3 as roads suitable for a Child Care Centre to front onto.	d. The clause does not state this as a requirement, the clause identifies fronting onto a major road, district integrator roads or neighbourhood connection road as an acceptable location. Whilst preferred it is not mandatory.
		e. Clause 3.2.1(c) requires Child Care Centres to be in areas where adjoining uses are compatible with a child care premises (includes considering all permissible uses under the zoning of adjoining properties). We believe a commercial child care centre is not compatible in an established residential area. It seems to us to be a very large child care centre accommodating a lot of children and staff on a relatively small lot compared to other similar sized child care centres within the City	e. Council has discretion to consider a number of non-residential uses in a residential zone. The Scheme requires 1000m² minimum lot area for a Child Care Centre, the subject site is considerably larger than the minimum being over 1800m².
		f. Kindergarten use in the Scheme is not permitted in residential zone. Kindergarten requires 2000m² and front setback of 9m. this proposal is only 1,829m² and 1.5-3m setbacks	f. Proposal is for a Child Care Centre, not a kindergarten. Setbacks are consistent with the Residential Design Codes. Proposed setbacks are intended to reduce noise impacts. Increased setbacks would allow for outdoor play closer to adjoining residents.
		g. Carparking: 17 bays does not comply with LPP3. 11 bays for staff, not enough for parents dropping off children, adding to the already existing parking issue	g. Noted. applicant has agreed to provide 5 verge bays as condition of approval to increase bays. Staff are not expected to change over during peak drop of/pick up times.
		h. Noise: noise of car doors as early as 6:30am. Noise generation from play areas, waste collection, aircon/mechanical plant	h. 2 staff will be opening the Child Care Centre, meaning car noise at 6:30am will be minimal. Acoustic report is considered acceptable.

	i. Waste management: childcare produces more waste than a residential development. Bin storage near our property; associated smells decline our amenity. Concerned that in summer the waste odour will be worse j. Property value decreasing k. Retaining wall; don't object the retaining wall; request the applicant/landowner covers the full cost for fencing on top of retaining wall. Request fence constructed of brick or similar to reduce noise l. Building a childcare centre in an established residential area does not give owners of the existing residential properties a choice other than to sell their property if they don't like the impacts of the childcare centre	i. Waste management plan is considered acceptable. The bin store area has all measures to reduce impact: floor sloped to drain, taps for washing bins and bin storage, doors are self-closing and vermin proof, bins will be covered. j. Noted, however property value is not a material planning consideration. k. Noted. Comments regarding fence have been provided to the applicant and is subject to the dividing fences act. l. Noted. LPP3 allows new non-residential uses within existing residential areas. Council has discretion to consider a number of non-residential uses in a residential zone.

Waste Management Plan

28 Baloo Crescent, Falcon

Prepared for Skybeat Enterprises Pty Ltd

9 February 2022

Project Number: TW22010

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	9/02/2022	DP	SK	DP

Approval for Release

Name	Position	File Reference
Dilan Patel	Project Manager – Waste Management Consultant	TW22010-01_Waste Management Plan_1.0
Signature		

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Executive Summary

Skybeat Enterprises Pty Ltd is seeking development approval for the proposed Childcare Facility located at 28 Baloo Crescent, Falcon (the Proposal).

To satisfy the conditions of the development application the City of Mandurah (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area					
Refuse	2,198	660	Two	Two times each week	Private Contractor
Recycling	2,198	660	One	Four times each week	Private Contractor

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Ferguson Street.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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Figure 1: Locality Plan

1 Introduction

Skybeat Enterprises Pty Ltd is seeking development approval for the proposed Childcare Facility located at 28 Baloo Crescent, Falcon (the Proposal).

To satisfy the conditions of the development application the City of Mandurah (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by residential developments to the north and west, Baloo Crescent to the east and Ferguson Street to the south, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the internal floor area (m^2) of the Childcare Facility – 628m^2.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017) as they contain a dedicated waste generation rate for Childcare Facility.

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	Guidelines	Refuse Generation Rate	Recycling Generation Rate
Childcare Facility	Melbourne	350L/100m^2/week	350L/100m^2/week

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-2. It is estimated that the Childcare Facility will generate 2,198L of refuse and 2,198L of recyclables each week.

Table 2-2: Estimated Waste Generation

Childcare Facility	Area (m^2)	Waste Generation Rate (L/100m^2/week)	Waste Generation (L/week)
Refuse	628	350	**2,198**
Recyclables	628	350	**2,198**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes		
	240L	660L	1,100L
Depth (mm)	730	780	1,070
Width (mm)	585	1,260	1,240
Height (mm)	1,060	1,200	1,300
Area (mm^2)	427	983	1,327

Reference: SULO Bin Specification Data Sheets

3.2 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse twice each week and recyclables four times each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

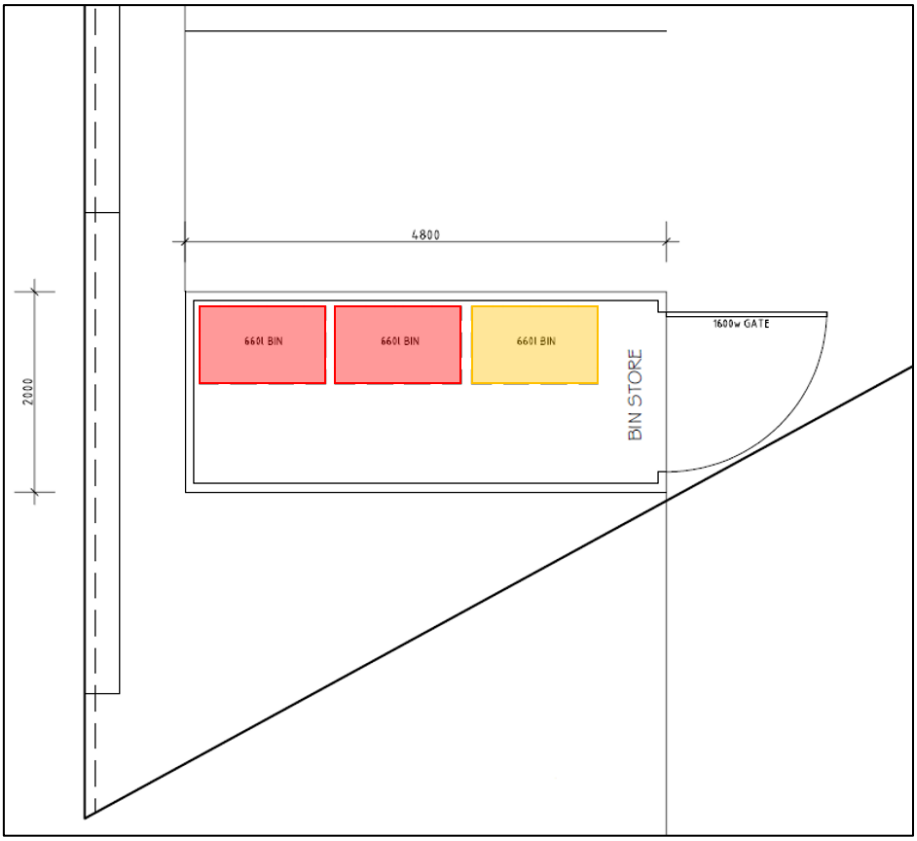
- Two 660L refuse bins; and
- One 660L recycling bin.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	2,198	5	2	1
Recycling	2,198	3	1	1

The configuration of these bins within the Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming two collections each week of refuse and four collections each week of recyclables. Increased collection frequencies would reduce the required number of bins.

Diagram 1: Bin Storage Area



3.3 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

A private waste collection contractor will service the Proposal and provide two 660L bins for refuse and one 660L bin for recyclables. The private contractor will collect refuse twice each week and recyclables four times each week utilising a rear loader waste collection vehicle.

The private contractor's rear loader waste collection vehicle will service the bins onsite, directly from the Bin Storage Area. The private contractors rear loader waste collection vehicle will travel with left hand lane traffic flow on Ferguson Street and turn into the Proposal in forward gear, complete a multipoint turn within the Proposals carpark and pull up directly adjacent to the Bin Storage Area for servicing, refer Diagram 2.

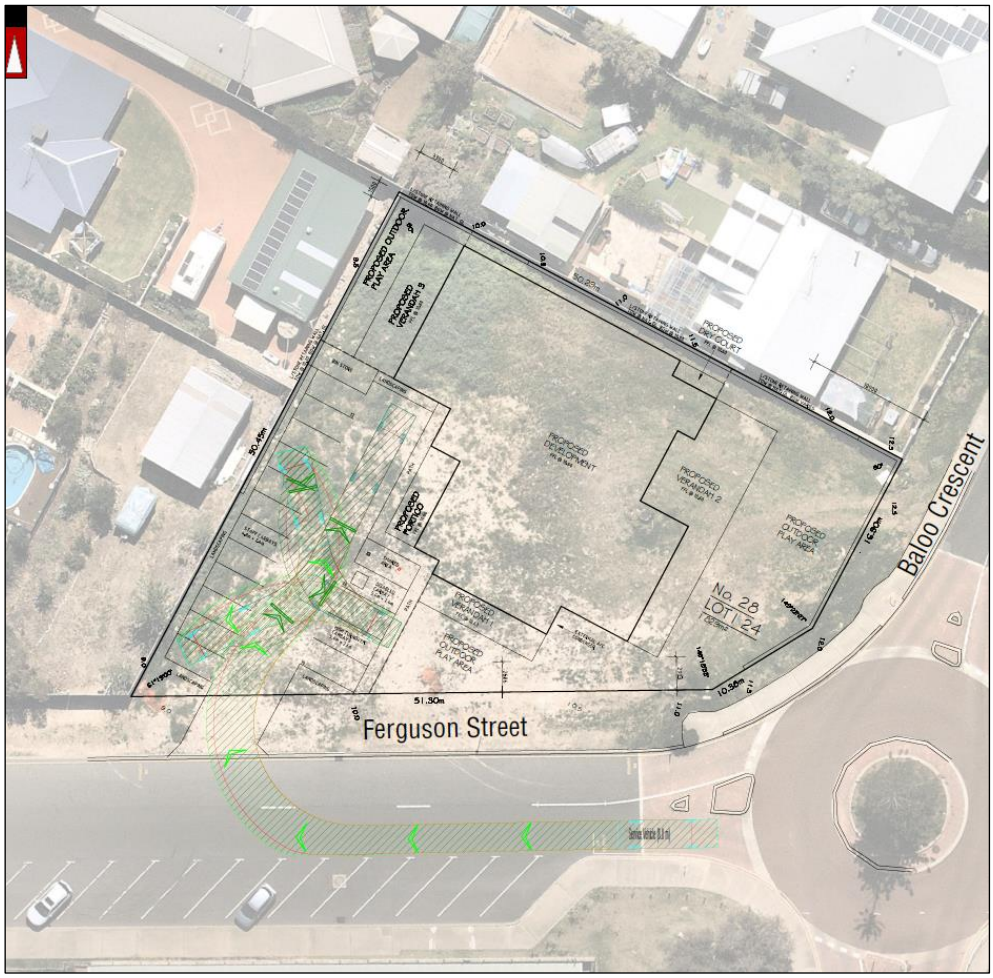
It is proposed that servicing will be conducted outside of normal operating hours to allow the waste collection vehicle to utilise the empty carpark for manoeuvring and mitigate impacts on local traffic movements during peak traffic hours.

Private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the bin storage area during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Area and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's rear loader waste collection vehicle will exit in a forward motion, turning onto Ferguson Street moving with traffic flow, refer Diagram 3.

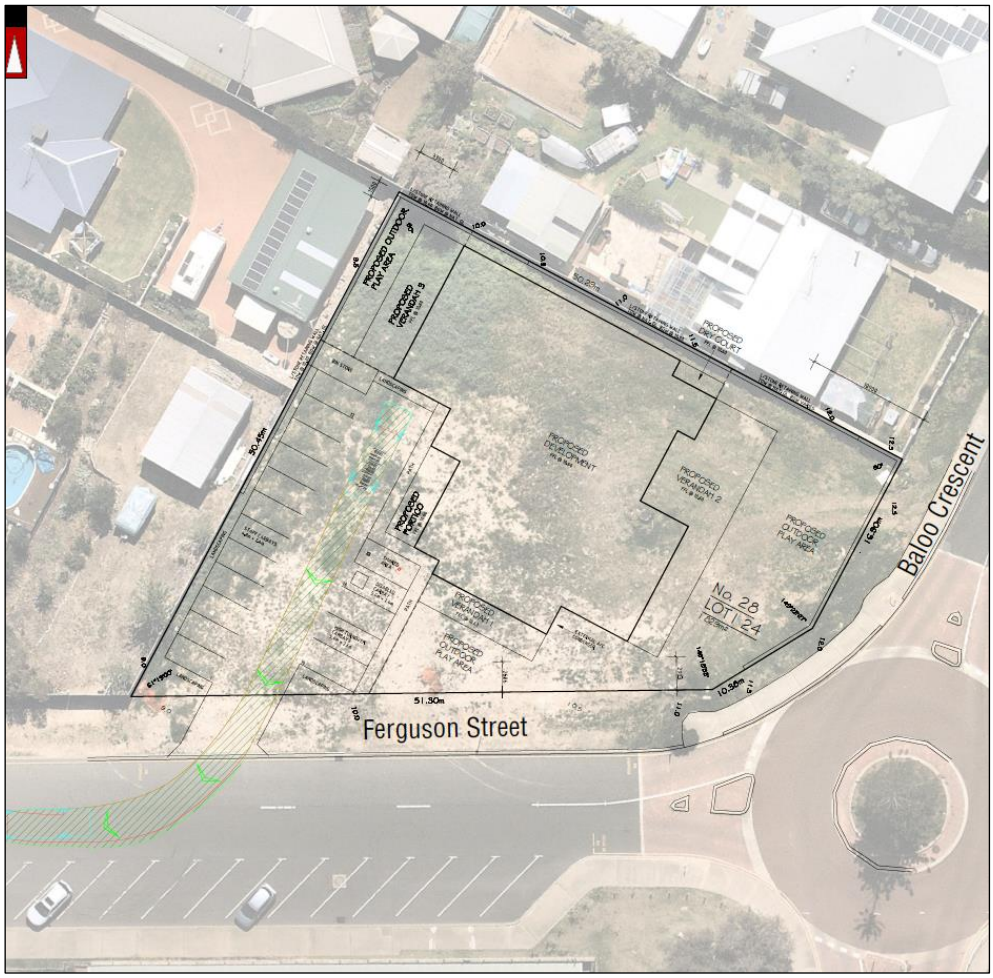
The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

Diagram 2: Swept Path – Entry



Reference: KCTT (20/10/2021)

Diagram 3: Swept Path – Exit



Reference: KCTT (20/10/2021)

4.1 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated. Removal of these wastes will be monitored by the building manager/caretaker, who will liaise with staff and cleaners to assist with the removal of these wastes, as required.

Sanitary wastes will be collected in situ. A suitably qualified sanitary waste collection and disposal provider will be engaged to determine storage and collection requirements.

5 Waste Management

A building manager/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all staff at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Two 660L refuse bins, collected two times each week; and
- One 660L recycling bin, collected four times each week.

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Ferguson Street.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

Figure 1: Locality Plan

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LEGEND

- Site Layout
- Cadastre

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LOCALITY

28 Baloo Crescent,
Falcon WA 6210

Skybeat Enterprises Pty Ltd

N
0 10 20 30 40 m

Coordinate System: GDA 1994 MGA Zone 50
Scale @ A3: 1:1,000

Prepared:	W Robertson	Date:	7/02/2022
Reviewed:	D Patel	Revision:	A
Project:	TW22010		

talis consultants

Figure 01

Data source: Roads, Cadastre - Landgate, 2021. Imagery: Nearmap, 2022.

Assets | Engineering | Environment | Noise | Spatial | Waste

Talis Consultants

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To:	Blokk Property	**From:**	Matt Moyle
Attention:	Darren Blowes	**Date:**	7 February 2022
Email:	darren@blokk.com.au	**Pages:**	2 + 1 Attached Figure
Our Ref:	21106732-02 Memo		
Re:	**Child Care Centre: 28 Baloo Crescent, Falcon – Revised Plans (Outdoor Play Relocation)**		

Darren,

Lloyd George Acoustics prepared an environmental noise assessment for the above development application. Our report was completed in October 2021, Ref 21106732-01. One of the outcomes of that assessment was that the noise impact from child play was compliant during the day. Due to a design change of the proposed centre (now at "Revision D"), outdoor play areas have been relocated such that an updated noise model is required to ensure compliance is maintained.

The Child care centre has proposed to relocated all play areas to the east and south sides of the building, as shown in *Figure 1* below.

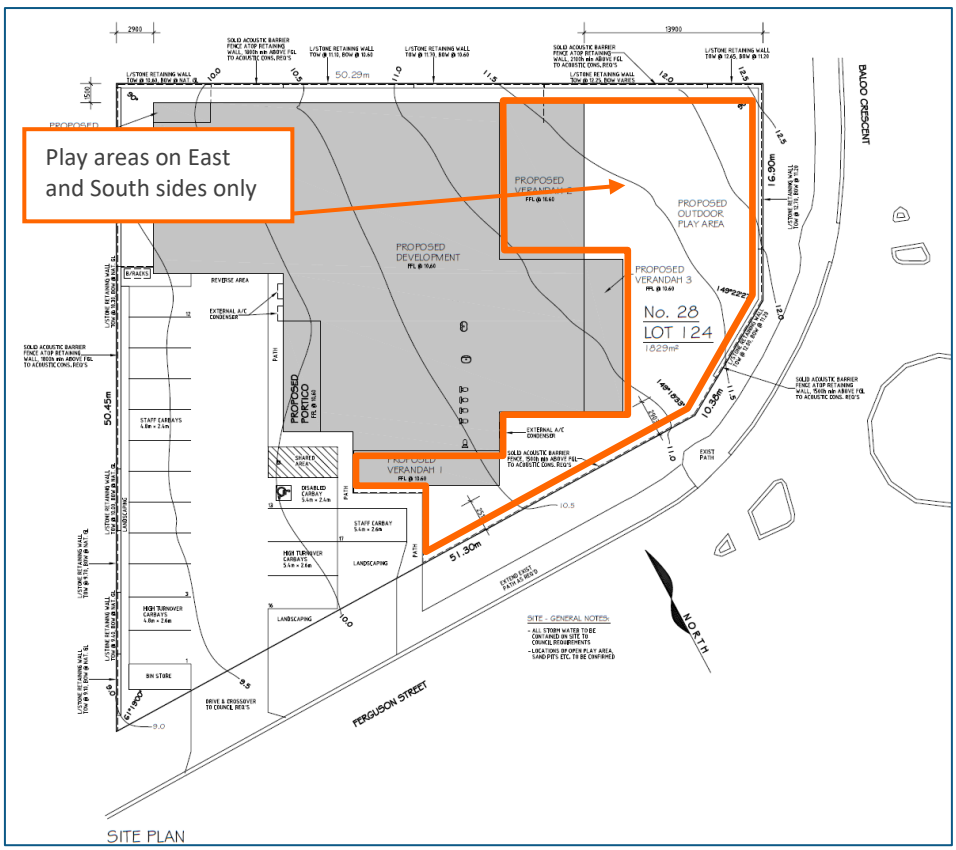


Figure 1 Revised Site Plan

The noise model for the original noise assessment was updated with the proposed plans now revised to Revision D (Dated 1-Feb-22). Noise impacts to nearby noise sensitive premises were predicted and assessed in the same manner as before, with the results summarised in *Table 1*. A graphical representation of the predicted noise levels is included in *Figure 2*, attached to this memo.

Table 1 Assessment of Child Play Noise Levels

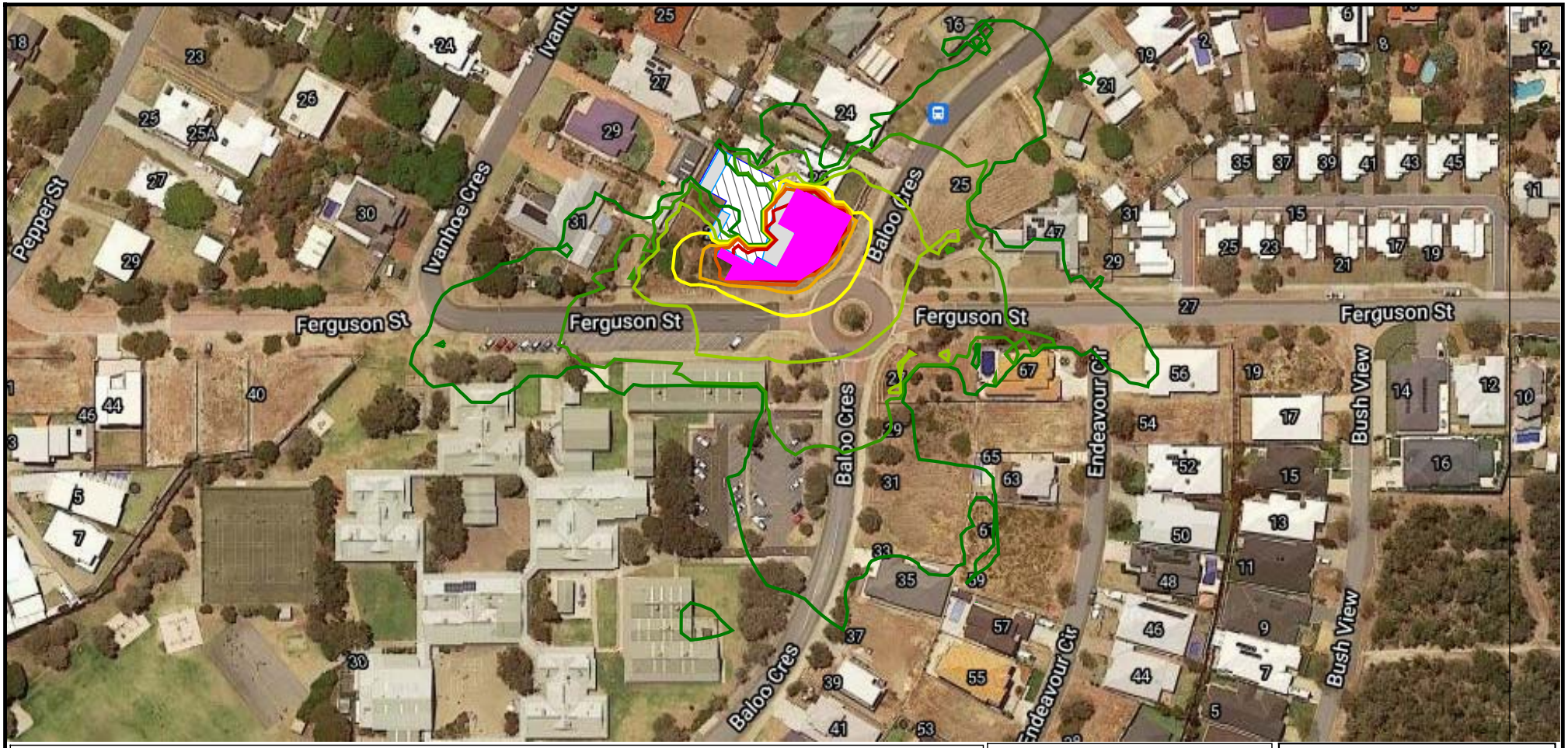
Receiver	Previous Assessment (All 74 children outside) dB L_{A10}	Updated Design (All 74 children outside) dB L_{A10}	Relevant Assigned Noise Level (Day Time) dB L_{A10}
26 Baloo Cr	44	**20**	45
25 Baloo Cr	42	**36**	45
47 Ferguson St	39	**38**	45
27 Baloo Cr	42	**25**	45
30 Baloo Cr	40	**32**	45
31 Ivanhoe Cr	36	**44**	45
29 Ivanhoe Cr	33	**42**	45
27 Ivanhoe Cr	32	**43**	45

Based on the noise modelling outcomes outlined in *Table 1* which also compares levels to that of the previous assessment, it is concluded that the proposed updated design complies with the relevant assigned noise level at all receivers during the day. Therefore, the updated plan will comply with the requirements of the Environmental Protection (Noise) Regulations 1997.

We trust the above is satisfactory. Should you require further information, please do not hesitate in contacting us.

Regards,

Matt Moyle



Proposed Childcare Centre, 28 Baloo Crescent, Falcon WA
All 74 Children Playing Outside

Noise Level Contours
1.5m Above Ground Level

SoundPLAN v8.2
ISO 9613 Algorithms

4 February 2022

Signs and symbols
- Outside Play Area
- CCC building

N

Noise Levels
dB L_{A10}
- = 35
- = 40
- = 45
- = 50
- = 55
- = 60
- = 65

Lloyd George Acoustics
PO Box 717
WA 6923 Hillarys
(08) 9401 7770

Length Scale 1:1850
0 10 20 40 60 80 m

Figure 4-1

Environmental Noise Assessment

Proposed Childcare Centre

28 Baloo Crescent, Falcon

Reference: 21106732-01

Prepared for:
Blokk Property

Association of Australasian Acoustical Consultants

Report: 21106732-01

Lloyd George Acoustics Pty Ltd

ABN: 79 125 812 544

PO Box 717

Hillarys WA 6923

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P:	9401 7770	0439 032 844	0400 414 197	0412 611 330
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Date:	Rev	Description	Prepared By	Verified
28-Oct-21	0	Issued to Client	Benjamin Hillion	Terry George

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A Development Plans
B Land Use Map
C Terminology

1 INTRODUCTION

It is proposed to develop a single storey child care centre at 28 Baloo Crescent in Falcon WA (refer *Figure 1-1*). The proposed development is understood to include:

- One outdoor area for infants (0-24 months) to the northwest of the childcare building;
- One outdoor play area to the east of the childcare centre for toddlers (2-3 years old);
- One outdoor play area to the south of the childcare centre for kindy aged children (3-5 years old);
- A 16-bay car park on the western side, with entry from Ferguson Street.

The proposed development is located within a mixed use area, with buildings immediately adjacent being a mix of single and double storey residential, and a primary school directly south of the proposed lot.

The proposed childcare centre will accommodate up to 74 children and based on floor plans provided, the following age group distribution was assumed:

- Babies (0-24 months), 24 children;
- Pre-Kindy (2 - 3 years), 20 children overall;
- Kindy (3 years and over), 30 children overall; and,

The proposed hours of operation are 6.30am to 6.30pm Monday to Saturday. As such, it is noted that staff and patrons can arrive before 7.00am, however children will not be playing outside until after 7.00am.

This report assesses noise emissions from child play, mechanical plant (AC plant and extraction fans) and car doors closing at the proposed site, against the *Environmental Protection (Noise) Regulations 1997*.

The development plans are provided in *Appendix A*.

Land zoning around the proposed site with 100 metre and 450 metre radius circles is shown in *Appendix B*.

Appendix C contains a description of some of the terminology used throughout this report.

Figure 1-1 Project Locality (Source: City of Mandurah Intramaps)

2 CRITERIA

2.1 Environmental Noise

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

Regulation 7 defines the prescribed standard for noise emissions as follows:

"7. (1) Noise emitted from any premises or public place when received at other premises –

(a) Must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) Must be free of –

i. tonality;

ii. impulsiveness; and

iii. modulation,

when assessed under regulation 9"

A "…noise emission is taken to significantly contribute to a level of noise if the noise emission … exceeds a value which is 5 dB below the assigned level…"

Tonality, impulsiveness and modulation are defined in Regulation 9. Noise is to be taken to be free of these characteristics if:

(a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) The noise emission complies with the standard prescribed under regulation 7 after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music			Where Noise Emission is Music	
Tonality	Modulation	Impulsiveness	No Impulsiveness	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

Note: The above are cumulative to a maximum of 15dB.

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown in *Table 2-2*.

Table 2-2 Baseline Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

It is noted the project and surrounding land is located within a residential area with no industrial or commercial land uses within 450 metres. There are no major or secondary roads within 450 metres and therefore the Transport Factor is 0 dB.

Based on the above and the land use map shown in Appendix B, the influencing factor, applicable at the noise sensitive premises, has been calculated as 0 dB.
Table 2-3 shows the assigned noise levels including the influencing factor and transport factor at the receiving locations.

Table 2-3 Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45	55	65
	0900 to 1900 hours Sunday and public holidays (Sunday)	40	50	65
	1900 to 2200 hours all days (Evening)	40	50	55
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35	45	55
Noise sensitive premises: any area other than highly sensitive area[1]	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

It must be noted the assigned noise levels above apply outside the receiving premises and at a point at least 3 metres away from any substantial reflecting surfaces. Where this could not be achieved due to the close proximity of existing buildings and/or fences, the noise emissions were assessed at a point within 1 metre of the building facade and a -2 dB adjustment was made to the predicted noise levels to account for reflected noise.

Furthermore, the assigned noise levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as *a period of time of not less than 15 minutes, and not exceeding 4 hours*, which is determined by an *inspector* or *authorised person* to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission. An *inspector* or *authorised person* is a person appointed under Sections 87 and 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Environment Regulation. Acoustic consultants or other environmental consultants are not appointed as an

inspector or *authorised person*. Therefore, whilst this assessment is based on a 4 hour RAP, which is assumed to be appropriate given the nature of the operations.

2.2 Waste Collection and Site Cleaning (Specified Works)

Regulation 14A provides requirements for such activities as the collection of waste, landscaped area maintenance and car park cleaning. Such activities can be exempt from having to comply with Regulation 7, provided they are undertaken in accordance with regulation 14A(2) as follows:

- during daytime hours, defined as:
  - 07:00 to 19:00 Monday to Saturday (excluding public holiday), or
  - 09:00 to 19:00 on a Sunday or public holiday
- in the quietest reasonable and practicable manner; and
- using the quietest equipment reasonably available.

In the case where specified works are to be carried outside daytime hours and their noise emissions are likely not to comply with Regulation 7, the works also need to be carried out according to a Noise Management Plan which has been approved by the local government authority CEO.

3 METHODOLOGY

Computer modelling has been used to predict the noise emissions from the development at all nearby receivers. The software used was *SoundPLAN 8.2* with the ISO 9613 algorithms (ISO 171534-3 improved method) selected, as they include the influence of wind and are considered appropriate given the relatively short source to receiver distances.

Input data required in the model are:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1 Meteorological Information

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1 Modelling Meteorological Conditions

Parameter	Night (1900-0700)	Day (0700-1900)
Temperature (^{o}C)	15	20
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5	Up to 5
Wind Direction*	All	All

* Note that the modelling package used allows for all wind directions to be modelled simultaneously.

It is generally considered that compliance with the assigned noise levels needs to be demonstrated for 98% of the time, during the day and night periods, for the month of the year in which the worst-case weather conditions prevail. In most cases, the above conditions occur for more than 2% of the time and therefore must be satisfied.

3.2 Topographical Data

Topographical information was based on data publicly available (e.g. *Google*) in the form of spot heights and combined with finished floor levels provided on the development drawings.

3.3 Buildings and Receivers

Surrounding existing buildings were included in the noise model as these can provide noise shielding as well as reflection paths.

Single storey buildings were modelled as 3.5 metres high, while double storey buildings were modelled as 7 metres high. Receivers were located 1.5 metres above floor level.

The childcare centre building incorporates open air car park and play areas as shown in the design drawings of *Appendix A* and this was reproduced within the noise model. *Figure 3-1* shows a 2D overview of the noise model with the location of all relevant receivers identified.

Figure 3-1 3D Overview of Noise Model

3.4 Walls and Fences

The area is mostly residential with typical boundary fencing (*Hardie Fence* and *Colorbond* types) between residences. Except where stipulated in *Figure 3-1*, solid fences of minimum 1.8m high, will be installed.

The material selected for all barriers must have a minimum 8 kg/m^2 surface mass to be effective acoustically. With regard to any entry gates within a barrier, these must also be solid and any air gaps appropriately sealed or overlapped.

Figure 3-2 shows a view of the 3D model based on the information above in relation to topography and building and fence heights. Also shown are the outdoor play areas (pink polygon) and point sources (e.g. mechanical plant, car doors) as pink dots.

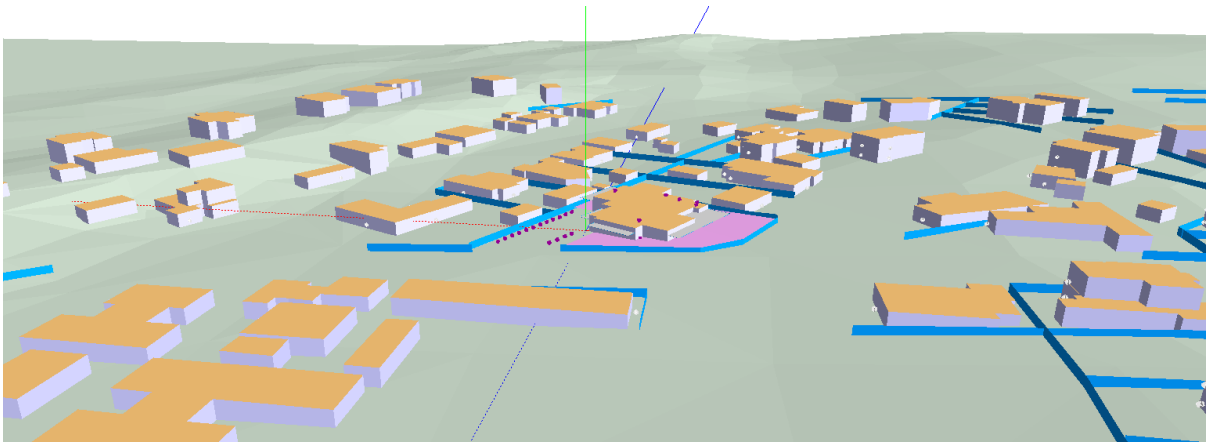


Figure 3-2 South Elevation View of 3D Noise Model

3.5 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. asphalt, concrete) and 1 for acoustically absorbent ground (e.g. grass/sand). In this instance, a value of 0.5 has been used for the outdoor play areas and the car park and road areas, and 0.6 for all other areas.

3.6 Source Sound Levels

The sound power levels used in the modelling are provided in *Table 3-2*.

Table 3-2 Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Babies Play Aged 0-2 Years (10 kids), L_{10}	78	54	60	66	72	74	71	67	**78**
Toddler Play Aged 2-3 Years (10 kids), L_{10}	61	67	73	79	81	78	74	70	**85**
Kindy Play Aged 3+ Years (10 kids), L_{10}	64	70	75	81	83	80	76	72	**87**
Large Outdoor Condensing Unit	96	87	81	74	72	62	54	48	**78**
Medium Outdoor Condensing Unit	77	81	77	70	66	58	47	44	**73**
Exhaust Fan (WCs)	68	62	58	55	55	47	42	35	**59**
Laundry Exhaust Fan	67	58	60	63	66	64	59	53	**70**
Kitchen exhaust fan	70	76	77	69	71	66	64	51	**75**
Closing Car Door, L_{max}	71	74	77	81	80	78	72	61	**84**

The following is noted in relation to the source levels:

- Child play source levels are based on Guideline 3.0 provided by the Association of Australasian Acoustical Consultants (AAAC) published September 2020. Where the number of children for individual play areas is specified in the plans, these have been adjusted from the reference source levels using appropriate acoustical calculations. Outdoor child play was modelled as area sources at 1-metre heights above floor level. The sound power levels used in the model were scaled as follows:
    - 24 Babies = 81 dB(A)
    - 20 Toddlers = 88 dB(A)
    - 30 Kindy = 92 dB(A)

- Based on previous projects on file, three outdoor AC units were modelled as a point source located 0.7 metres above roof level. The AC units are assumed to be operating at night-time (prior to 7.00am);
- Other mechanical plant includes 4x toilet exhaust fans, one laundry exhaust fan and one kitchen exhaust fan. All fans were modelled as point sources approximately 0.5 metre above roof level, and above the area serviced.
- Car doors closing were modelled as point sources at 1.0 m above ground level. Since noise from a car door closing is a short term event, only the L_{Amax} level is applicable but can occur prior to 7.00am.

4 RESULTS

4.1 Outdoor Child Play

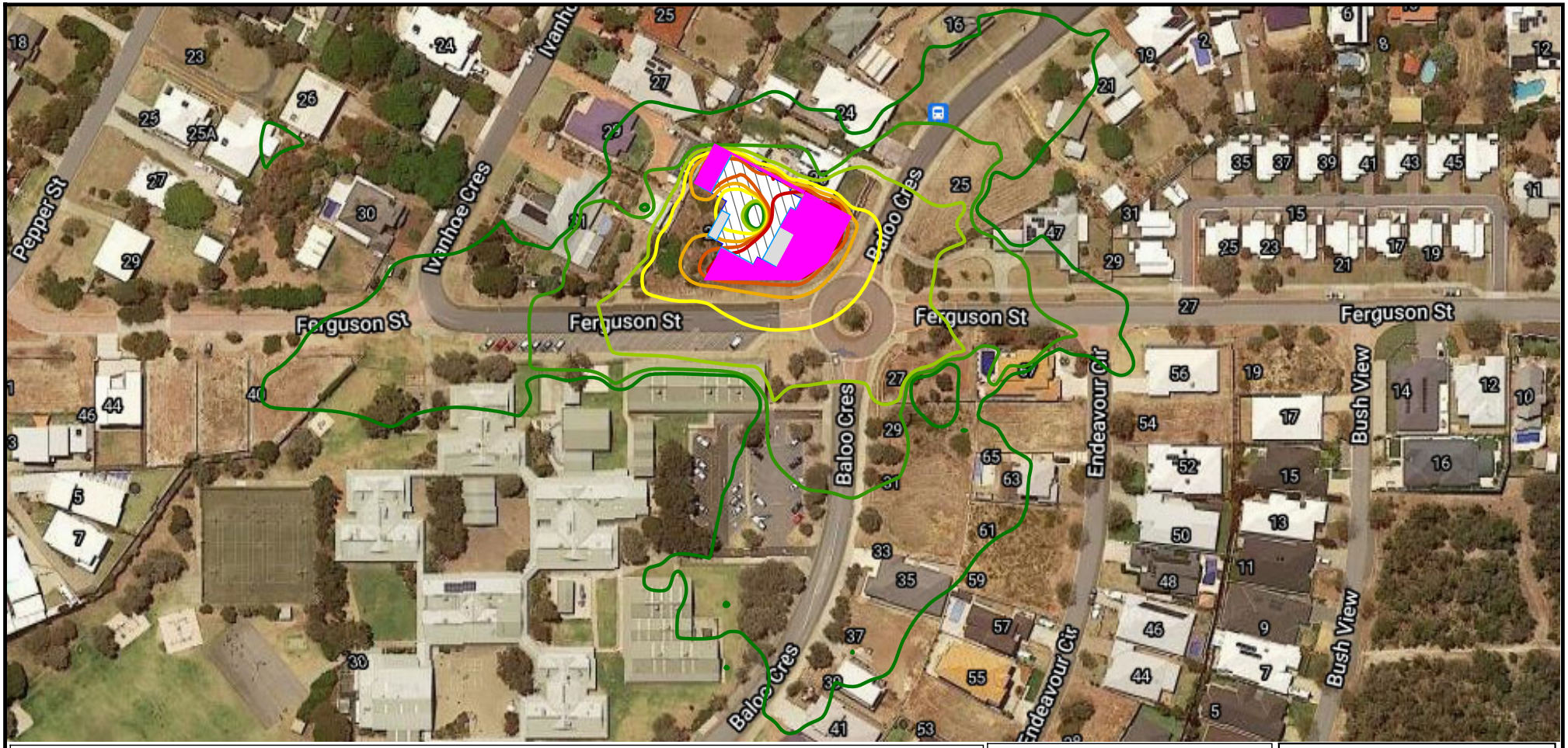
Noise levels of outdoor child play were predicted and are presented in *Table 4-1* and *Figure 4-1* as a noise contour map at ground level (1.5 metres AGL).

The predicted noise levels are from child play only i.e. mechanical plant noise is not included.

It can be seen that at all receivers, noise due to outdoor child play is predicted to be no more than 44 dB(A) at a residential receiver.

Table 4-1 Predicted Noise Levels of Child Play, dB L_{A10}

Receiver	All 74 children outside dB L_{A10}
26 Baloo Cr	44
25 Baloo Cr	42
47 Ferguson St	39
27 Baloo Cr	42
30 Baloo Cr	40
31 Ivanhoe Cr	36
29 Ivanhoe Cr	33
27 Ivanhoe Cr	32



Proposed Childcare Centre, 28 Baloo Crescent, Falcon WA
All 74 Children Playing Outside

Noise Level Contours
1.5m Above Ground Level

SoundPLAN v8.2
ISO 9613 Algorithms

28 October 2021

Signs and symbols
- Outside Play Area
- CCC building

Noise Levels
dB L_{A10}
- = 35
- = 40
- = 45
- = 50
- = 55
- = 60
- = 65

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WA 6923 Hillarys
(08) 9401 7770

Length Scale 1:1850
0 10 20 40 60 80 m

Figure 4-1

4.2 Mechanical Plant

It is assumed that all plant could be operating simultaneously and at full capacity e.g. hot summer day, which would include the kitchen exhaust fan, toilet and store exhaust fans and AC condensers.

The predicted mechanical plant noise levels are presented in *Table 4-2* and *Figure 4-2* as a ground floor noise contour map.

Table 4-2 Predicted Noise Levels of Mechanical Plant, dB L_{A10}

Receiver	Condensers dB L_{A10}	KEF dB L_{A10}	EF dB L_{A10}	Overall dB L_{A10}	+5dB Adj.
26 Baloo Cr	21	36	36	39	44
25 Baloo Cr	17	25	25	28	33
47 Ferguson St	14	18	16	21	26
27 Baloo Cr	24	23	25	29	34
30 Baloo Cr	30	19	17	31	36
31 Ivanhoe Cr	32	20	14	32	37
29 Ivanhoe Cr	31	20	15	31	36
27 Ivanhoe Cr	22	24	18	26	31

Proposed Childcare Centre, 28 Baloo Crescent, Falcon WA
Outdoor Mechanical Plant

Noise Level Contours
1.5m Above Ground Level

SoundPLAN v8.2
ISO 9613 Algorithms

28 October 2021

Signs and symbols
- Mech. Plant
- CCC building

Noise Levels
dB L_{A10}
- = 35
- = 40
- = 45
- = 50
- = 55
- = 60
- = 65

Lloyd George Acoustics
PO Box 717
WA 6923 Hillarys
(08) 9401 7770

Length Scale 1:1850
0 10 20 40 60 80 m

Figure 4-2

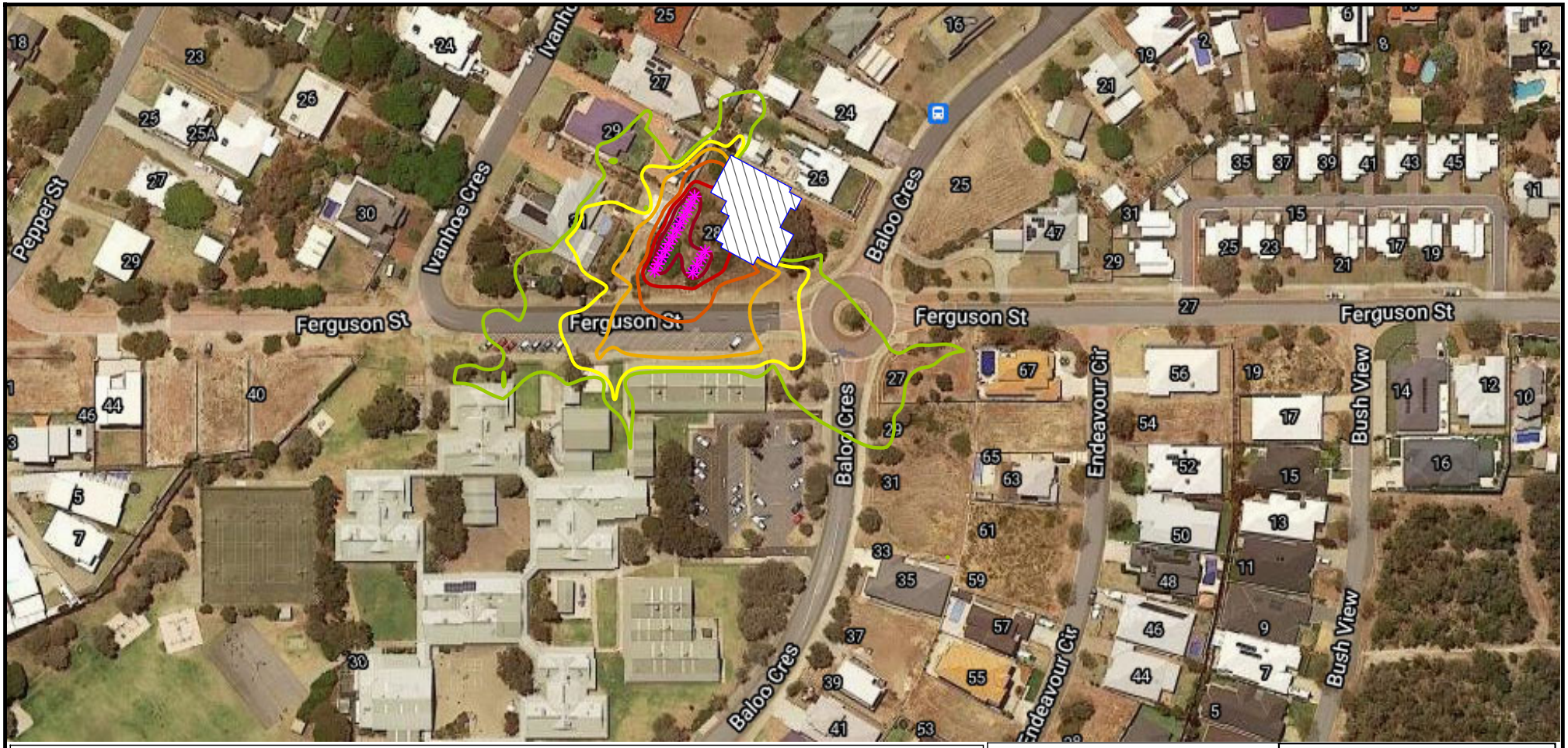
4.3 Car Door Closing

The model includes noise from car doors closing in the proposed parking bays on site. *Table 4-3* presents the predicted noise levels from car doors closing.

Figure 4-3 also shows the predicted noise levels as a noise contour map (non-cumulative) at ground level (1.5 metres AGL).

Table 4-3 Predicted Car Doors Closing Noise Levels, dB L_{Amax}

Receiver	Car doors dB L_{Amax}	+10 dB Adj.
26 Baloo Cr	23	33
25 Baloo Cr	24	34
47 Ferguson St	24	34
27 Baloo Cr	35	45
30 Baloo Cr	41	51
31 Ivanhoe Cr	38	48
29 Ivanhoe Cr	36	46
27 Ivanhoe Cr	29	39



Proposed Childcare Centre, 28 Baloo Crescent, Falcon WA
Car Doors Closing

Noise Level Contours
1.5m Above Ground Level

SoundPLAN v8.2
ISO 9613 Algorithms

28 October 2021

Signs and symbols
- Point source
- CCC building

Noise Levels
dB L_{Amax}
- = 45
- = 50
- = 55
- = 60
- = 65
- = 70
- = 75

Lloyd George Acoustics
PO Box 717
WA 6923 Hillarys
(08) 9401 7770

Length Scale 1:1850
0 10 20 40 60 80 m

Figure 4-3

5 ASSESSMENT

5.1 Outdoor Child Play

Child play will only occur during the daytime, when the assigned noise level is 45 dB L_{A10}. Noise from child play is not considered to contain annoying characteristics within the definition of the Regulations. Therefore, no adjustments are made to the predicted noise levels.

In terms of residential receivers, the worst-case predicted L_{A10} noise level from child play, represented in *Table 4-1* is 44 dB L_{A10} at 26 Baloo Crescent. This complies with the daytime assigned noise level of 45 dB L_{A10} for noise sensitive receivers.

5.2 Mechanical Plant

Mechanical plant could be considered tonal prior to 7.00am and therefore a +5 dB adjustment is to be made to the predicted night-time noise levels (refer to *Table 2-1*). During the night time the assigned level is 35 dB L_{A10}.

Based on the predicted noise levels in *Table 4-2*, the worst-case adjusted noise level at noise sensitive receivers is 44 dB L_{A10} at 26 Baloo Crescent. This would exceed the night time assigned noise level by +9 dB (similarly, based on *Table 2-4* this would exceed the evening time assigned level by +4 dB). There are exceedences between 1-2 dB forecast at 29, 31 Ivanhoe Crescent and 30 Baloo Crescent.

This is due to both exhaust fans and kitchen exhaust fans. Therefore, these noise sources would require mitigation to comply with the night time and evening assigned noise levels. The condenser units would be compliant based on the locations modelled.

Please refer to *Section 6* for recommendations on how these fans can achieve compliance.

5.3 Car Doors

Car doors closing are short duration events and were therefore assessed against the L_{Amax} assigned noise level. Given the hours of operation, staff members or parents can arrive before 7.00am, and therefore the night-time assigned noise level of 55 dB L_{Amax} is applicable at noise sensitive receivers.

Given the relative short source to receiver distances, car doors closing noise is considered to be impulsive within the definition of the Regulations. Therefore an adjustment of +10 dB is to be applied to the predicted noise levels (refer *Table 2-1*).

The highest predicted noise level at a noise sensitive receiver is 41 dB L_{Amax} at 30 Baloo Crescent resulting in an assessable level of 51 dB L_{Amax}. This complies with the night time assigned noise level of 55 dB L_{Amax} at residences.

6 RECOMMENDATIONS

6.1 Mechanical Plant

To mitigate noise from exhaust fans and kitchen exhaust fans, it is recommended that these be designed as inline type or ceiling mounted fans so that attenuators can be incorporated (as opposed to roof mounted fans).

The AC condensing units, while potentially compliant at all times, may be mitigated further with quiet mode (reduced capacity) programming prior to 7.00am. These options should be explored during detailed design and verified by the mechanical services engineer and a qualified acoustical consultant, when actual plant selections and final locations become known.

The final mechanical plant is to be reviewed at Building Permit stage by a suitably qualified and experienced acoustician (i.e. a full member of AAS).

6.2 General Recommendations

While separate from compliance requirements above, the following should be implemented as “best practice” where practicable:

- Condensers are to be selected with ‘night mode’ that operates at least 6 dB quieter than the full speed mode. ‘Night mode’ is to be programmed for operation after 10pm and before 7am.
- Mechanical Plant to be mounted on vibration isolated mounts to achieve 97% vibration isolation;
- The behaviour and 'style of play' of children should be monitored to prevent particularly loud activity e.g. loud banging/crashing of objects, 'group' shouts/yelling,
- Favour soft finishes in the outdoor play area to minimise impact noise (e.g. soft grass, sand pit(s), rubber mats) over timber or plastic,
- No amplified music to be played outside,
- External doors and windows to be closed during indoor activity / play, and
- Any music played within the internal activity areas to be 'light' music with no significant bass content and played at a relatively low level.
- Car park drainage grates to be plastic or metal with rubber gasket and secured.

Regulation 14A provides requirements for the collection of waste stating that this activity can also be exempt from having to comply with regulation 7 prescribed standards provided it is undertaken between 7am and 7pm Mondays to Saturdays and undertaken in the quietest reasonable manner.

7 CONCLUSION

The noise impacts from the proposed childcare centre to be located at 28 Baloo Crescent in Falcon have been assessed against the relevant criteria of the *Environmental Protection (Noise) Regulations 1997*. As demonstrated by noise modelling, the noise emissions from child play, mechanical plant and carpark use, it is concluded that compliance can be achieved.

The following measures are recommended in relation to mechanical plant:

- Exhaust fans (including the kitchen exhaust fan) will likely require a suitable attenuator which is to be investigated in by an accredited acoustician at building permit;
- Generally exhaust fans are to be located within the ceiling space and ducted to the roof. Roof cowls are then to be located furthest away from sensitive receivers, and
- All plant to be mounted on suitable anti-vibration mounts to achieve 97% vibration isolation;
- Final selections and locations of mechanical plant to be verified by a qualified acoustical consultant (i.e. a full member of AAS) prior to issue of building permit.

Waste collection, landscaped area maintenance and car park cleaning can be exempt from the noise regulations under the following conditions:

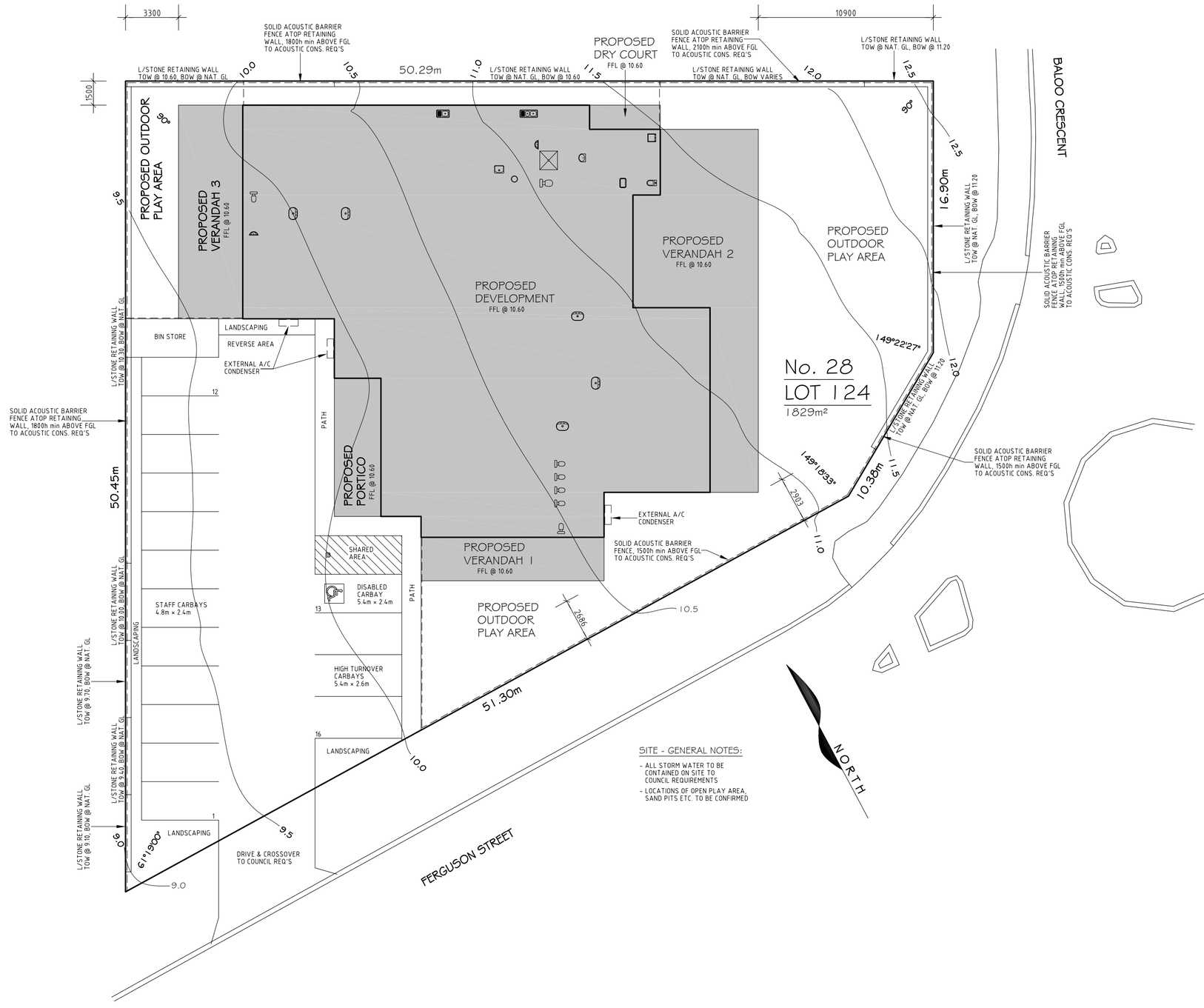
- It is undertaken during daytime hours, defined as:
  - 7am to 7pm Monday to Saturday (excluding public holiday), or
  - 9am to 7pm on a Sunday or public holiday
- It is undertaken in the quietest reasonable and practicable manner; and
- It is undertaken using the quietest equipment reasonably available.

The following best practices should be implemented:

- The behaviour and 'style of play' of children should be monitored to prevent particularly loud activity e.g. loud banging/crashing of objects, 'group' shouts/yelling,
- Favour soft finishes in the outdoor play area to minimise impact noise (e.g. soft grass, sand pit(s), rubber mats) over timber or plastic,
- Favour soft balls and rubber wheeled toys,
- Crying children should be taken inside to be comforted,
- No amplified music or musical instruments to be played outside,
- External doors and windows to be closed during indoor activity / play, and
- Any music played within the internal activity areas to be 'light' music with no significant bass content and played at a relatively low level.

Appendix A

Development Plans



SITE PLAN

SCALE 1:200

NORTH COAST DESIGN

NORTH COAST DESIGN
ph: 08 9535 2055
admin@ncdesign.com.au
www.ncdesign.com.au
PO Box 1354 Mandurah, WA 6210

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BUILDER :

DATE: 19/10/21
SCALE: 1:200 @ A2
DRAWN: jdr
REVISION: A
DRAWING No: 1:3

NOTES:
-ALL WORKMANSHIP & MATERIAL TO BE IN ACCORDANCE WITH ALL RELEVENT AUSTRALIAN STANDARDS, NCC REQUIREMENTS & LOCAL COUNCIL REQUIREMENTS
-DO NOT SCALE DRAWINGS
-CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE PRODUCTION OF ANY SHOP DRAWINGS WHICH MUST BE SUBMITTED AND APPROVED BEFORE MANUFACTURE.

JOB: PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET: SITE PLAN

PLAN - GENERAL NOTES:

PATRON NUMBERS		
0 - 24 MONTHS	24 CHILDREN	= 78.00 sqm INTERNAL AREA REQUIRED = 168.00 sqm EXTERNAL AREA REQUIRED = 6 STAFF REQUIRED
24- 36 MONTHS	20 CHILDREN	= 65.00 sqm INTERNAL AREA REQUIRED = 140.00 sqm EXTERNAL AREA REQUIRED = 4 STAFF REQUIRED
36 MONTHS +	30 CHILDREN	= 97.50 sqm INTERNAL AREA REQUIRED = 210.00 sqm EXTERNAL AREA REQUIRED = 3 STAFF REQUIRED
TOTAL	74 CHILDREN	= 240.50 sqm INTERNAL AREA REQUIRED 248.98 sqm INTERNAL AREA AVAILABLE = 518.00 sqm EXTERNAL AREA REQUIRED 665.01 sqm EXTERNAL AREA AVAILABLE

AREA: sqm	
FLOOR AREA	596.69 sqm
PORTICO	24.94 sqm
VERANDAH 1	30.75 sqm
VERANDAH 2	114.10 sqm
VERANDAH 3	53.16 sqm
DRY COURT	6.60 sqm
TOTAL	826.24 sqm

FLOOR PLAN

SCALE 1:100

NORTH COAST DESIGN

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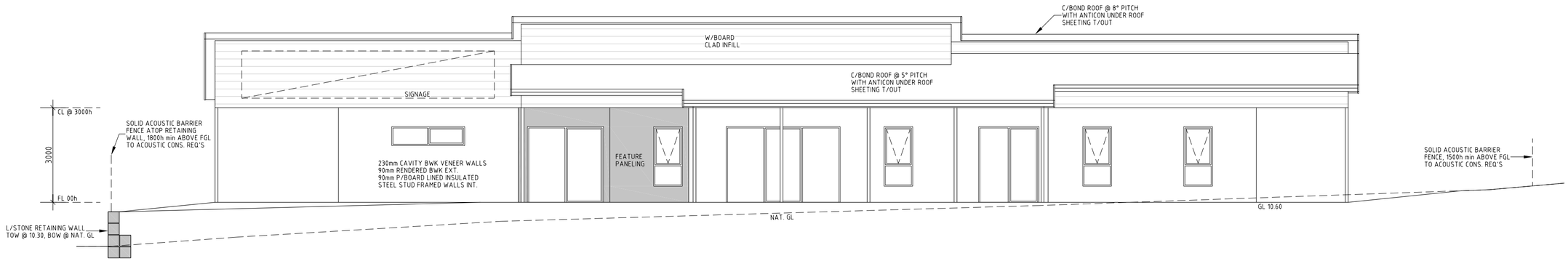
JOB:
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
FLOOR PLAN



FRONT ELEVATION

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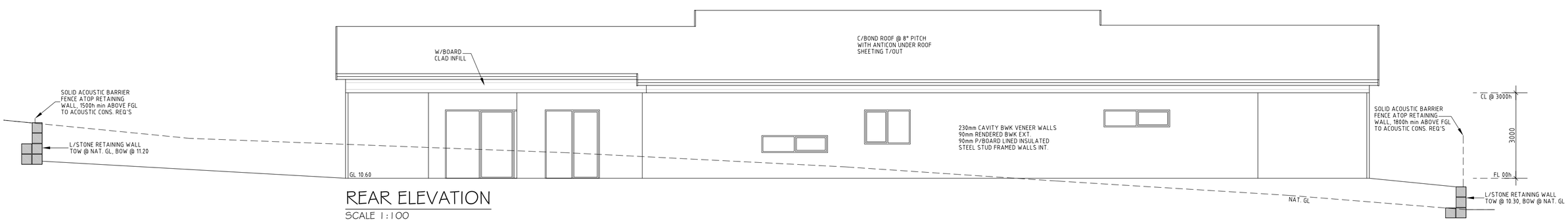

REAR ELEVATION

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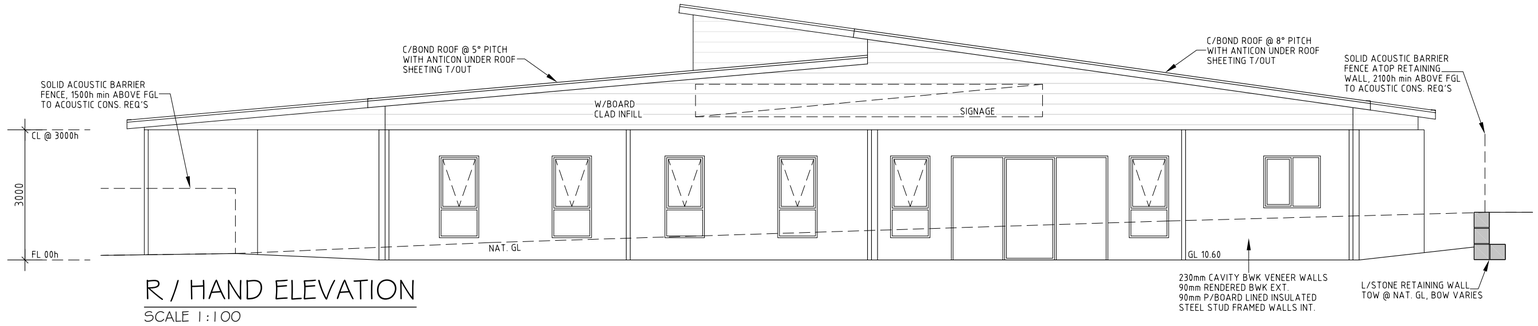
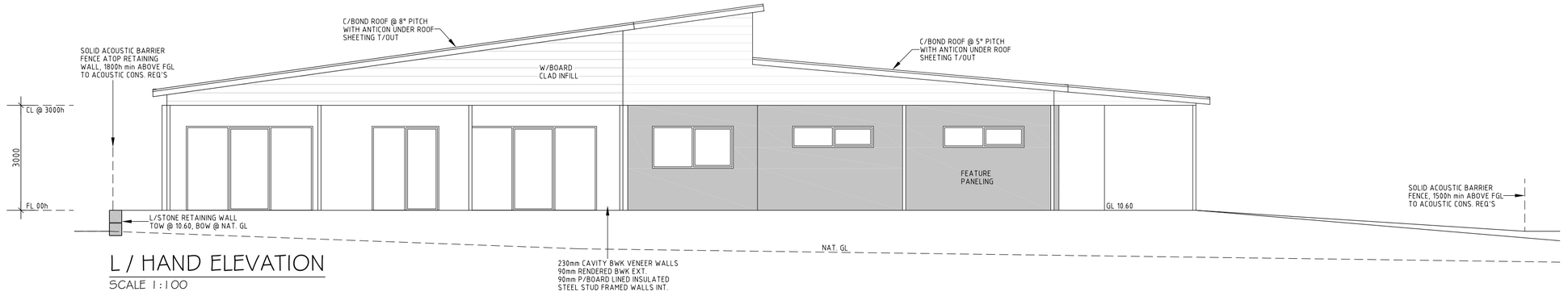


R / HAND ELEVATION

SCALE 1:100



L / HAND ELEVATION

SCALE 1:100

ELEVATIONS - COLOUR PALETTE

- RENDER	DULUX 'MONK'
- FEATURE PANELING	JAMES HARDIE 'EASYLAP' DULUX 'RUSSET TAN'
- W/BOARD CLAD	JAMES HARDIE 'LINEA' DULUX 'ASHVILLE'
- ROOF SHEETS	CUSTOM ORB 'MONUMENT'

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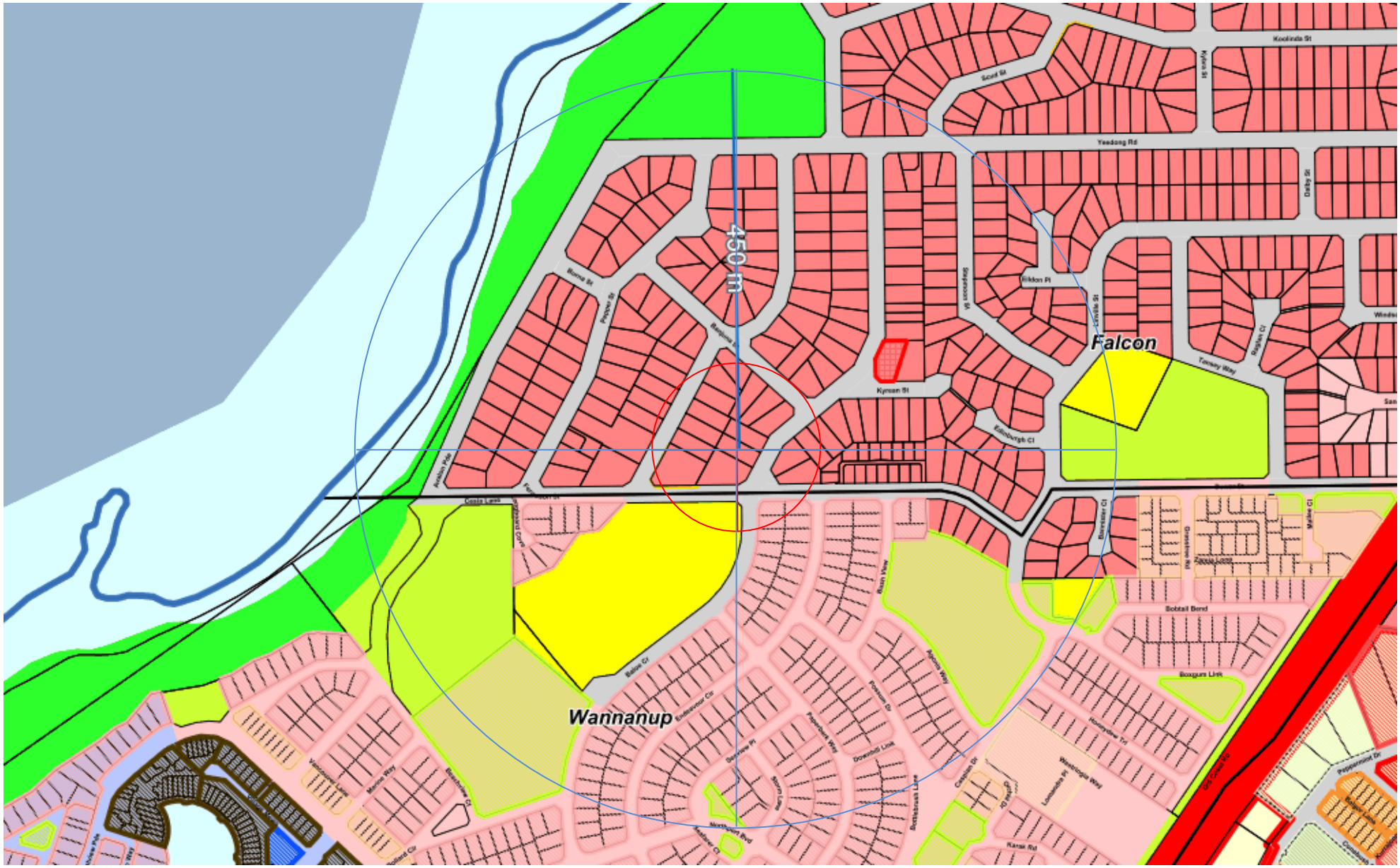
JOB:
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
ELEVATIONS

Appendix B

Land Use Map


450 m
Falcon
Wannanup
Yeadong Rd
Kyreen St
Bobtail Bend
Boxgum Link

Appendix C

Terminology

The following is an explanation of the terminology used throughout this report.

Decibel (dB)
The decibel is the unit that describes the sound pressure and sound power levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

A-Weighting
An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A dB.

Sound Power Level (L_w)
Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure levels at known distances. Noise modelling incorporates source sound power levels as part of the input data.

Sound Pressure Level (L_p)
The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

L_{ASlow}
This is the noise level in decibels, obtained using the A frequency weighting and the S (Slow) time weighting as specified in IEC 61672-1:2002. Unless assessing modulation, all measurements use the slow time weighting characteristic.

L_{AFast}
This is the noise level in decibels, obtained using the A frequency weighting and the F (Fast) time weighting as specified in IEC 61672-1:2002. This is used when assessing the presence of modulation only.

L_{APeak}
This is the greatest absolute instantaneous sound pressure in decibels using the A frequency weighting as specified in IEC 61672-1:2002.

L_{Amax}
An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

L_{A1}
An L_{A1} level is the A-weighted noise level which is exceeded for one percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

L_{A10}
An L_{A10} level is the A-weighted noise level which is exceeded for 10 percent of the measurement period and is considered to represent the "*intrusive*" noise level.

L_{Aeq}
The equivalent steady state A-weighted sound level ("equal energy") in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the "average" noise level.

L_{A90}
An L_{A90} level is the A-weighted noise level which is exceeded for 90 percent of the measurement period and is considered to represent the "*background*" noise level.

One-Third-Octave Band
Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive.

L_{Amax} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded at any time.

L_{A1} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 1% of the representative assessment period.

L_{A10} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 10% of the representative assessment period.

Tonal Noise
A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

the presence in the noise emission of tonal characteristics where the difference between -

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

This is relatively common in most noise sources.

Modulating Noise
A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

a variation in the emission of noise that —

(a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;

(b) is present for at least 10% of the representative.

Impulsive Noise
An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness is:

a variation in the emission of a noise where the difference between $L_{A\ peak}$ and $L_{A\ Max\ slow}$ is more than 15 dB when determined for a single representative event;

Major Road
Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

Secondary / Minor Road
Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

Influencing Factor (IF)

$$= \frac{1}{10}(\%\ \text{Type A}_{100} + \%\ \text{Type A}_{450}) + \frac{1}{20}(\%\ \text{Type B}_{100} + \%\ \text{Type B}_{450})$$

where:

$\%\ \text{Type A}_{100}$ = the percentage of industrial land within a 100m radius of the premises receiving the noise

$\%\ \text{Type A}_{450}$ = the percentage of industrial land within a 450m radius of the premises receiving the noise

$\%\ \text{Type B}_{100}$ = the percentage of commercial land within a 100m radius of the premises receiving the noise

$\%\ \text{Type B}_{450}$ = the percentage of commercial land within a 450m radius of the premises receiving the noise

+ Traffic Factor (maximum of 6 dB)

= 2 for each secondary road within 100m

= 2 for each major road within 450m

= 6 for each major road within 100m

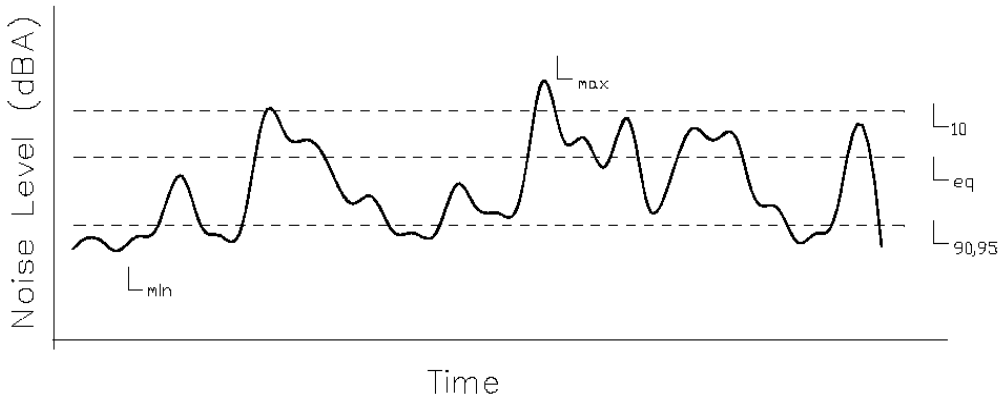
Representative Assessment Period
Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

Background Noise
Background noise or residual noise is the noise level from sources other than the source of concern. When measuring environmental noise, residual sound is often a problem. One reason is that regulations often require that the noise from different types of sources be dealt with separately. This separation, e.g. of traffic noise from industrial noise, is often difficult to accomplish in practice. Another reason is that the measurements are normally carried out outdoors. Wind-induced noise, directly on the microphone and indirectly on trees, buildings, etc., may also affect the result. The character of these noise sources can make it difficult or even impossible to carry out any corrections.

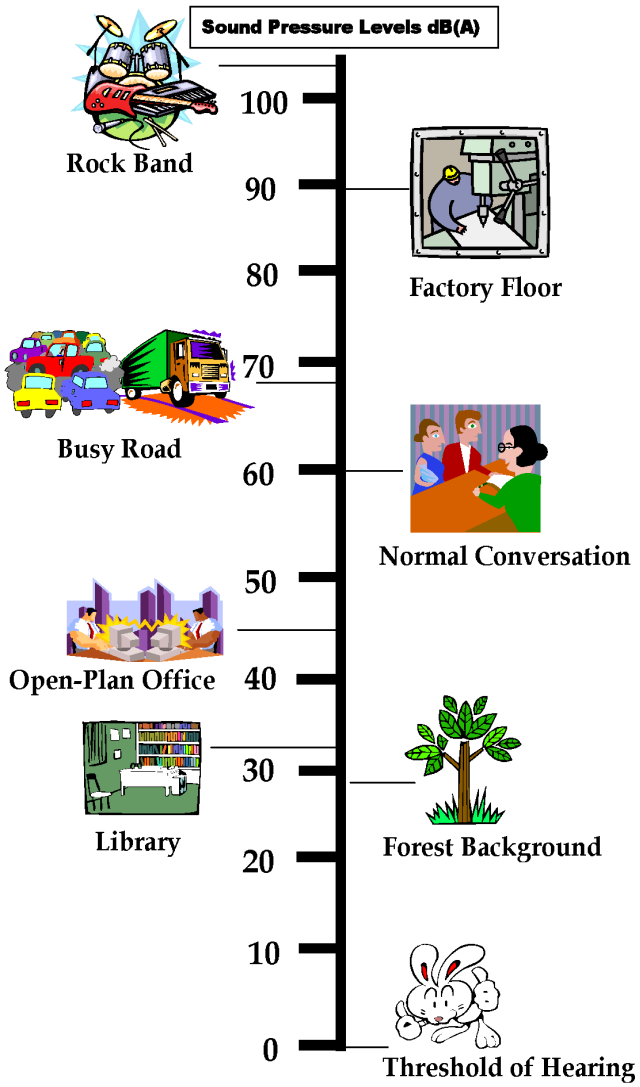
Ambient Noise
Means the level of noise from all sources, including background noise from near and far and the source of interest.

Specific Noise
Relates to the component of the ambient noise that is of interest. This can be referred to as the noise of concern or the noise of interest.

Chart of Noise Level Descriptors



Typical Noise Levels



TRANSPORT IMPACT STATEMENT

28 Baloo Crescent

Falcon

October 2021

Rev B

HISTORY AND STATUS OF THE DOCUMENT

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Appendices

Appendix 1 - The layout of the proposed development
Appendix 2 - Transport Planning and Traffic Plans
Appendix 3 - Vehicle Turning Circle Plans

1. Executive Summary

Site Context

- The project location is 28 Baloo Crescent, Falcon.
- The subject lot is currently vacant.
- A childcare centre is proposed with a capacity for 74 children and 15 staff members (13 educators plus admin and a cook).
- The subject development will have one crossover to/from Ferguson Street.

Technical Findings

- The proposed development will generate up to 326 vehicular trips per day, 59 vehicular trips per hour in the AM peak hour and 52 vehicular trips in the PM peak hour.
- According to the WAPC Guidelines, this is a moderate impact to the surrounding network.
- It is expected that four routes will be utilised for accessing the site:
    - To/from the north via Ferguson Street > Ivanhoe Crescent
    - To/from the north via Ferguson Street > Baloo Crescent
    - To/from the south via Ferguson Street > Baloo Crescent
    - To/from the east via Ferguson Street

Relationship with Policies

- According to the City of Mandurah's Local Planning Policy No. 13, the proposed development requires 15 parking bays.
- The proposed plans show 16 parking bays meeting and exceeding the requirements.
- Building Code of Australia ACROD Provision – the proposed development will meet the requirement for 1 ACROD bay.

Conclusion

- A childcare centre with a capacity for 74 children is proposed at 28 Baloo Crescent, Falcon.
- As stated above, the proposed development will generate up to 326 vehicular trips per day and 59 vehicular trips per hour.
- Ferguson Street is classified as Access Road as per MRWA classification with the maximum desirable volume of 3,000 vehicles per day. Currently, there are no publicly available traffic counts for this road.
- However, based on the aerial imagery, this section of Ferguson Street provides service to at most 10 single residences (coming from Ivanhoe Crescent to the intersection of Ferguson Street and Baloo Crescent) and 23 on-street parking bays associated with the Primary School on the other side of the road. Therefore, KCTT believes that Ferguson Street carries significantly less than 1,000 VPD per day.
- Accordingly, with the additional traffic from the proposed childcare centre, Ferguson Street will remain well under the maximum desirable volume for Access Roads.
- Other surrounding roads would absorb significantly less traffic than Ferguson Street; moreover, the traffic would be dispersed so that the impact can be considered negligible.
- In summary, KCTT believes that the proposed development will not negatively impact the surrounding road network.

2. Transport Impact Statement

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2.1 Location

Lot Number	Lot 124
Street Number	No. 28
Road Name	Baloo Crescent
Suburb	Falcon
Description of Site	The subject lot is currently vacant. The proposed development will be a childcare centre with a capacity for 74 children and 15 staff members (13 educators plus admin and a cook).

2.2 Technical Literature Used

Local Government Authority	City of Mandurah
Type of Development	Individual Development - Childcare Centre
Is the NSW RTA Guide to Traffic Generating Developments Version 2.2 October 2002 (referenced to determine trip generation/attraction rates for various land uses) referenced?	YES
Which WAPC Transport Impact Assessment Guideline should be referenced?	Volume 4 - Individual Developments
Are there applicable LGA schemes for this type of development?	YES
If YES, Nominate:	
Name and Number of Scheme	Town Planning Scheme No. 3
Are Austroads documents referenced?	YES

2.3 Land Uses

Are there any existing Land Uses	NO
If YES, Nominate:	

Proposed Land Uses

How many types of land uses are proposed?	One (1)
Nominate land use type and yield	Childcare Centre - 74 children; 15 staff members
Are the proposed land uses complementary with the surrounding land-uses?	YES

2.4 Local Road Network Information

How many roads front the subject site? Two (2)

Name of Roads Fronting Subject Site / Road Classification and Description:

Road 1

Road Name	Baloo Crescent
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	20m
Road Pavement Width	7m
Classification	Access Road
Speed Limit	50kph or State Limit
Bus Route	YES
If YES Nominate Bus Routes	592
On-street parking	NO

Road 2

Road Name	Ferguson Street
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	20m
Road Pavement Width	8.5m
Classification	Access Road
Speed Limit	50kph or State Limit
Bus Route	NO
If YES Nominate Bus Routes	
On-street parking	YES

2.5 Traffic Volumes

Road Name	Location of Traffic Count	Vehicles Per Day (VPD)	Vehicles per Peak Hour (VPH)				Heavy Vehicle %	Date of Traffic Count	*If older than 3 years multiply with a growth rate*
			AM Peak Time	AM Peak VPH	PM Peak Time	PM Peak VPH	*If HV count is Not Available, are HV likely to be in higher volumes than generally expected?*		
Old Coast Road	South of Pleasant Grove Circle	24,137	08:00	2,086	14:45	2,126	8.8%	2021/ 2022	–

Note - KCTT have requested traffic data from City of Mandurah on 05.10.2021. We have not received traffic counts at the time of Rev B completion.*

2.6 Vehicular Crash Information and Risk Assessment

Is Crash Data Available on Main Roads WA website?	NO
If YES, nominate important survey locations:	
Location 1	Intersection of Baloo Crescent and Ferguson Street
Location 2	Baloo Crescent [SLK 0.38 - 0.48]
Location 3	Ferguson Street [SLK 0.33 - 0.43]
Period of crash data collection	01/01/2016 - 31/12/2020
Comment	No crashes were reported at the above locations in the stated 5-year period.

2.7 Vehicular Parking

Local Government: City of Mandurah

Local Government Document Utilised: LPP 13 Child Care Premises Policy

Description of Parking Requirements in accordance with Scheme:

The minimum parking requirements for the child care premises, including staff parking, shall be one space per five children.

Calculation of Parking

Land Use	Requirements	Yield	Total Parking
Childcare Centre	1 space per 5 children	74	15
		Total Car Parking Requirement	**15**
		Total Volume of Parking Provided by Proponent	**16**

Justification

According to the LPP 13, the proposed development requires 15 parking bays. The proposed plans show 16 parking bays meeting the requirements.

Have Vehicle Swept Paths been checked for parking? YES

If YES, provide a description of the performance:

KCTT have checked the navigability of the proposed parking area with a B99 passenger vehicle (5.2m) and a Service Vehicle (8.8m).

The Service vehicle will have to operate outside of hours of operation as it will require all bays to be clear in order to turn around on site.

No navigability issues have been found.

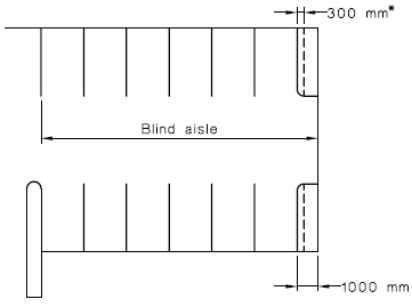
2.8 Compliance with AS2890.1:2004 and AS2890.6

Number of Parking Bays on-site	16
Are Austroads documents referenced?	YES
If YES, Nominate:	• Australian/New Zealand Standard, Parking facilities, Part 1: Off-street car parking - Originated as AS 2890.1—1986. • Australian/New Zealand Standard, Parking facilities, Part 6: Off-street parking for people with disabilities - Originated as AS2890.6
Proposed development User Class	User Class 1A (Residential, domestic and employee parking) User Class 3 User Class 4

AS2890.1:2004 Off-street car parking AS2890.6 Off-street parking for people with disabilities						
Parking Bay Type	Parking Bay Length		Parking Bay Width		Aisle Width	
	Required	Proposed	Required	Proposed	Required	Proposed
Staff bays at 90°	4.8m (where 0.6m overhang is allowed)	4.8m	2.4m	2.4m	5.8m	6m
Visitor bays at 90°	5.4m	5.4m	2.6m	2.6m	5.8m	6m
ACROD Parking	5.4m	5.4m	2.4m–ACROD 2.4m–shared space	2.4m–ACROD 2.4m–shared space	5.8m	6m

Name the other requirements in the AS2890.1:2004 document.

At blind aisles, the aisle shall be extended a minimum of 1 m beyond the last parking space, as shown in Figure 2.3, and the last parking space widened by at least 300 mm if it is bounded by a wall or fence.



*Additional widening required if there is a wall or fence at the side of the last space, see Clause 2.4.1(b)(ii).

DIMENSIONS IN MILLIMETRES

FIGURE 2.3 BLIND AISLE EXTENSION

Blind aisle	extended by a minimum of 1 m	√
Reversing bay	to be provided at shared space	√

Does the parking area meet the requirements set in AS2890.1:2004?	KCTT reviewed the layout for the proposed development and concluded that car parking bays dimensions and aisle width are according to the Australian Standard AS/NZS 2890.1/2004.
Does the parking area meet the requirements set in AS2890.6?	YES

2.9 Bicycle Parking

Local Government	City of Mandurah
Reference Document Utilised	Local Planning Scheme No. 3

Description of Parking Requirements in accordance with Scheme:

No rates provided.

Total Volume of Bicycle Parking Provided by Proponent	N/A

Justification

Even though the City of Mandurah Parking Policy does not outline specific bicycle parking requirements, KCTT believes installing bicycle racks would help promote alternative transport modes.

However, the proposed development will have more carparking bays than required. Therefore, it is unlikely that staff members will use bicycles to come to work.

Parents are unlikely to use this transport mode to drop off or pick up their children from the centre.

2.10 ACROD Parking

Class of Building	Class 9b
Does this building class require specific provision of ACROD Parking?	YES
Reference Document Utilised	Building Code of Australia

Description of Parking Requirements:

Class 9b — (a) School - 1 space for every 100 carparking spaces or part thereof

Parking Requirement in accordance with regulatory documents

Land Use	Requirements	Yield	Total Parking
Childcare Centre	*1 space for every 100 carparking spaces or part thereof*	16	1
		Total Volume of ACROD Parking Required	**1**

Total Volume of ACROD Parking Provided by Proponent	**1**

Justification

The proposed plans demonstrate 1 ACROD bay, meeting the requirements outlined by the Building Code of Australia.

2.11 Delivery and Service Vehicles

Guideline Document used as reference	NSW RTA Guide to Traffic Generating Developments

Requirements

Other uses - 1 space per 2,000m2

Parking Requirement in accordance with regulatory documents

Land Use	Minimum Requirements	Yield	Total Parking
Childcare Centre	*1 space per 2,000m^2 GFA*	Less than *2,000m^2 GFA*	1
	Total Volume of Service and Delivery Parking Provided by Proponent		N/A

Justification

The above requirements are stated as a guide only. KCTT believe that a childcare centre does not require a specific bay. The delivery vehicles are not expected to be larger than the largest passenger vehicle. Therefore, since the expected deliveries (a maximum of 3 times a week) will be conducted between 10:00 and 14:00, the delivery vehicle will be able to park on unoccupied visitors' parking bays, given this is a low-demand period for visitors.

The Waste vehicle will have to operate outside of hours of operation as it will require all bays to be clear in order to turn around on site.

2.12 Calculation of Development Generated / Attracted Trips

What are the likely hours of operation?	Child Care Centre – 06:30-18:30
What are the likely peak hours of operation?	07:00 - 08:00 and 16:00 - 17:00
Do the development generated peaks coincide with existing road network peaks?	NO
Guideline Document Used	**NSW RTA Guide to Traffic Generating Developments**
Rates from above document:	***Child Day Care:*** • *AM Peak - 0.8 VPH per child* • *PM Peak - 0.7 VPH per child* It should be noted that these rates are given for a 2-hour peak period. For the purposes of this report, KCTT assumes that the two-hour traffic volume will be attracted to the development in a one-hour period which will represent the peak for the subject site.

Given that the WAPC Transport Assessment Guidelines and NSW RTA Guide to Traffic Generating Developments do not offer daily vehicular trip generation rate for the proposed land use KCTT have assumed the following to apply:

Childcare centre

Vehicular daily trips can be assumed to be 4 VPD per child and 2 VPD per employee. Each parent will make 2 vehicular trips when dropping off the child at the daycare centre and 2 vehicular trips when picking the child up. Employees will make 1 vehicular trip arriving at work, and another vehicular trip when leaving work.

In our experience, childcare centres tend to operate with an 85% utilisation rate of the licenced capacity over the year due to the number of days that children attend (this ranges from 2 to 5 days a week) and seasonal adjustments (end of the year and when people return to work from maternity leave). Therefore, the expected average daily operative maximum of this childcare facility can be estimated as 63 children. Market information indicates that between 10-20% of parents tend to have more than one child at a childcare centre, so those families only account for one vehicular trip. A further percentage of parents will have older siblings attending one of the nearby schools. However, in the calculations below, a conservative approach has been applied showing the theoretical maximum number of children, under the assumption that all children are driven to school and there are no siblings in the centre.

Land Use Type	Rate above	Yield	Daily Traffic Generation	Peak Hour Traffic Generation	
				AM	PM
Child Care Centre	*Daily - 4 VPD per child and 2 VPD per staff member* *AM Peak - 0.8 VPH per child* *PM Peak - 0.7 VPH per child*	15 staff members 74 children	30 296	59	52
		Total:	**326**	**59**	**52**

Does the site have existing trip generation/attraction?	NO
What is the total impact of the new proposed development?	With the additional 326 daily vehicular trips, 59 vehicle trips per hour in the AM peak, and 52 vehicle trips per hour in the PM peak, the proposed development would moderate impact the surrounding road network, per WAPC classification. KCTT believe the surrounding road network can successfully accommodate additional traffic from the proposed development.

2.13 Traffic Flow Distribution

How many routes are available for access/egress to the site?	Four (4)
Route 1	
Provide details for Route No 1	To/from the north via Ferguson Street > Ivanhoe Crescent
Percentage of Vehicular Movements via Route No 1	2.5% [8 VPD; AM 1 VPH; PM 1 VPH]
Route 2	
Provide details for Route No 2	To/from the north via Ferguson Street > Baloo Crescent
Percentage of Vehicular Movements via Route No 2	47.5% [155 VPD; AM 29 VPH; PM 25 VPH]
Route 3	
Provide details for Route No 3	To/from the south via Ferguson Street > Baloo Crescent
Percentage of Vehicular Movements via Route No 3	30% [98 VPD; AM 18 VPH; PM 16 VPH]
Route 4	
Provide details for Route No 4	To/from the east via Ferguson Street
Percentage of Vehicular Movements via Route No 4	20% [65 VPD; AM 11 VPH; PM 10 VPH]

Note - For more detailed plans of the estimated vehicular traffic volumes and distribution, please refer to the plans provided in Appendix 2.

2.14 Vehicle Crossover Requirements

Are vehicle crossovers required onto existing road networks?	YES
How many existing crossovers?	None
How many proposed crossovers?	One crossover to Ferguson Street

If there are greater numbers of new crossovers, than existing, provide justification:

The subject site does not have an existing development and, therefore, does not have any crossovers.

How close is the proposed crossover to existing intersections?	Approximately 50m
Does this meet existing standards?	YES

Justification

According to AS/NZS 2890.1:2004 Parking facilities, Part 1: Off-street car parking apply the user class of the access point is: User Class 1A - Residential, domestic and employee Proposed development plans indicates a total of 16 parking bays and a 1 crossover.
This crossover serves less than 25 parking bays from a local road, making it a ''Category 1 driveway''

TABLE 3.1

SELECTION OF ACCESS FACILITY CATEGORY

Class of parking facility (see Table 1.1)	Frontage road type	Access facility category				
		Number of parking spaces (Note 1)				
		<25	25 to 100	101 to 300	301 to 600	>600
1,1A	Arterial	1	2	3	4	5
	Local	1	1	2	3	4
2	Arterial	2	2	3	4	5
	Local	1	2	3	4	4
3,3A	Arterial	2	3	4	4	5
	Local	1	2	3	4	4

NOTES:

1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.

2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, access to arterial roads should be limited as far as practicable, and in some circumstances it may be preferable to allow left-turn-only movements into and out of the access driveway.

Therefore, the following requirements from AS/NZS 2890.1:2004 Parking facilities Part 1: Off-street car parking apply:

*"(a) **Driveway Categories 1 and 2**: At unsignalized intersections of sub-arterial, collector or local streets with each other or with an arterial road, access driveways in Categories 1 and 2 (see Table 3.1) shall not be located in the sections of kerb shown by heavy lines in Figure 3.1. **This requirement shall not apply to accesses to domestic driveways in the kerb section opposite the entering road at any intersection including signalised intersections.***

Furthermore, it shall not apply to any access driveway serving a property which would otherwise be denied access due to the physical impossibility of meeting the requirement.

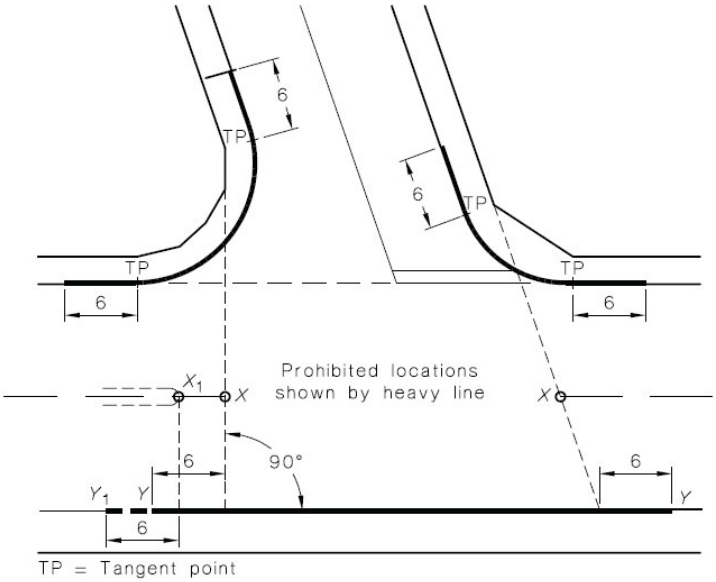
At signalised intersections, the minimum distance from the intersection, measured from the property boundary along both legs, shall be increased as necessary to locate access driveways beyond the influence of normal queue lengths at the intersections. If this is not practicable, it may be necessary to provide-

(i) an arrangement which confines traffic to turning left when either entering or

leaving the car park;

(ii) a signalised driveway with signals coordinated with the intersection signals; or

(iii) other traffic management means of providing for safe and efficient operation of the driveway."



NOTES:

1 Accesses to domestic driveways are excluded from the prohibition in respect of the kerb section marked *Y*-*Y* (see Clause 3.2.3(a)).

2 The points marked X_1 and *X* are respectively at the median end on a divided road and at the intersection of the main road centre-line and the extensions of the side road property lines shown as dotted lines, on an undivided road. On a divided road, dimension *Y*-*Y* extends to Point Y_1.

DIMENSIONS IN METRES

FIGURE 3.1 PROHIBITED LOCATIONS OF ACCESS DRIVEWAYS

As seen from the Appendix 1, the proposed crossover is not located in prohibited areas and therefore comply with the above standards.

2.15 Public Transport Accessibility

How many bus routes are within 400 metres of the subject site?			Two (2)
How many rail routes are within 800 metres of the subject site?			None
Bus / Rail Route	Description	Peak Frequency	Off-Peak Frequency
592	Mandurah Station - Wannanup via Peelwood Parade	10-20 minutes	120 minutes (Saturday) No Sunday and Public Holiday service

Walk Score Rating for Accessibility to Public Transport

31 | Some Transit. A few nearby public transportation options.

2.16 Pedestrian Infrastructure

Describe existing local pedestrian infrastructure within a 400m radius of the site:

Classification	Road Name
" Mandurah Rides (Shared by Pedestrians and Cyclists)"	Avalon Parade
" Other Shared Path (Shared by Pedestrians and Cyclists)"	Yeedong Road; Baloo Crescent, Ivanhoe Crescent; Stepmoon Street, Linville Street; Ferguson Street; Dewar Street
Does the site have existing pedestrian facilities	YES
Does the site propose to improve pedestrian facilities?	NO
What is the Walk Score Rating?	
34 | Car-Dependent. Most errands require a car.	

2.17 Cyclist Infrastructure

Are there any PBN Routes within an 800m radius of the subject site? YES

If YES, describe:

Classification	Road Name
" Mandurah Rides (Shared by Pedestrians and Cyclists)"	Avalon Parade; Panamuna Drive; Westview Parade; Batavia Avenue
" Other Shared Path (Shared by Pedestrians and Cyclists)"	Yeedong Road; Baloo Crescent, Ivanhoe Crescent; Stepmoon Street, Linville Street; Ferguson Street; Dewar Street; Panamuna Drive; Old Coast Road

Are there any PBN Routes within a 400m radius of the subject site? YES

If YES, describe:

Classification	Road Name
" Mandurah Rides (Shared by Pedestrians and Cyclists)"	Avalon Parade
" Other Shared Path (Shared by Pedestrians and Cyclists)"	Yeedong Road; Baloo Crescent, Ivanhoe Crescent; Stepmoon Street, Linville Street; Ferguson Street; Dewar Street
Does the site have existing cyclist facilities?	YES
Does the site propose to improve cyclist facilities?	NO

2.18 Site-Specific Issues and Proposed Remedial Measures

How many site-specific issues need to be discussed?	One (1)
Site-Specific Issue No 1	Traffic impact
Remedial Measure / Response	The proposed development will generate up to 326 vehicular trips per day and 59 vehicular trips per hour in the AM peak hour. According to the WAPC Guidelines, this is a moderate impact on the surrounding network. KCTT believe that the surrounding network will successfully absorb the additional traffic.

Appendix 1

The Layout of the Proposed Development

PLANNING SUBMISSION
PROPOSED DEVELOPMENT TO LOT 124, No. 28
BALOO CRESCENT, FALCON

DWG 00: INDEX SHEET
DWG 01: SITE PLAN
DWG 02: FLOOR PLAN
DWG 03: ELEVATIONS
DWG 04: ELEVATIONS

REV No	DATE	DRAWN	PAGE No's	CHANGES / REVISIONS

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BUILDER :

DATE: 19/10/21
SCALE: NOT TO SCALE
DRAWN: jdr
REVISION:
DRAWING No: 0:4

NOTES:
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-DO NOT SCALE DRAWINGS
-CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE PRODUCTION OF ANY SHOP DRAWINGS WHICH MUST BE SUBMITTED AND APPROVED BEFORE MANUFACTURE.

JOB: PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET: INDEX SHEET

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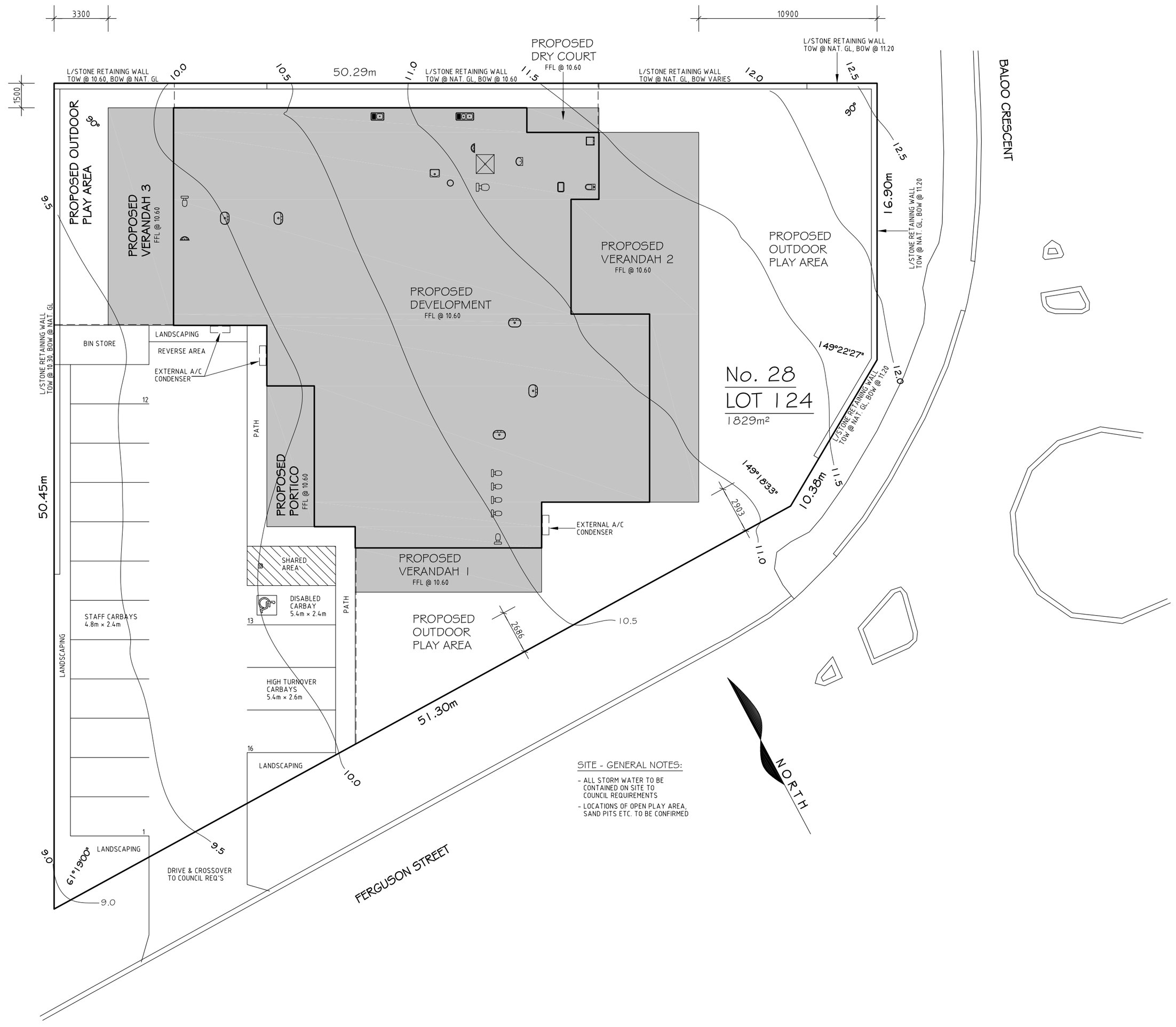
Committee Reports



SITE PLAN
SCALE 1:200

Planning and Community Consultation Committee
Committee Reports

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JOB:
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
SITE PLAN

PLAN - GENERAL NOTES:

PATRON NUMBERS		
0 - 24 MONTHS	24 CHILDREN	= 78.00 sqm INTERNAL AREA REQUIRED = 168.00 sqm EXTERNAL AREA REQUIRED = 6 STAFF REQUIRED
24- 36 MONTHS	20 CHILDREN	= 65.00 sqm INTERNAL AREA REQUIRED = 140.00 sqm EXTERNAL AREA REQUIRED = 4 STAFF REQUIRED
36 MONTHS +	30 CHILDREN	= 97.50 sqm INTERNAL AREA REQUIRED = 210.00 sqm EXTERNAL AREA REQUIRED = 3 STAFF REQUIRED
TOTAL	74 CHILDREN	= 240.50 sqm INTERNAL AREA REQUIRED 248.98 sqm INTERNAL AREA AVAILABLE = 518.00 sqm EXTERNAL AREA REQUIRED 665.01 sqm EXTERNAL AREA AVAILABLE

AREA: sqm	
FLOOR AREA	596.69 sqm
PORTICO	24.94 sqm
VERANDAH 1	30.75 sqm
VERANDAH 2	114.10 sqm
VERANDAH 3	53.16 sqm
DRY COURT	6.60 sqm
TOTAL	826.24 sqm

FLOOR PLAN

SCALE 1:100

NORTH COAST DESIGN

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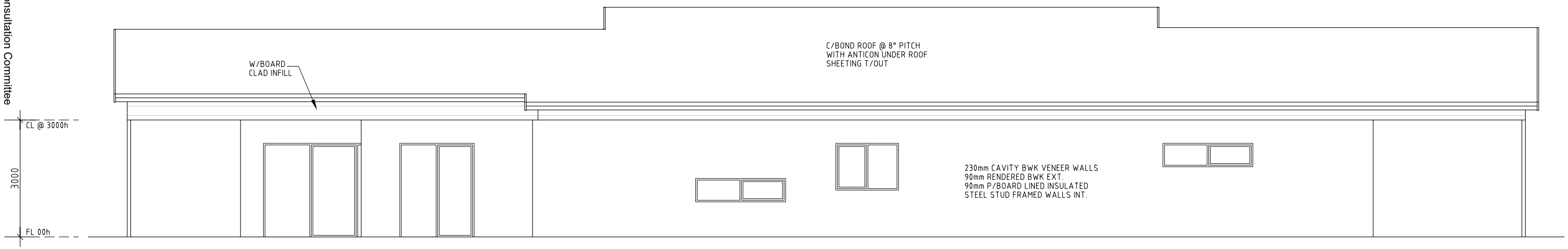
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
FLOOR PLAN

Planning and Community Consultation Committee
Committee Reports

FRONT ELEVATION

SCALE 1:100



REAR ELEVATION

SCALE 1:100

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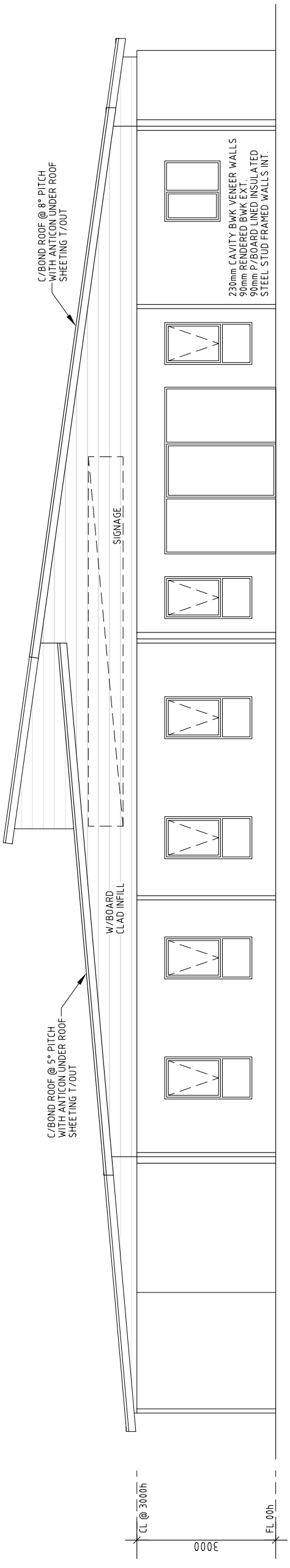
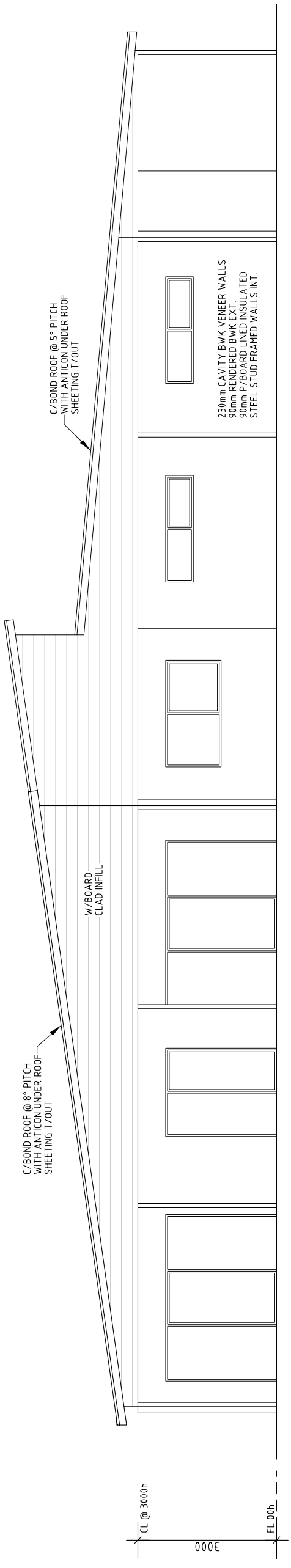
JOB:
PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:
ELEVATIONS



R / HAND ELEVATION

SCALE 1:100



L / HAND ELEVATION

SCALE 1:100

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DATE: 19/10/21

REVISION:

DRAWING No: 4:4

SCALE: 1:100 @ A3

DRAWN: jdr

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JOB:

PROPOSED DEVELOPMENT TO LOT 124, No. 28 BALOO CRESCENT, FALCON

SHEET:

ELEVATIONS

Planning and Community Consultation Committee
Committee Reports

Appendix 2

Transport Planning and Traffic Plans

CITY OF MANDURAH

800m

400m

FALCON

Yeedong Road

Banjuna Street

Stepmoon Street

Avalon Parade

Pepper Street

Ivanhoe Crescent

Baloo Crescent

LINVILLE RESERVE

Ferguson Street

FALCON PRIMARY SCHOOL

Bush View

Old Coast Road

WANNANUP

Baloo Crescent

Endevour Circle

Paperbark Way

Linville Street

Caspian Drive

Westview Parade

Northport Boulevard

Caspian Drive

Old Coast Road

PARKS AND RECREATION	ROAD	CITY OF MANDURAH — LOCAL GOVERNMENT NAME
WATERWAYS	Hay Street — STREET NAME	FALCON — SUBURB NAME
PUBLIC PURPOSE	LOCATION BOUNDARY	
	DISTANCE FROM LOCATION	

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

No	DATE	AMENDMENT
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: LOCALITY PLAN - 800M RADIUS

DRAWING NUMBER: KC01348.000_ S01

DRAWN BY: N.M.

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CITY OF MANDURAH

800m

400m

FALCON

Yeedong Road

Avalon Parade

Pepper Street

Banjuna Street

Ivanhoe Crescent

Baloo Crescent

Stepmoon Street

Ferguson Street

LINVILLE RESERVE

FALCON PRIMARY SCHOOL

Bush View

WANNANUP

Baloo Crescent

Endevour Circle

Paperbark Way

Linville Street

Caspian Drive

Old Coast Road

Westview Parade

Northport Boulevard

Caspian Drive

Old Coast Road

PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

ROAD

Hay Street STREET NAME

LOCATION BOUNDARY

DISTANCE FROM LOCATION

CITY OF MANDURAH LOCAL GOVERNMENT NAME

FALCON SUBURB NAME

MANDURAH RIDES

OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)

GOOD ROAD RIDING ENVIRONMENT

BIKE PARKING

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

No	DATE	AMENDMENT
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: BICYCLE NETWORK PLAN - 800M RADIUS

DRAWING NUMBER: KC01348.000_ S02

DRAWN BY: N.M.

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CITY OF MANDURAH

592

800m

400m

FALCON

Yeedong Road

Banjuna Street

Avalon Parade

Pepper Street

Ivanhoe Crescent

Stepmoon Street

Baloo Crescent

LINVILLE RESERVE

Ferguson Street

FALCON PRIMARY SCHOOL

Bush View

WANNANUP

Baloo Crescent

Endevour Circle

Paperbark Way

Linville Street

Old Coast Road

Caspian Drive

Westview Parade

Northport Boulevard

592

593

594

Caspian Drive

Old Coast Road

PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

ROAD

Hay Street STREET NAME

LOCATION BOUNDARY

DISTANCE FROM LOCATION

CITY OF MANDURAH LOCAL GOVERNMENT NAME

FALCON SUBURB NAME

BUS ROUTES

103 BUS ROUTE NUMBER

NOTE : FOR MORE INFORMATION REGARDING THE DESCRIPTION OF BUS ROUTES AND THEIR INDICATIVE PEAK AND OFF-PEAK FREQUENCIES REFER TO THE REPORT.

LEGEND

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

No	DATE	AMENDMENT
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: PUBLIC TRANSPORT PLAN - 800M RADIUS

DRAWING NUMBER: KC01348.000_ S03

DRAWN BY: N.M.

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CITY OF MANDURAH

800m

FALCON

Yeedong Road

400m

Banjuna Street

Stepmoon Street

Avalon Parade

Pepper Street

Ivanhoe Crescent

Baloo Crescent

LINVILLE RESERVE

Ferguson Street

FALCON PRIMARY SCHOOL

Bush View

WANNANUP

Baloo Crescent

Endevour Circle

Paperbark Way

Linville Street

Caspian Drive

Old Coast Road

Westview Parade

Northport Boulevard

Caspian Drive

Old Coast Road

PARKS AND RECREATION	ROAD	CITY OF MANDURAH — LOCAL GOVERNMENT NAME
WATERWAYS	Hay Street — STREET NAME	FALCON — SUBURB NAME
PUBLIC PURPOSE	LOCATION BOUNDARY	MANDURAH RIDES (SHARED BY PEDESTRIANS & CYCLISTS)
	DISTANCE FROM LOCATION	OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)
		PEDESTRIAN PATH

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

No	DATE	AMENDMENT
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: PEDESTRIAN PATHS PLAN - 800M RADIUS

DRAWING NUMBER: KC01348.000_ S04

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CITY OF MANDURAH

800m

400m

FALCON

Yeedong Road

Banjuna Street

Stepmoon Street

Avalon Parade

Pepper Street

Ivanhoe Crescent

Baloo Crescent

Ferguson Street

LINVILLE RESERVE

24,137 AM 08:00 – 2,086 PM 14:45 – 2,126 21/22

SOUTH OF PLEASANT GROVE CIRCLE

FALCON PRIMARY SCHOOL

Bush View

Old Coast Road

WANNANUP

Baloo Crescent

Endevour Circle

Paperbark Way

Linville Street

Caspian Drive

Westview Parade

Northport Boulevard

Caspian Drive

Old Coast Road

PARKS AND RECREATION	ROAD	CITY OF MANDURAH — LOCAL GOVERNMENT NAME
WATERWAYS	Hay Street — STREET NAME	FALCON — SUBURB NAME
PUBLIC PURPOSE	LOCATION BOUNDARY	
	DISTANCE FROM LOCATION	

5,512 — NUMBER OF VEHICLES PER DAY

AM 1145 – 381 PM 1630 – 480 — NUMBER OF VEHICLES PER AM PEAK HOUR / NUMBER OF VEHICLES PER PM PEAK HOUR

2014 — YEAR

EAST OF HARLOW ROAD — LOCATION

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

No	DATE	AMENDMENT
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: EXISTING TRAFFIC COUNTS - 800M RADIUS

DRAWING NUMBER: KC01348.000_ S05

DRAWN BY: N.M.

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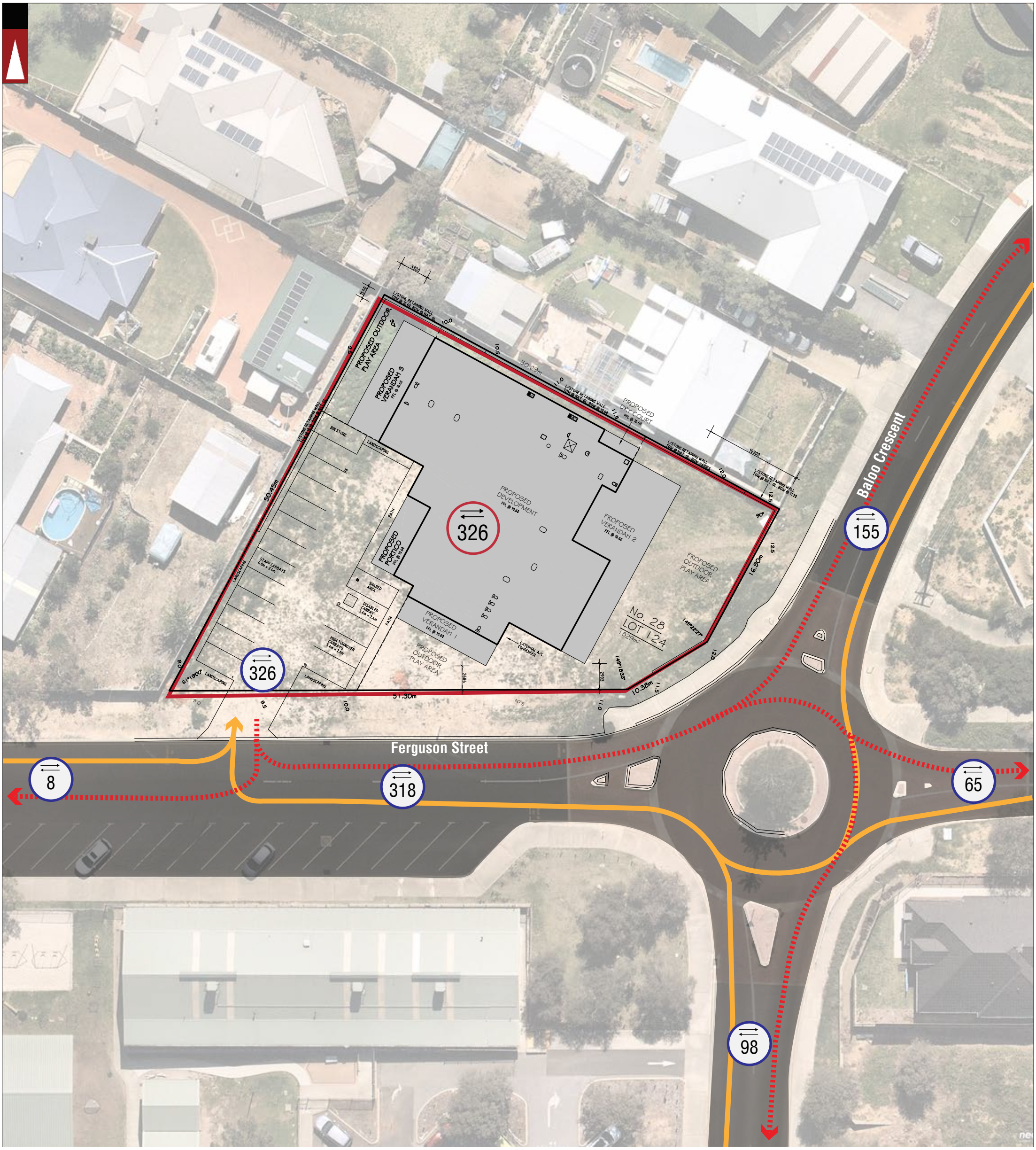

LOCATION BOUNDARY

ROAD (VARIED WITH ROAD WIDTH)

Lewis Road ROAD NAME

1,389 Total Expected Traffic Generation from the proposed development

503 Total Expected Traffic Generation from Subject Site on the specific section of road - **IN and OUT direction**

Traffic Flow IN Direction

Traffic Flow OUT Direction

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

NOTE: THE PLAN IS COURTEOUSY OF NORTH COAST DESIGN

LEGEND

No	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: TRAFFIC FLOW DIAGRAM

DRAWING NUMBER: KC01348.000_ S06

DRAWN BY: N.M.

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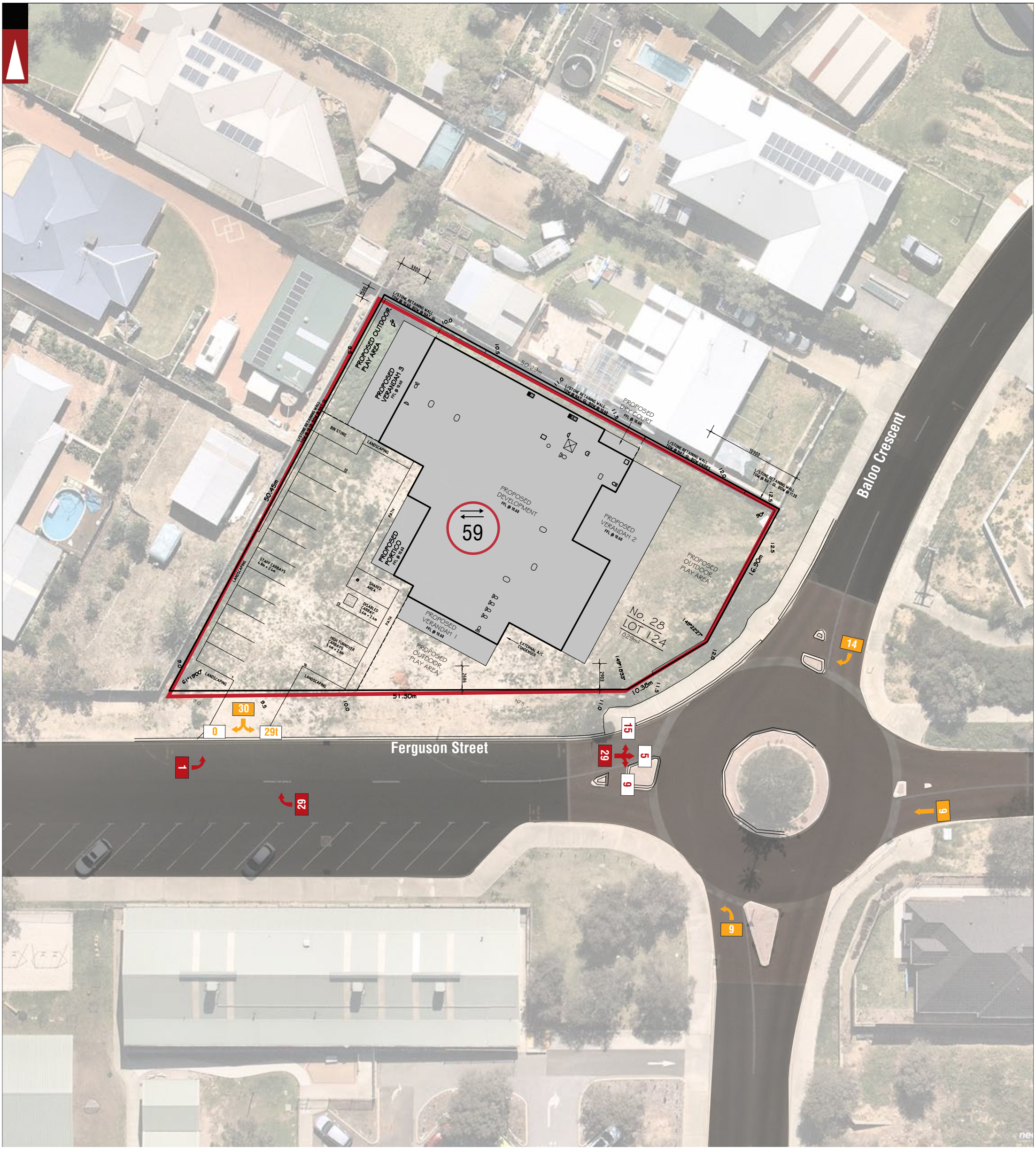

LOCATION BOUNDARY

ROAD (VARIED WITH ROAD WIDTH)

Lewis Road ROAD NAME

000 (IN) / 000 (OUT) Traffic Flow IN Direction / Traffic Flow OUT Direction

1,389 Total Expected Traffic Generation from the proposed development - PM peak

NOTE: THE PLAN IS COURTEOUSY OF NORTH COAST DESIGN

LEGEND

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

No	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: TRAFFIC FLOW DIAGRAM - AM PEAK

DRAWING NUMBER: KC01348.000_ S07

DRAWN BY: N.M.

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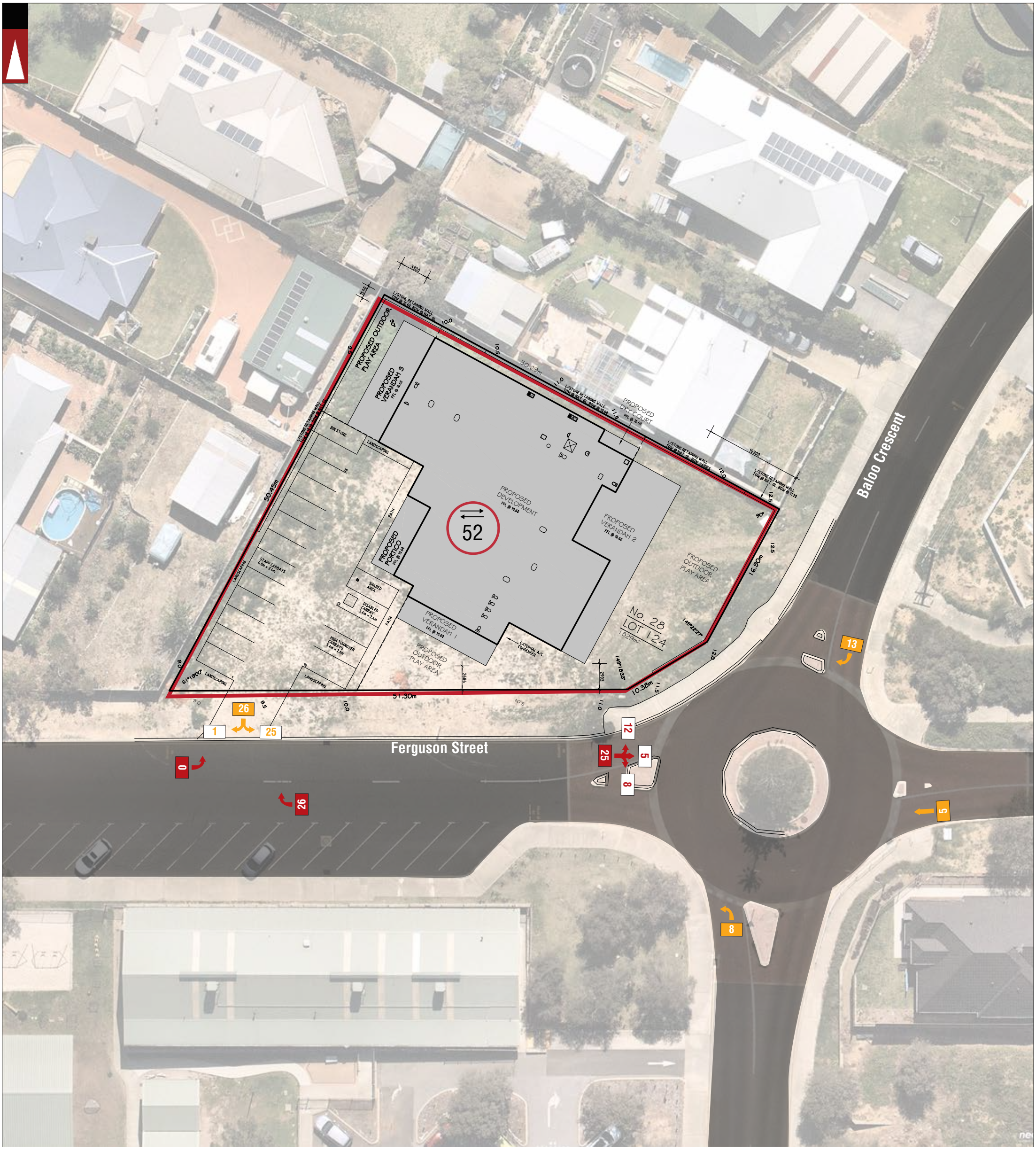

LOCATION BOUNDARY

ROAD (VARIED WITH ROAD WIDTH)

Lewis Road ROAD NAME

000 (IN) / 000 (OUT) Traffic Flow IN Direction / Traffic Flow OUT Direction

1,389 Total Expected Traffic Generation from the proposed development - AM peak

NOTE: THE PLAN IS COURTEOUSY OF NORTH COAST DESIGN

LEGEND

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

No	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	07-10-2021	ISSUED FOR REVIEW

PROJECT: 28 BALOO CRESCENT, FALCON

TITLE: TRAFFIC FLOW DIAGRAM - PM PEAK

DRAWING NUMBER: KC01348.000_ S08

DRAWN BY: N.M.

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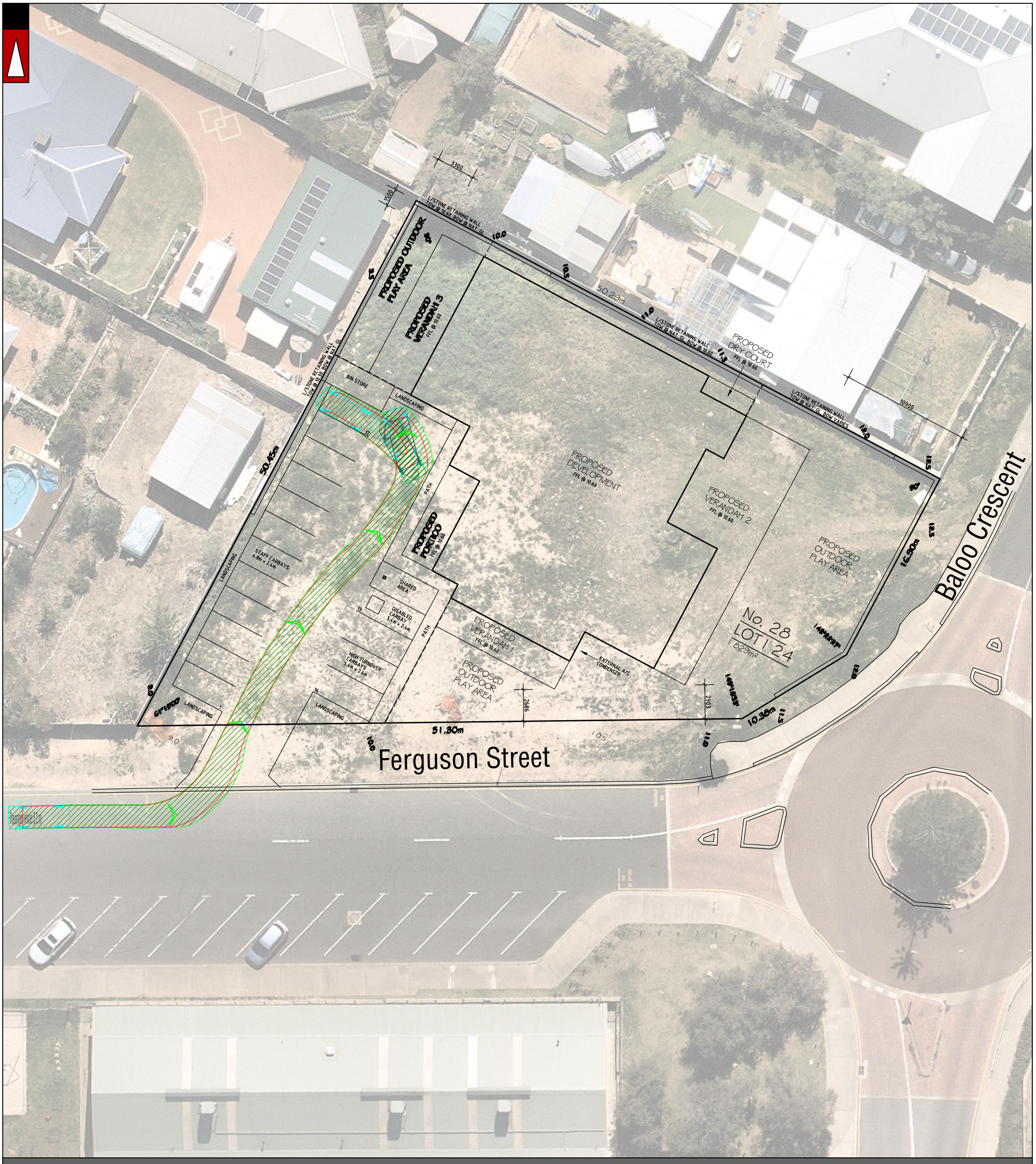
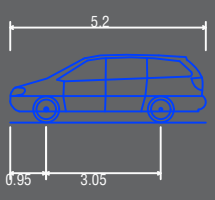
Appendix 3

Vehicle Turning Circle Plan





Passenger vehicle (5.2 m)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT: 28 Baloo Cres, Falcon

TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER: KC01348.000_S20

DRAWN BY: N.M.

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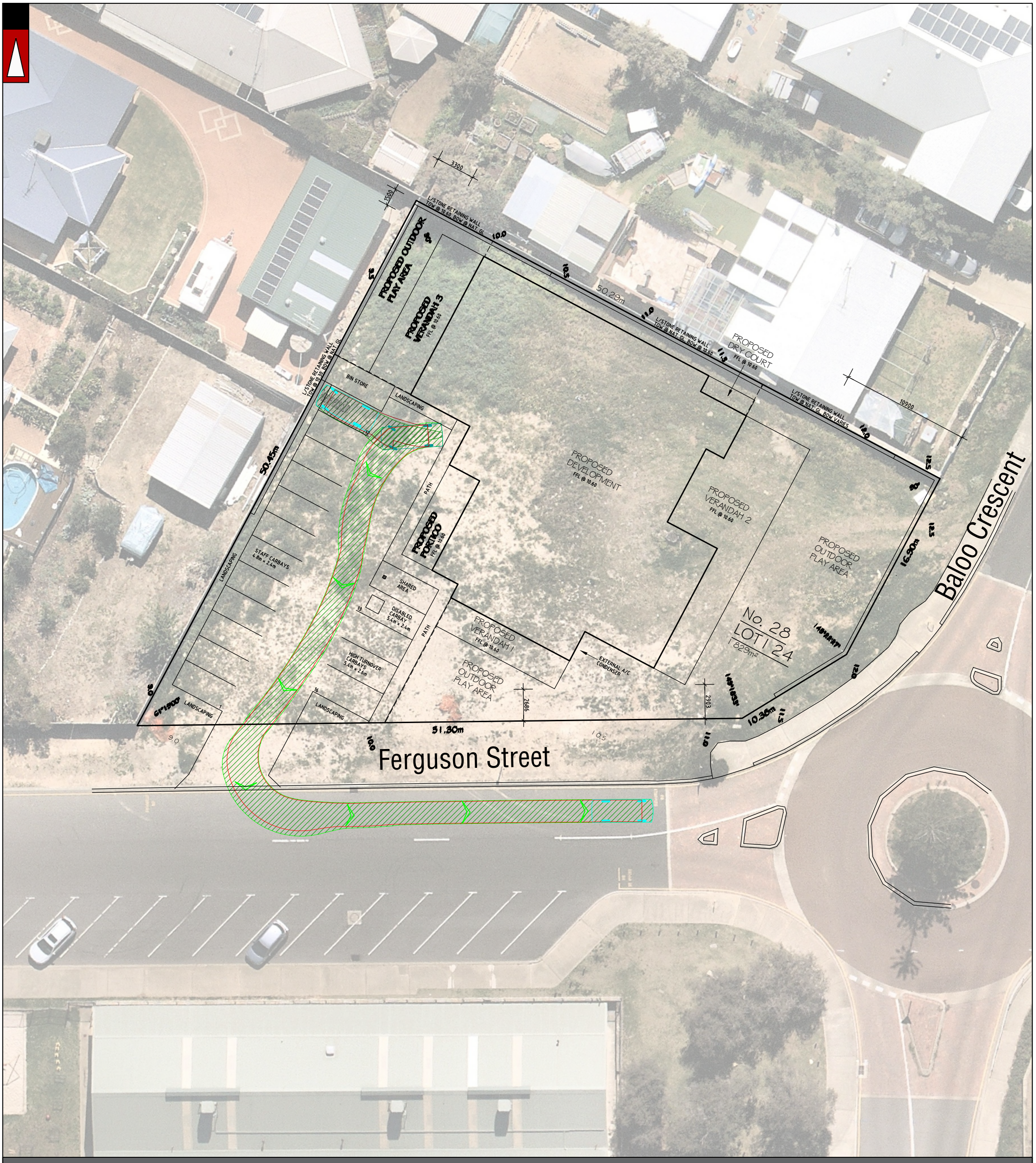

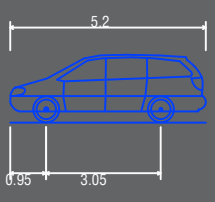

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- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT: 28 Baloo Cres, Falcon

TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER: KC01348.000_S21

DRAWN BY: N.M.

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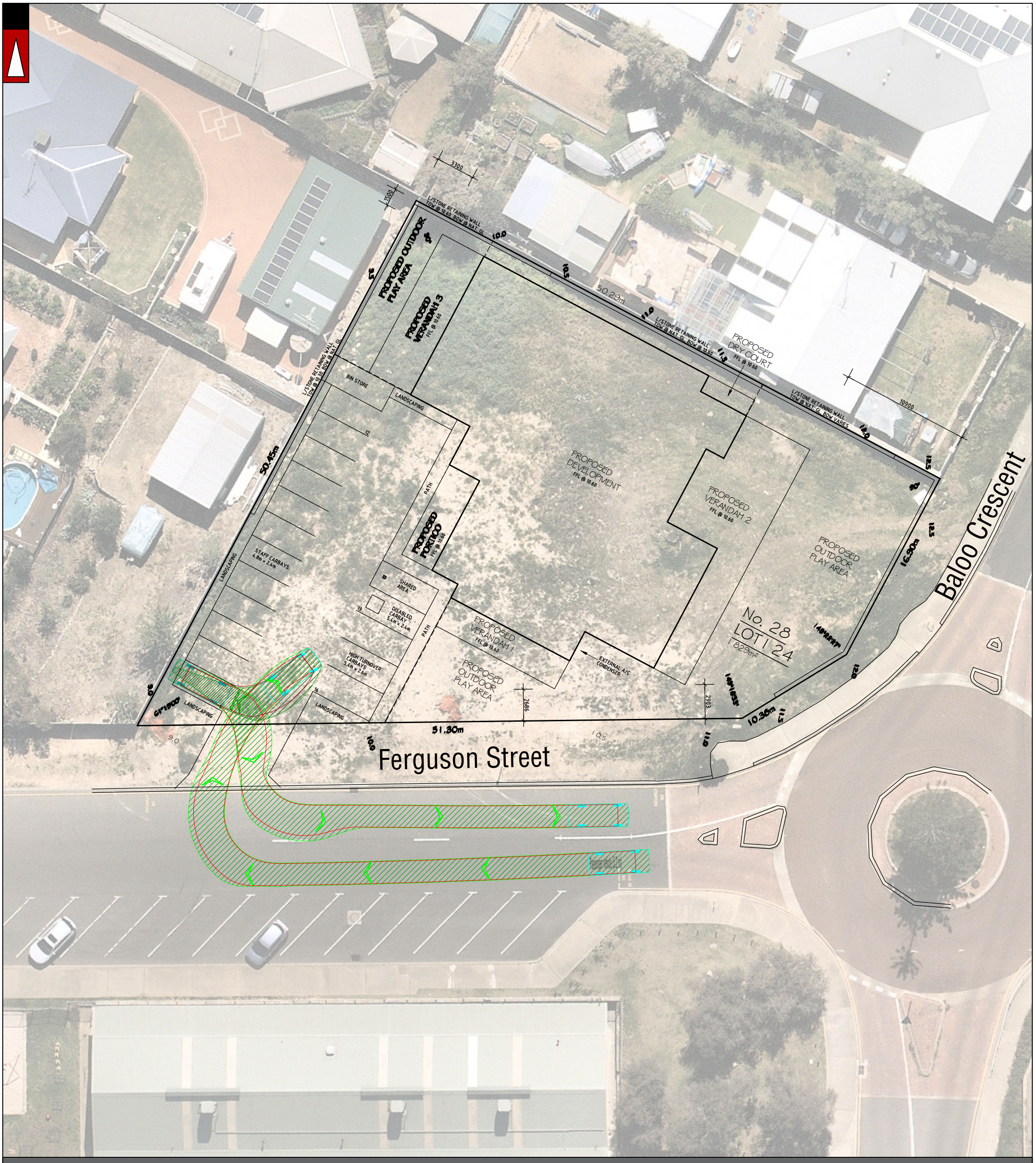

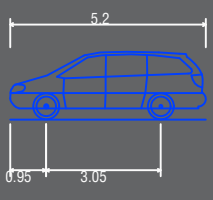

Passenger vehicle (5.2 m)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT:
28 Baloo Cres, Falcon

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC01348.000_S22

DRAWN BY:
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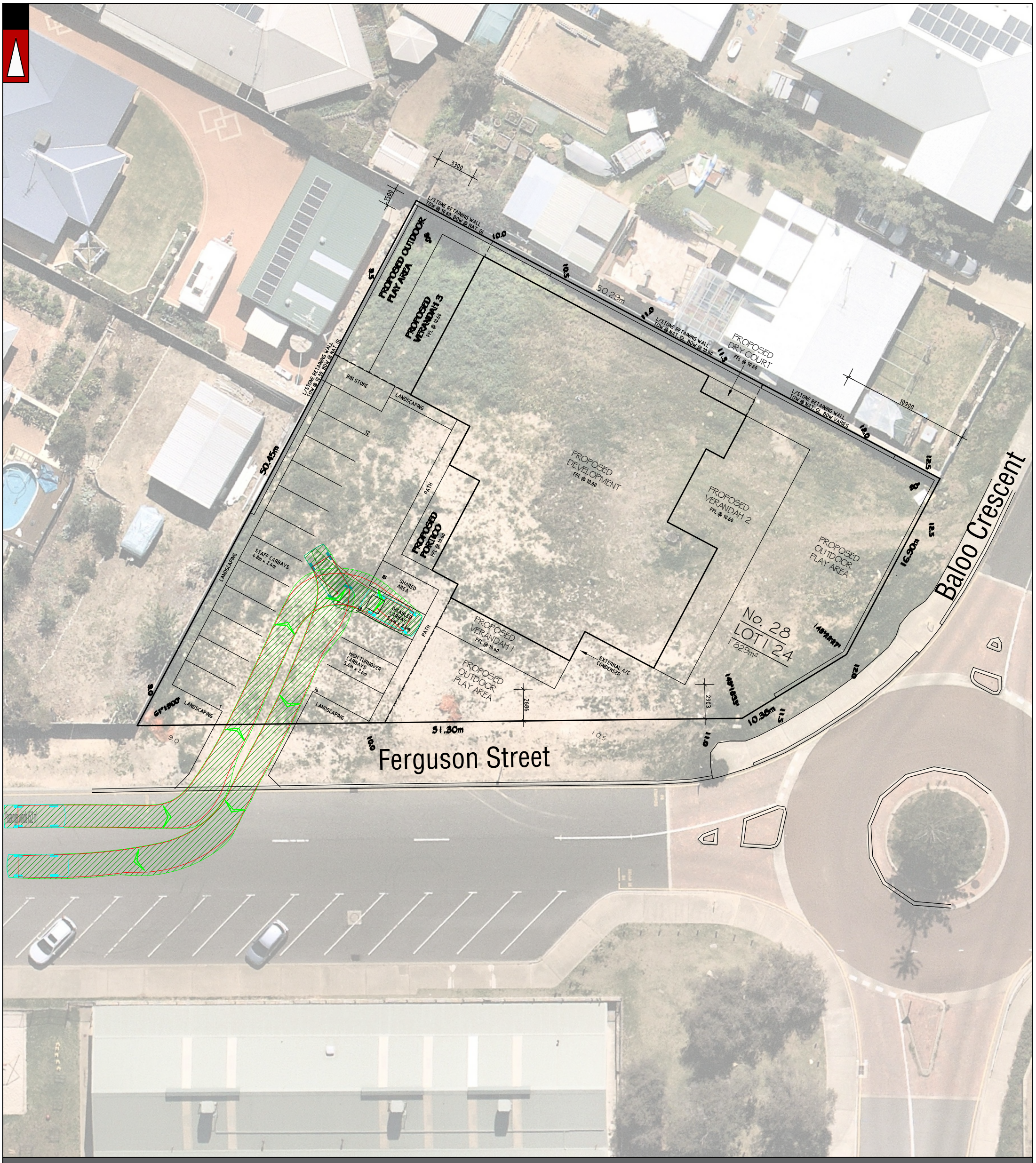

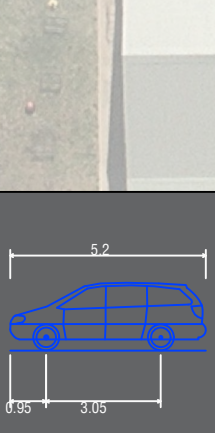

Passenger vehicle (5.2 m)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
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PROJECT: 28 Baloo Cres, Falcon

TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER: KC01348.000_S23

DRAWN BY: N.M.

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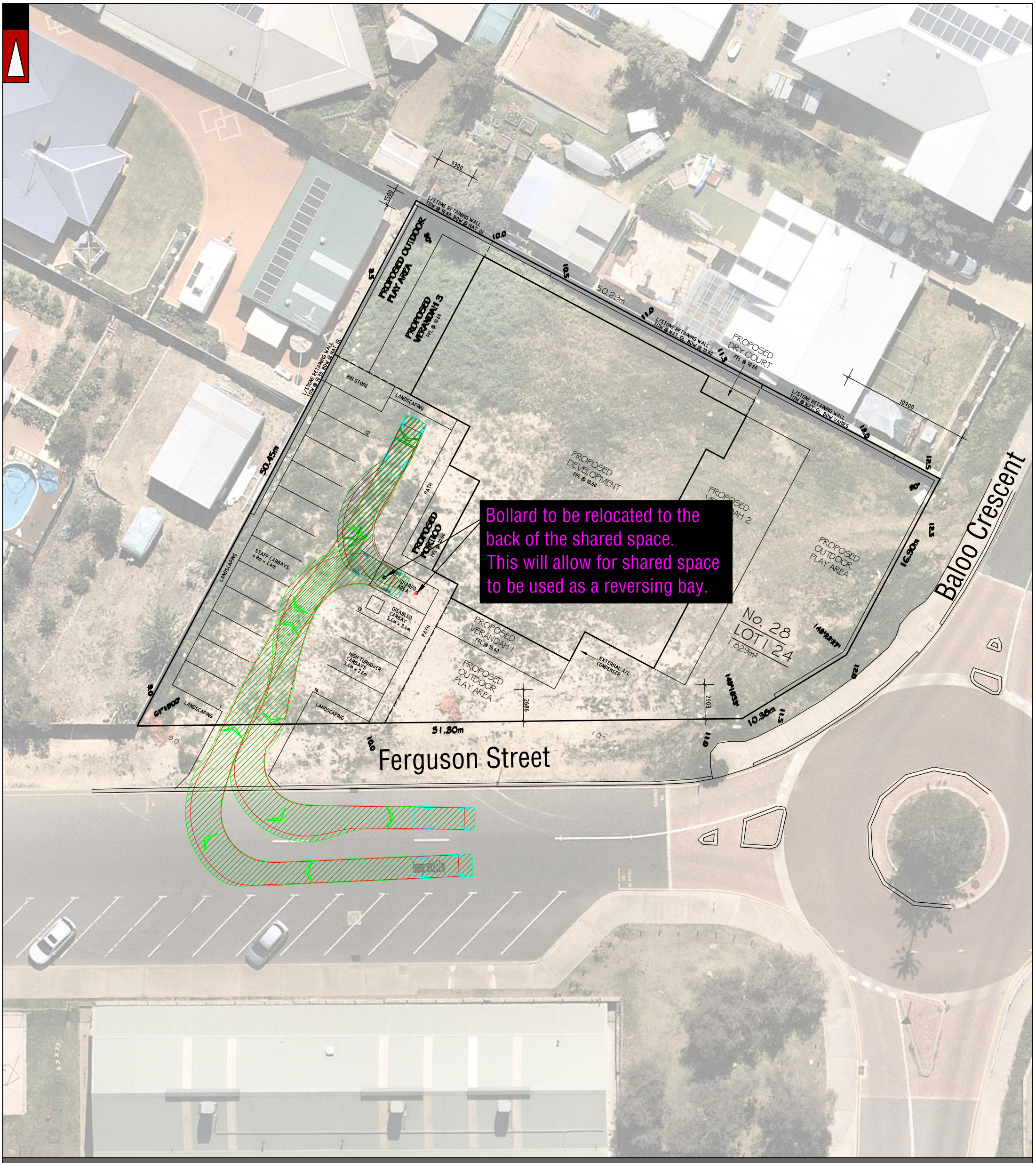

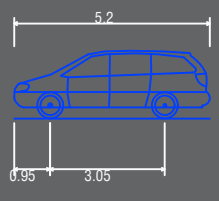

Passenger vehicle (5.2 m)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
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Track Width	1.840m
Lock to Lock Time	4.00s
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- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT:
28 Baloo Cres, Falcon

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC01348.000_S24

DRAWN BY:
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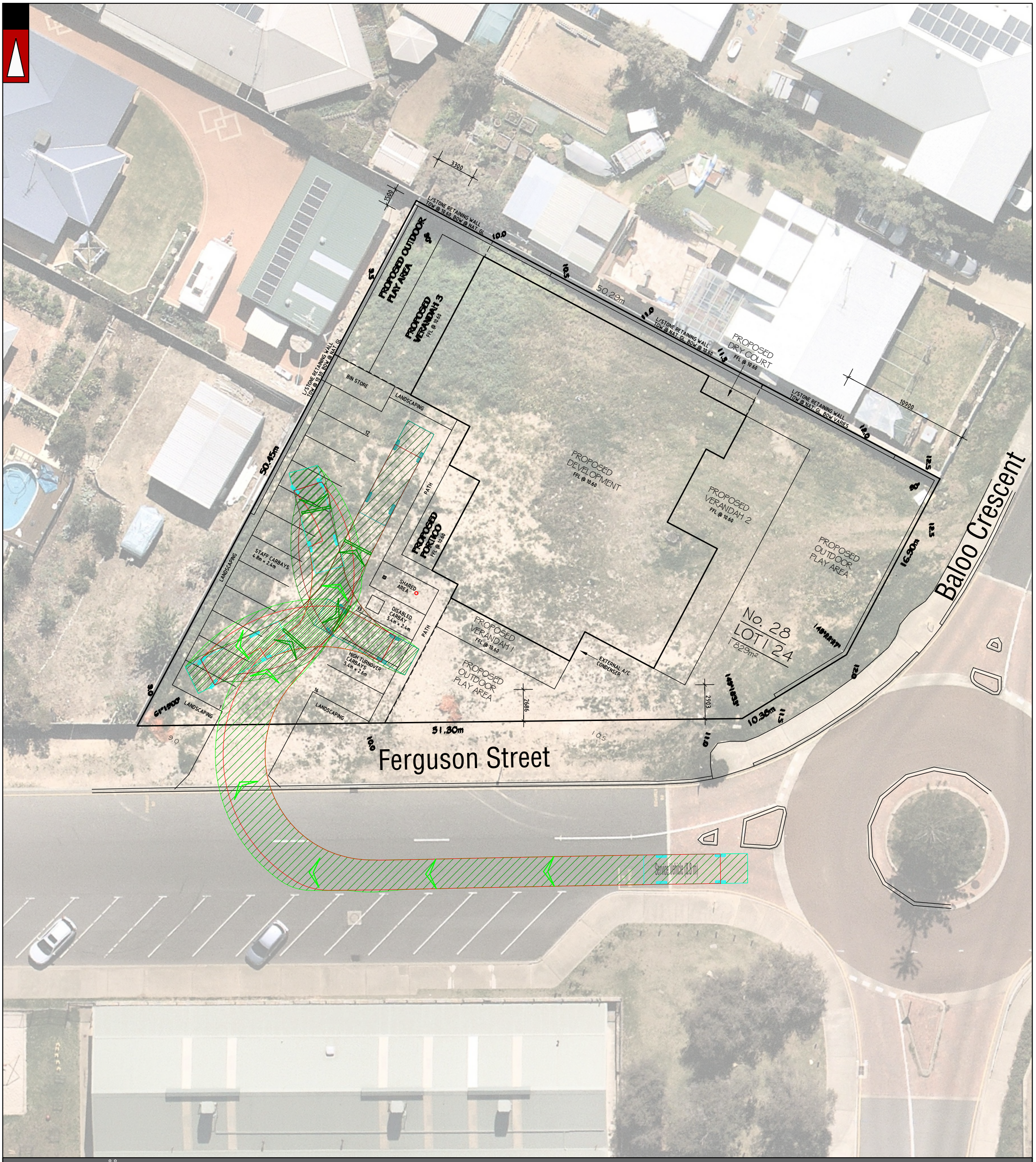

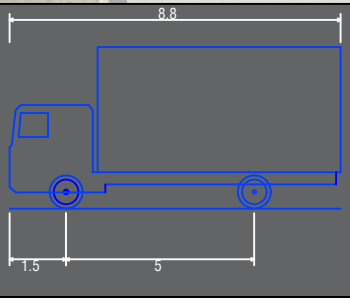

Service Vehicle (8.8 m)	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	12.500m

Lot boundary

Wheel Path (Forward Vehicle Motion)

Vehicle Chasis Envelope (Forward Vehicle Motion)

Wheel Path (Reverse Vehicle Motion)

Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT:
28 Baloo Cres, Falcon

TITLE:
Vehicle Turning Circle Plan - Service Vehicle (8.8m)

DRAWING NUMBER:
KC01348.000_S25

DRAWN BY:
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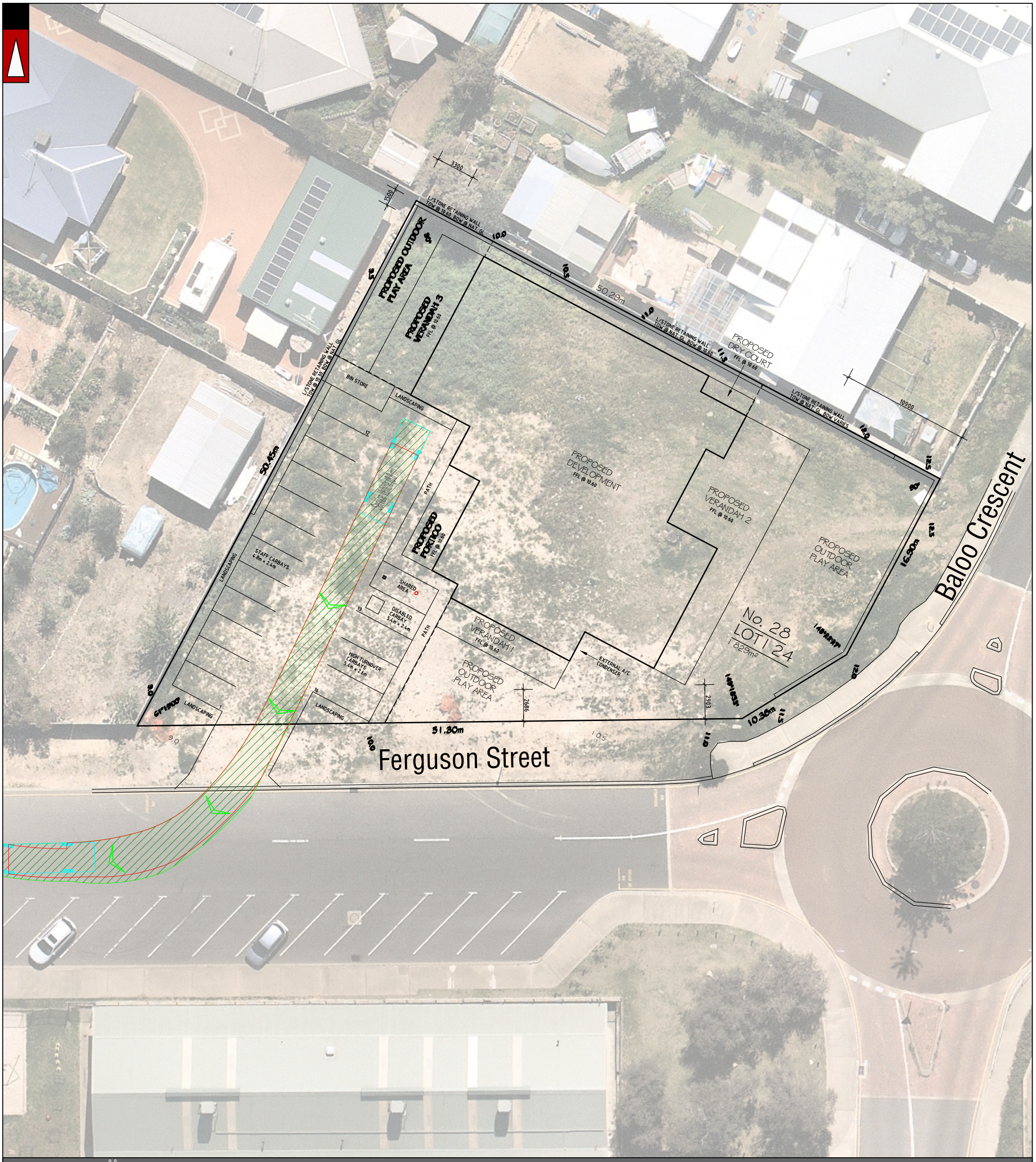

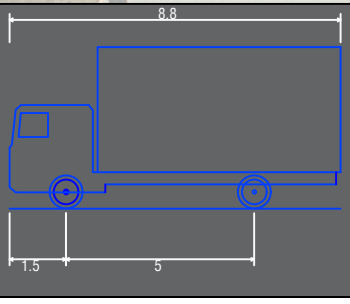

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Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	12.500m

Lot boundary

Wheel Path (Forward Vehicle Motion)

Vehicle Chasis Envelope (Forward Vehicle Motion)

Wheel Path (Reverse Vehicle Motion)

Vehicle Chasis Envelope (Reverse Vehicle Motion)

MANAGEMENT SYSTEMS REGISTERED TO ISO 9001

LEGEND

NO	DATE	AMENDMENT
B	20-10-2021	PROPOSED LAYOUT AMENDED
A	05-10-2021	ISSUED FOR REVIEW

PROJECT:
28 Baloo Cres, Falcon

TITLE:
Vehicle Turning Circle Plan - Service Vehicle (8.8m)

DRAWING NUMBER:
KC01348.000_S26

DRAWN BY:
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