

APPENDICES

Appendix 1	Certificate of Title
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Appendix 3	Proposed new Part 1 for ASP 76
Appendix 4	PTA Advice on South Yanchep Station
Appendix 5	Transportation Noise Assessment (Lloyd George Acoustics, April 2020)
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Appendix 7	Subdivision Concept (CLE Ref. 2125-222-01)

APPENDIX 1

Certificate of Title

1

WESTERN



AUSTRALIA

REGISTER NUMBER 9040/DP414976	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2960** FOLIO **638**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 9040 ON DEPOSITED PLAN 414976

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

HOUSING AUTHORITY OF 99 PLAIN STREET EAST PERTH WA 6004

(AF 0070172) REGISTERED 18/1/2019

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

- *EXCEPT AND RESERVING METALS, MINERALS, GEMS AND MINERAL OIL SPECIFIED IN TRANSFER 1466/1928
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR DRAINAGE PURPOSES TO CITY OF WANNEROO SEE DEPOSITED PLAN 414976 AS CREATED ON DEPOSITED PLAN 406058
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION SEE DEPOSITED PLAN 414976 AS CREATED DEPOSITED PLAN 406058
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR DRAINAGE PURPOSES TO CITY OF WANNEROO SEE DEPOSITED PLAN 414976 AS CREATED ON DEPOSITED PLAN 413764
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION SEE DEPOSITED PLAN 414976 AS CREATED ON DEPOSITED PLAN 413764
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR WATER PURPOSES TO WATER CORPORATION SEE DEPOSITED PLAN 414976 AS CREATED ON DEPOSITED PLAN 413764
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR DRAINAGE PURPOSES TO CITY OF WANNEROO SEE DEPOSITED PLAN 414976
- *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION SEE DEPOSITED PLAN 414976

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

END OF PAGE 1 - CONTINUED OVER

RECORD OF CERTIFICATE OF TITLE

REGISTER NUMBER: 9040/DP414976

VOLUME/FOLIO: 2960-638

PAGE 2

SKETCH OF LAND:

DP414976

PREVIOUS TITLE:

2960-614

PROPERTY STREET ADDRESS:

NO STREET ADDRESS INFORMATION AVAILABLE.

LOCAL GOVERNMENT AUTHORITY:

CITY OF WANNEROO

RESPONSIBLE AGENCY:

DEPARTMENT OF COMMUNITIES (SSHC)

NOTE 1:

DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
M325597

APPENDIX 2

Existing, approved ASP 76 (Part 1)

2

LOTS 1 AND 2 YANCHEP BEACH ROAD

LOCAL STRUCTURE PLAN 76



PART ONE
STATUTORY SECTION
NOVEMBER 2010

CERTIFIED THAT THE LOTS 1 AND 2 YANCHEP BEACH ROAD LOCAL STRUCTURE PLAN 76
WAS ADOPTED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON 13 JULY 2010

Signed for and on behalf of the Western Australian Planning Commission

Stalder

an officer of the Commission duly authorised by the Commission pursuant to section 16 of the Planning and Development Act 2005 for that purpose, in the presence of:

B. Schwab Witness

17 MAY 2011 Date

AND BY RESOLUTION OF THE COUNCIL OF THE CITY OF WANNEROO ON 6 APRIL 2010

AND THE SEAL OF THE MUNICIPALITY WAS PURSUANT TO THE COUNCIL'S RESOLUTION HEREUNTO AFFIXED IN THE PRESENCE OF:

[Signature]
Mayor, City of Wanneroo

[Signature]

[Signature] Chief Executive Officer, City of Wanneroo

13.1.11 Date



This Structure Plan is prepared under the provisions of the City of Wanneroo District Planning Scheme No. 2

Record of Amendments made to the Lots 1 and 2 Yanchep Beach Road Local Structure Plan 76

Lots 1 and 2 Yanchep Beach Road Local Structure Plan 76

Amendment No.	Description of Amendment	Finally Endorsed Council	Finally Endorsed WAPC

1.0 STRUCTURE PLAN AREA

This Structure Plan shall apply to Lots 1 and 2 Yanchep Beach Road, Yanchep, being the land contained within the inner edge of the broken black line shown on the Local Structure Plan (Plan 1).

2.0 STRUCTURE PLAN CONTENT

This Structure Plan comprises the:

- a) Statutory Section (Part 1)
- a) Explanatory Section (Part 2).

3.0 INTERPRETATION

‘The Scheme’ shall mean the City of Wanneroo District Planning Scheme No. 2 (as amended) or such amendments thereto that may be current.

The words and expressions used in this Structure Plan shall have the respective meanings given to them in the Scheme, or where relevant the Residential Design Codes.

4.0 OPERATION DATE

In accordance with sub-clause 9.8.1 of the Scheme, this Structure Plan shall come into operation on the later date when it is either certified by the Western Australian Planning Commission pursuant to sub-clause 9.6.3 of the Scheme, or adopted, signed and sealed by the Council under sub-clause 9.6.5 of the Scheme.

5.0 RELATIONSHIP WITH THE SCHEME

In accordance with clause 9.8 of the Scheme:

- a) The provisions, standards and requirements specified under Part 1 of this Structure Plan shall have the same force and effect as if it were a provision, standard, or requirement of the Scheme. Part 2 of this Structure Plan is for explanatory purposes only, in order to provide a descriptive analysis of the Structure Plan.
- a) In the event of there being an inconsistencies or conflict between the provisions, standards, or requirements of the Scheme and the provisions, standards or requirements of this Structure Plan, then the provisions, standards or requirements of this Structure Plan shall prevail.

6.0 LOCAL STRUCTURE PLAN MAP

The Local Structure Plan Map (Plan 1) outlines the planned pattern of development for the Structure Plan area. All development shall be carried out generally in accordance with the principles shown on the Local Structure Plan.

7.0 ZONES

The Zoning Plan (Plan 2a) designates the zones applicable to the Structure Plan area.

The zones designated pursuant to this Structure Plan apply to the land as if the zones were incorporated in the Scheme.

All provisions, standards and requirements applicable to the zones in the Scheme shall apply, unless specific provision is made to the contrary in this Structure Plan.

7.1 Residential Zone

Development within the Residential Zone is subject to the Residential Design Code variations provided in Clause 9 of the Structure Plan.

Residential densities apply to the land in accordance with the requirements of Clause 7.4.

7.2 Commercial Zone

The local centre shown on the Structure Plan Map comprises an indicative retail floor space of 2500sqm NLA.

7.3 Mixed Use Zone

Development within the mixed use zone shall be generally in accordance with transit orientated design principles including:

- Provision of a range of high density residential accommodation;
- Provision of areas of commercial activity in strategic locations that compliment the nearby local and district activity centres;
- Minimisation of land requirement for park and ride facilities through the use of multi deck parking or other alternatives to at-grade parking.

7.4 Residential Densities

Plan 2b – Residential Density Range Map forms part of this Structure Plan and prescribes the residential density ranges that apply to the zones within the Structure Plan area.

Residential densities are allocated in accordance with a Residential Density Code Plan, which is to be submitted to the Western Australian Planning Commission at the time of subdivision. Approval of the Residential Density Code Plan shall be undertaken at the time of determination of the subdivision application by the Western Australian Planning Commission. The approved Residential Density Code Plan shall then form part of the Local Structure Plan and shall be used for the determination of future development applications. Variations to the Residential Density Code Plan will require further approval from the Western Australian Planning Commission.

The allocation of densities on the Residential Density Code Plan shall be within the ranges specified in Plan 2b – Residential Density Range Map and consistent with the locational criteria contained in Clause 7.5.

7.5 Locational Criteria

The allocation of residential densities on the Residential Density Code Plan shall be in accordance with the criteria provided in Clauses 7.5.1 – 7.5.2 below:

7.5.1 R30 – R60 Range

The allocation of residential densities within the R30-R60 density range area shown on Plan 2b shall be generally in accordance with the following principles/criteria:

- a) The R30 coding shall be the base density coding for all residential lots within the structure plan area except under the circumstances described below.
- b) A density code of R40 or R60 may be applied to lots where:
 - vehicular access is provided via a public laneway;
 - located generally within the 400m walkable catchment of a train station, activity centre, public open space, school or community node;
 - located generally in areas surrounding public open space or grouped/multiple dwelling sites;
 - located in general proximity to public transport routes, and/or neighbourhood connector routes.

7.5.2 R80-R160 Density Range

A density code of up to R160 may be applied to land which is:

- within 400 metres of a train station; or
- adjacent to arterial roads and around major intersections.

8.0 GENERAL PROVISIONS

8.1 Subdivision Applications

The following information/documents shall be submitted to the Western Australian Planning Commission as part of a subdivision application:

- A Residential Density Code Plan in accordance with clause 7.4
- Public Open Space – An updated public open space schedule in accordance with Liveable Neighbourhoods.
- Bush Forever Interface – A road or alternative treatment, between residential lots and Bush Forever site No.289 is to be provided as part of the subdivision design.

8.2 Conditions of Subdivision Approval

8.2.1 Strategies

At the time of subdivision the City of Wanneroo shall recommend to the Western Australian Planning Commission conditions requiring the implementation of the following strategies which have been prepared and approved as part of the LSP:

- Vegetation and Fauna Management Plan
- Open Space Strategy
- Karst Management Strategy
- Local Water Management Strategy
- Traffic Modelling and Road Network Plan

8.2.2 Noise

The recommendations of the Noise and Vibration Assessment report, as approved by the Department of Environment and Conservation in accordance with State Planning Policy 5.4, and as agreed to by Main Roads WA and Public Transport Authority, are to be implemented as conditions of subdivision and/or development approval. Notifications are to be included on the titles of those lots proposing a noise sensitive land use where estimated target outdoor noise criteria are exceeded.

8.2.3 Water Management

An Urban Water Management Plan is required to be prepared and implemented as a condition of subdivision approval.

8.3 Access to Yanchep Beach Road

8.3.1 Staging

The access to Yanchep Beach Road east of the neighbourhood centre, refer Plans 1 and 3A – 3D, will be staged as follows:

- Stage 1 - Yanchep Beach Road is a single carriage way and one or both accesses will be constructed as a full access t-junctions under giveway control (priority with Yanchep Beach Road). The accesses would be constructed with right turn and left turn lanes on Yanchep Beach Road in accordance with the appropriate design standards.
- Stage 2 - Yanchep Beach Road is dual carriageway road at this stage and both access points are still full access t-junctions under giveway control (priority with Yanchep Beach Road).
- Stage 3 - At the time the main access to the local centre is operating as a signalised 4 way intersection and Yanchep Beach Road is a dual carriageway

road, the Lot 2 access is restricted to left in / left out traffic movements by closing the Yanchep Beach Road median.

- Stage 4 - Mitchell Freeway is constructed and access is converted to either left in only or no access at all, as required by Main Roads.

8.3.2 Timing of Signals

Timing for the provision of traffic signals to Yanchep Beach Road shall be determined by traffic volumes on Yanchep Beach Road and likely pedestrian movements in the area. Detailed design of signalised intersections is subject to the approval of Main Roads WA and City of Wanneroo to the satisfaction of the Department of Planning.

8.4 Monitoring and Review

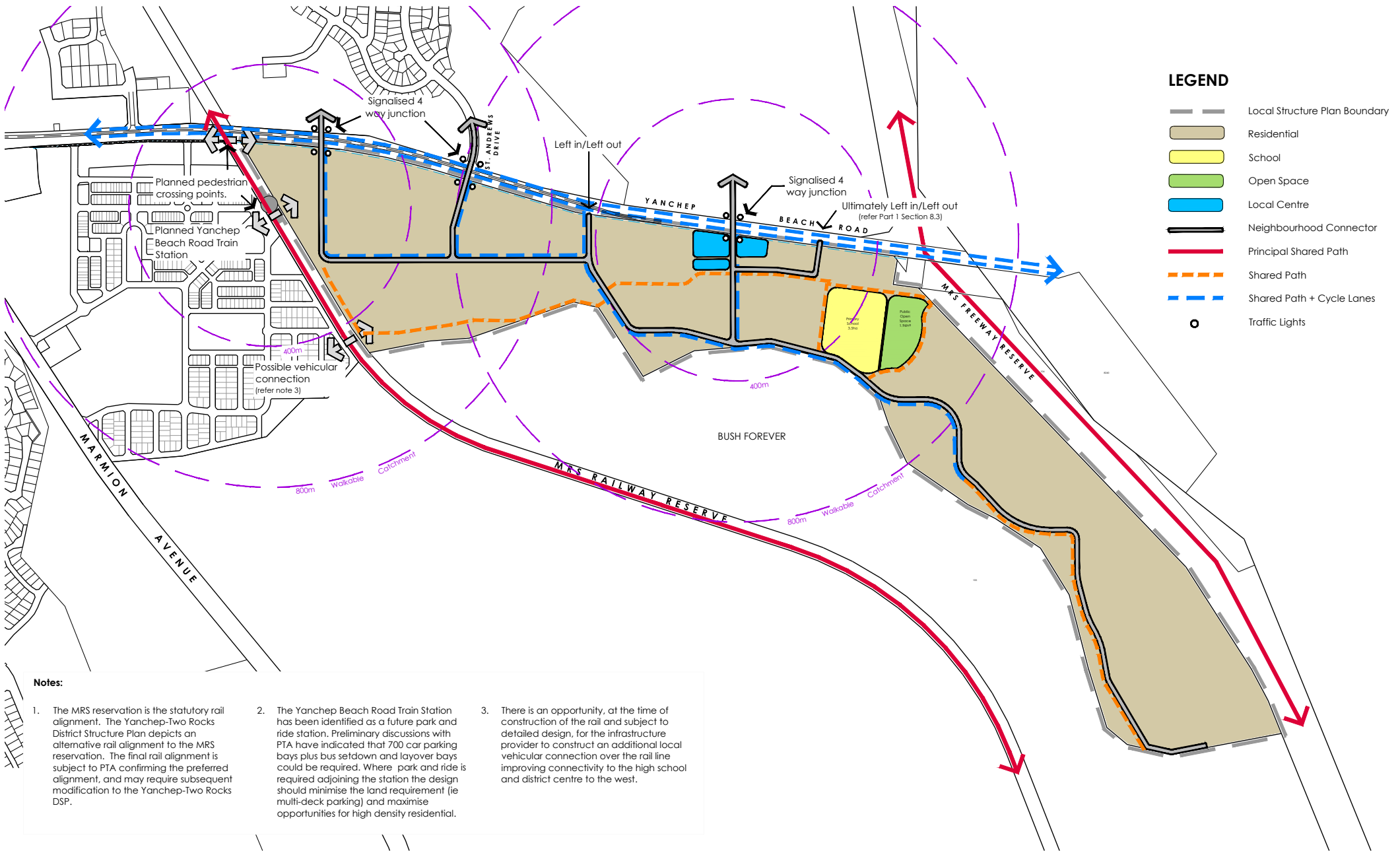
The Yanchep Two Rocks District Structure Plan is subject to monitoring and review by the City of Wanneroo and/or the Western Australian Planning Commission commencing in 2017. Any amendments to the Yanchep – Two Rocks District Structure Plan may result in consequential amendments to the local structure plan, which must be consistent with the District Structure Plan.

9.0 RESIDENTIAL DESIGN CODE VARIATIONS

Tables 1A and 1B set out those variations to the R Codes that are deemed to constitute Acceptable Development within the Structure Plan area and where neighbour consultation and planning approval is not required.

TABLE 1 A – R40 VARIATIONS TO THE ‘ACCEPTABLE DEVELOPMENT’ REQUIREMENTS OF THE R CODES FOR R40:												
ITEM	RELEVANT R CODE CLAUSES	VARIATION										
Front Setback	6.2.1 A1.1 (i) & 6.2.2 A2 (i)	For lots with rear access, the front setbacks shall be:										
			<table border="1"> <thead> <tr> <th></th> <th>Minimum</th> <th>Maximum</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>Dwelling</td> <td>1.5m</td> <td>Not Applicable</td> <td>3.0m</td> </tr> </tbody> </table>		Minimum	Maximum	Average	Dwelling	1.5m	Not Applicable	3.0m	
	Minimum	Maximum	Average									
Dwelling	1.5m	Not Applicable	3.0m									
Boundary Walls	6.3.2 A2	In determining the acceptable length of any boundary wall pursuant to Clause 6.3.2 A2 (ii) of the Codes, the front setback shall mean the setback of the building itself on that boundary.										
	6.3.2 A2 (iii)	<p>For lots with laneway access, walls on boundary are permitted to both side boundaries of a lot (excluding secondary street boundaries other than to laneways) within the following limits:</p> <table border="1"> <thead> <tr> <th></th> <th>Maximum Height</th> <th>Maximum Length</th> </tr> </thead> <tbody> <tr> <td>Single Storey</td> <td>3.5m*</td> <td>No limit</td> </tr> <tr> <td>Two Storey & Above</td> <td>6.5m*</td> <td>12m</td> </tr> </tbody> </table> <p>* For dwellings with a pitched roof, the height of walls on side boundaries may be increased to the top of the ridgeline where this runs parallel to the front boundary and will abut a similarly configured wall or secondary street.</p>			Maximum Height	Maximum Length	Single Storey	3.5m*	No limit	Two Storey & Above	6.5m*	12m
	Maximum Height	Maximum Length										
Single Storey	3.5m*	No limit										
Two Storey & Above	6.5m*	12m										
Private Open Space	6.4.1 A1 & 6.4.2 A2 – Table 1	<p>Minimum open space to be provided will be reduced to a minimum of 30% of the site subject to the provision of:</p> <ul style="list-style-type: none"> i) A minimum 2m setback to major openings to habitable rooms located on the northernmost or easternmost boundaries; ii) Any boundary wall (if proposed) to be built on the southernmost or westernmost side boundary (except where that boundary is to a secondary street other than to a laneway) or as otherwise depicted on an adopted Detailed Area Plan; and iii) Provision of an Outdoor Living Area designed in accordance with the RD Codes and directly accessible from an internal living area on the northernmost or easternmost boundary. Where the outdoor living area is not directly accessible from an internal living area, provision of an additional outdoor living area which complies with the following criteria: <table border="1"> <thead> <tr> <th>Min Area</th> <th>Min Dimension</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>20m²</td> <td>4m</td> <td>- May be included under the roof of the main dwelling. - Must be located on the northernmost or easternmost side boundary of the dwelling</td> </tr> </tbody> </table> <p>Note: Courtyards are permitted within the secondary street setback area.</p>		Min Area	Min Dimension	Other	20m ²	4m	- May be included under the roof of the main dwelling. - Must be located on the northernmost or easternmost side boundary of the dwelling			
Min Area	Min Dimension	Other										
20m ²	4m	- May be included under the roof of the main dwelling. - Must be located on the northernmost or easternmost side boundary of the dwelling										
Design for Climate	6.9.1 A1	The overshadowing provisions (Cl 6.9.1 A1) do not apply.										
Additional Requirements		<p>In addition to the Acceptable Development standards, for those lots immediately adjacent Public Open Space the following provisions shall apply:</p> <ul style="list-style-type: none"> i) must have a minimum of one habitable room with a major opening facing toward the Public Open Space area - where, for the purposes of this Clause, a “habitable room” means a room that is used for normal domestic activities and includes a living room, lounge room, sitting room, television room, kitchen, dining room, however, does not include a bedroom; and ii) visually permeable fencing to the public open space boundary to the specification and satisfaction of the City. 										

TABLE 1 B – R60															
VARIATIONS TO THE 'ACCEPTABLE DEVELOPMENT' REQUIREMENTS OF THE R CODES FOR R60:															
ITEM	RELEVANT R CODE CLAUSES	VARIATION													
Front Setbacks	6.2.1 A1.1 (i) & 6.2.2 A2 (i)	Front Setbacks:													
			<table border="1"> <thead> <tr> <th></th> <th>Minimum</th> <th>Maximum</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>Dwelling</td> <td>2m</td> <td>4.0m</td> <td>Not Applicable</td> </tr> <tr> <td>Porch, balcony, veranda or the equivalent</td> <td>1.5m</td> <td>3.0m</td> <td>Not Applicable</td> </tr> </tbody> </table>		Minimum	Maximum	Average	Dwelling	2m	4.0m	Not Applicable	Porch, balcony, veranda or the equivalent	1.5m	3.0m	Not Applicable
			Minimum	Maximum	Average										
Dwelling	2m	4.0m	Not Applicable												
Porch, balcony, veranda or the equivalent	1.5m	3.0m	Not Applicable												
Boundary Walls	6.3.2 A2 6.3.2 A2 (iii)	In determining the acceptable length of any boundary wall pursuant to Clause 6.3.2 A2 (ii) of the Codes, the front setback shall mean the setback of the building itself on that boundary.													
		Boundary Walls are permitted to both side boundaries of a lot (excluding secondary street boundaries other than to laneways) within the following limits:													
		<table border="1"> <thead> <tr> <th></th> <th>Maximum Height</th> <th>Maximum Length</th> </tr> </thead> <tbody> <tr> <td>Single Storey</td> <td>3.5m*</td> <td>No limit</td> </tr> <tr> <td>Two Storey & Above</td> <td>6.5m*</td> <td>12m</td> </tr> </tbody> </table>		Maximum Height	Maximum Length	Single Storey	3.5m*	No limit	Two Storey & Above	6.5m*	12m				
	Maximum Height	Maximum Length													
Single Storey	3.5m*	No limit													
Two Storey & Above	6.5m*	12m													
		* For dwellings with a pitched roof, the height of walls on side boundaries may be increased to the top of the ridgeline where this runs parallel to the front boundary and abuts a similarly configured wall or secondary street.													
Private Open Space	6.4.1 A1 – Table 1	Minimum open space to be provided is 25%.													
	6.4.2 A2	An Outdoor Living Area is to be provided: <ul style="list-style-type: none"> i) With a minimum useable space of 24m² and a minimum dimension of 4m; ii) Behind the primary street setback line (it is permitted within the secondary street setback area); and iii) Located on the northernmost or easternmost boundary to maximise solar access. 													
Access & Car-parking	6.5.1 A1	For any lots on the corner of a “lane to lane” or “lane to road” a minimum of one on site bay per dwelling is required and it must be covered.													
Privacy	6.8.1 A1 (i), (ii) & (iii)	The setback to the boundary of major openings to active habitable spaces or their equivalent which have a floor level more than 0.5m above natural ground level and are positioned so as to overlook any part of any other residential property behind the 3m street setback line which are specified in (i) of Clause 6.8.1 A1 is to be a minimum of 4.5m in all cases.													
Design for Climate	6.9.1 A1	The overshadowing provisions (Cl 6.9.1 A1) do not apply.													
Special Purpose Dwellings/ Ancillary Accommodation	7.1.1 A1	Ancillary accommodation is permitted on lots less than 450m ² where abutting a laneway. Such ancillary accommodation does not require an additional car parking bay on site.													
Additional Requirements		In addition to the Acceptable Development standards, for those lots immediately adjacent Public Open Space the following provisions shall apply: <ul style="list-style-type: none"> i) must have a minimum of one habitable room with a major opening facing toward the Public Open Space area - where, for the purposes of this Clause, a “habitable room” means a room that is used for normal domestic activities and includes a living room, lounge room, sitting room, television room, kitchen, dining room, however, does not include a bedroom; and ii) visually permeable fencing to the public open space boundary to the specification and satisfaction of the City. 													



- Notes:**
1. The MRS reservation is the statutory rail alignment. The Yanchep-Two Rocks District Structure Plan depicts an alternative rail alignment to the MRS reservation. The final rail alignment is subject to PTA confirming the preferred alignment, and may require subsequent modification to the Yanchep-Two Rocks DSP.
 2. The Yanchep Beach Road Train Station has been identified as a future park and ride station. Preliminary discussions with PTA have indicated that 700 car parking bays plus bus setdown and layover bays could be required. Where park and ride is required adjoining the station the design should minimise the land requirement (ie multi-deck parking) and maximise opportunities for high density residential.
 3. There is an opportunity, at the time of construction of the rail and subject to detailed design, for the infrastructure provider to construct an additional local vehicular connection over the rail line improving connectivity to the high school and district centre to the west.

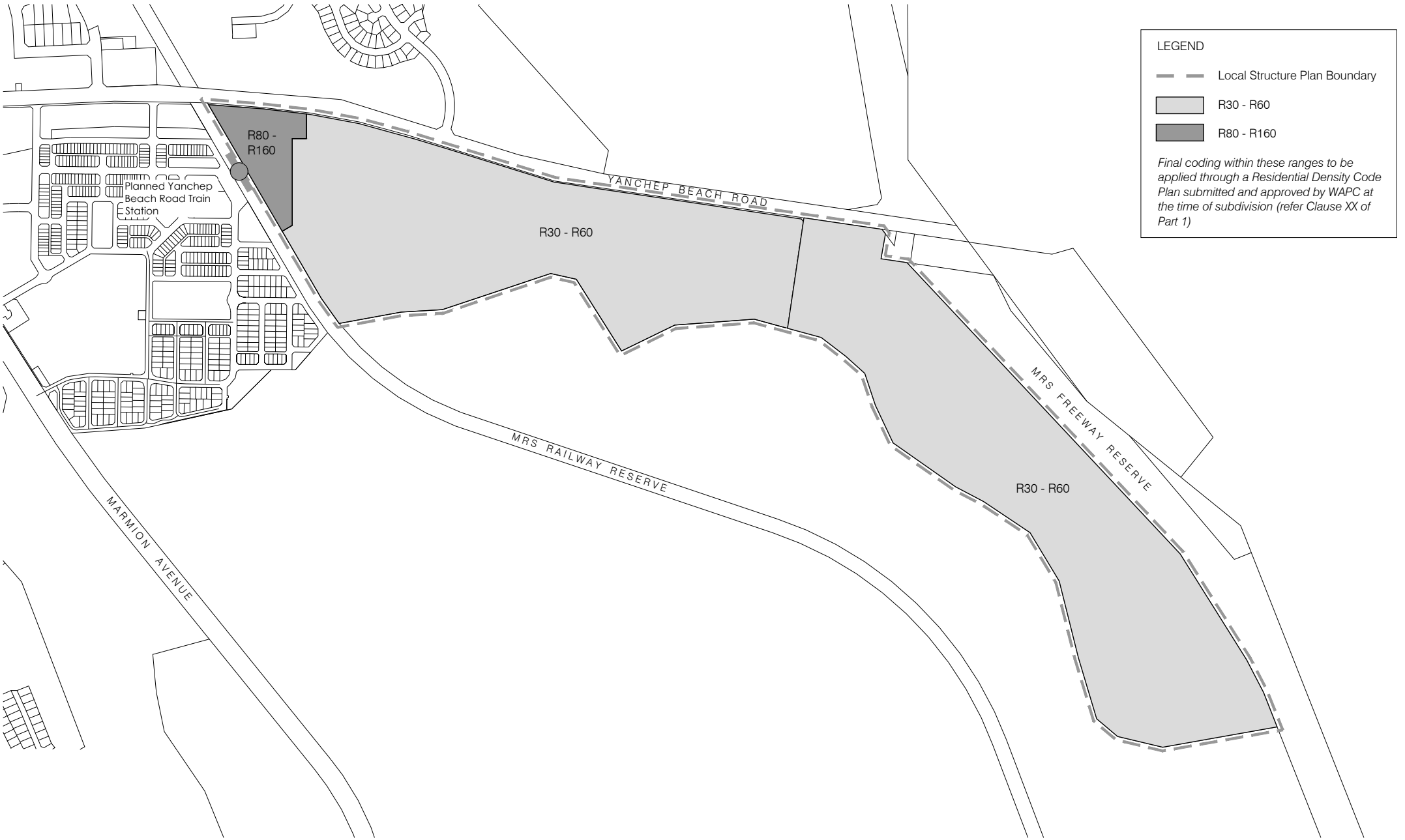




LEGEND

- Local Structure Plan Boundary
- Zones**
 - Commercial
 - Residential
 - Mixed Use
- Local Scheme Reserves**
 - Public Use
PS Primary School



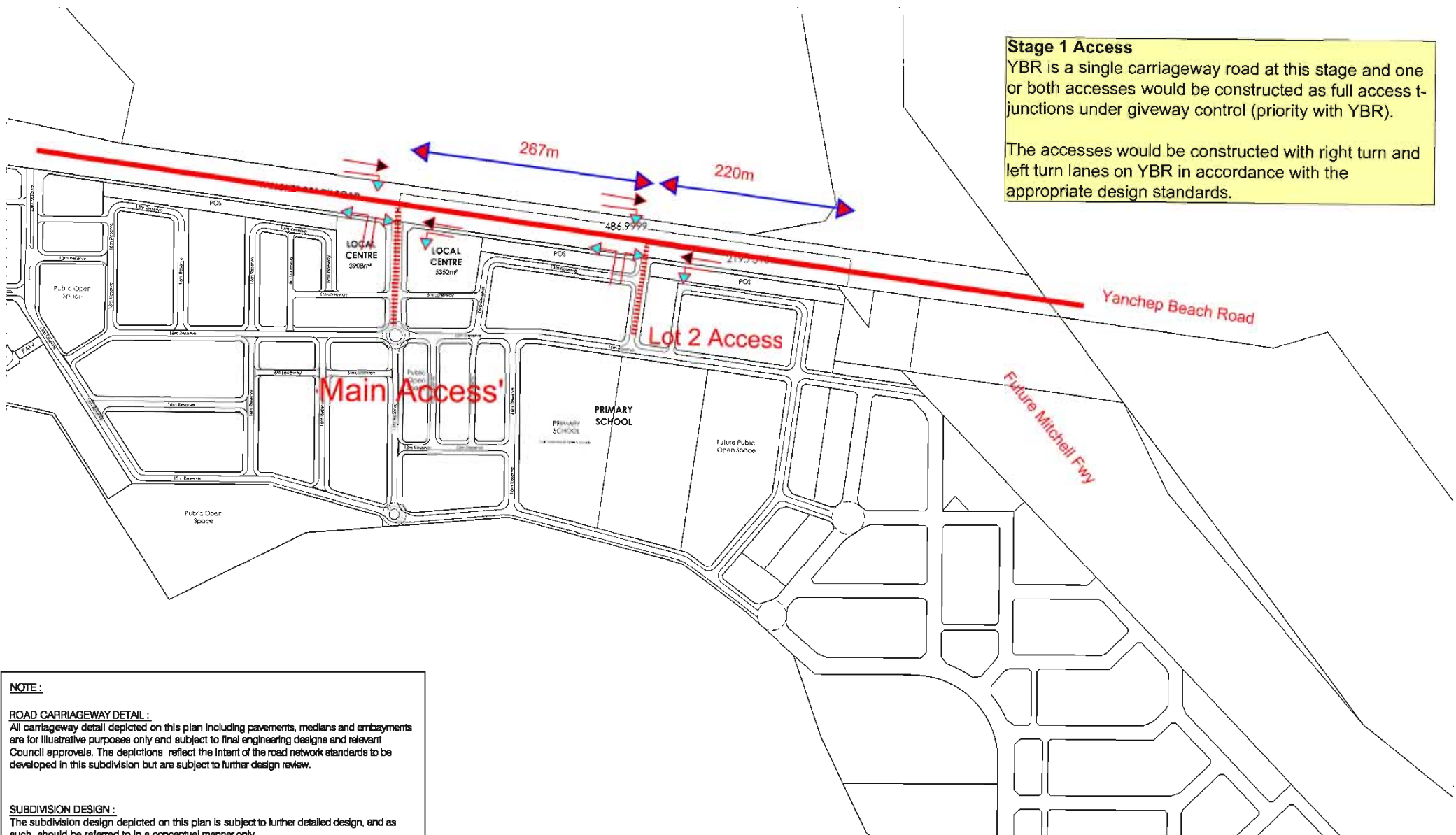


LEGEND

- Local Structure Plan Boundary
- Light Grey Box R30 - R60
- Dark Grey Box R80 - R160

Final coding within these ranges to be applied through a Residential Density Code Plan submitted and approved by WAPC at the time of subdivision (refer Clause XX of Part 1)





NOTE:

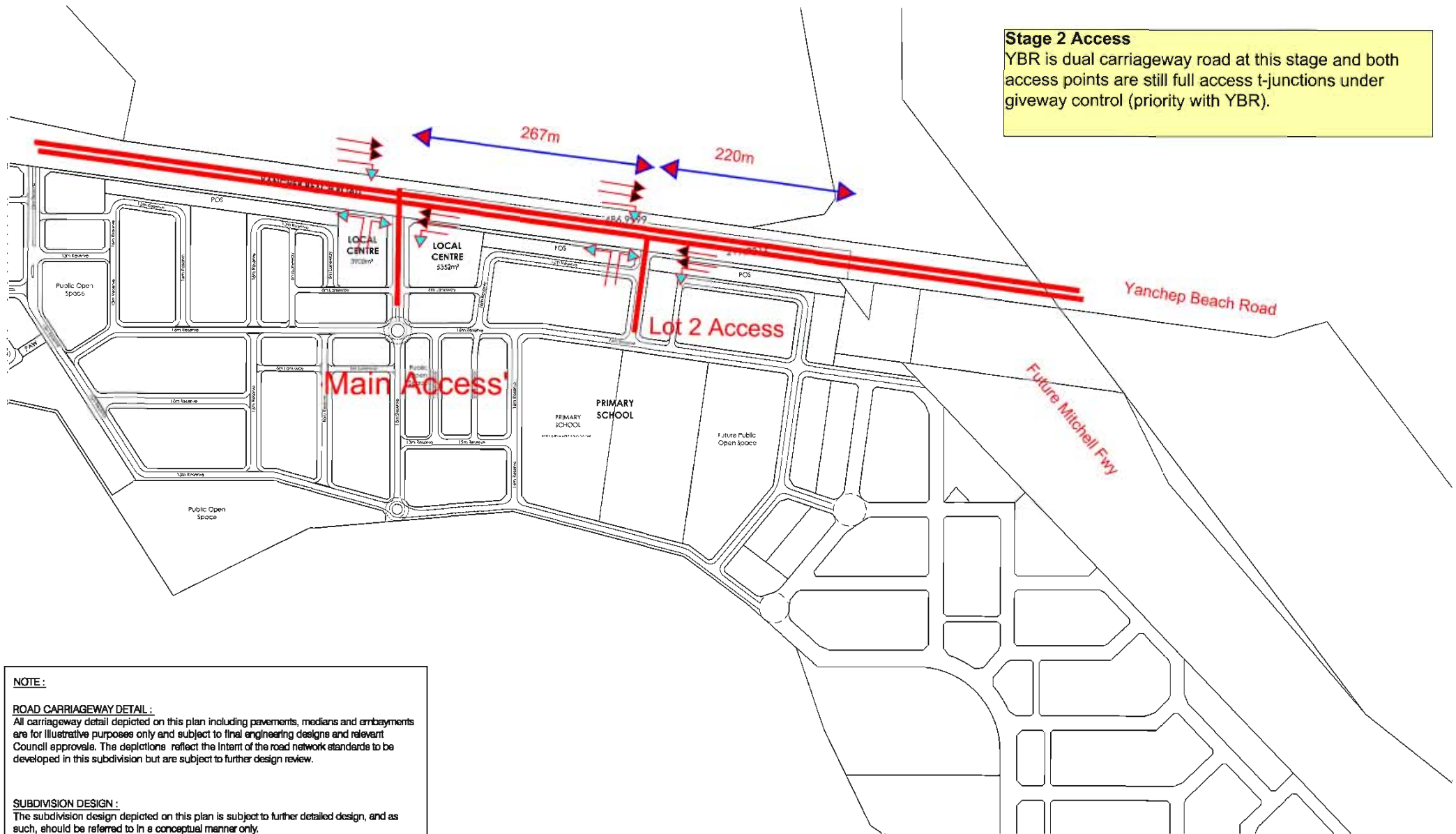
ROAD CARRIAGEWAY DETAIL:

All carriageway detail depicted on this plan including pavements, medians and embayments are for illustrative purposes only and subject to final engineering designs and relevant Council approvals. The depictions reflect the intent of the road network standards to be developed in this subdivision but are subject to further design review.

SUBDIVISION DESIGN:

The subdivision design depicted on this plan is subject to further detailed design, and as such, should be referred to in a conceptual manner only.

Note: Information sourced from Bruce Aulabaugh



Stage 2 Access
YBR is dual carriageway road at this stage and both access points are still full access t-junctions under giveaway control (priority with YBR).

NOTE:

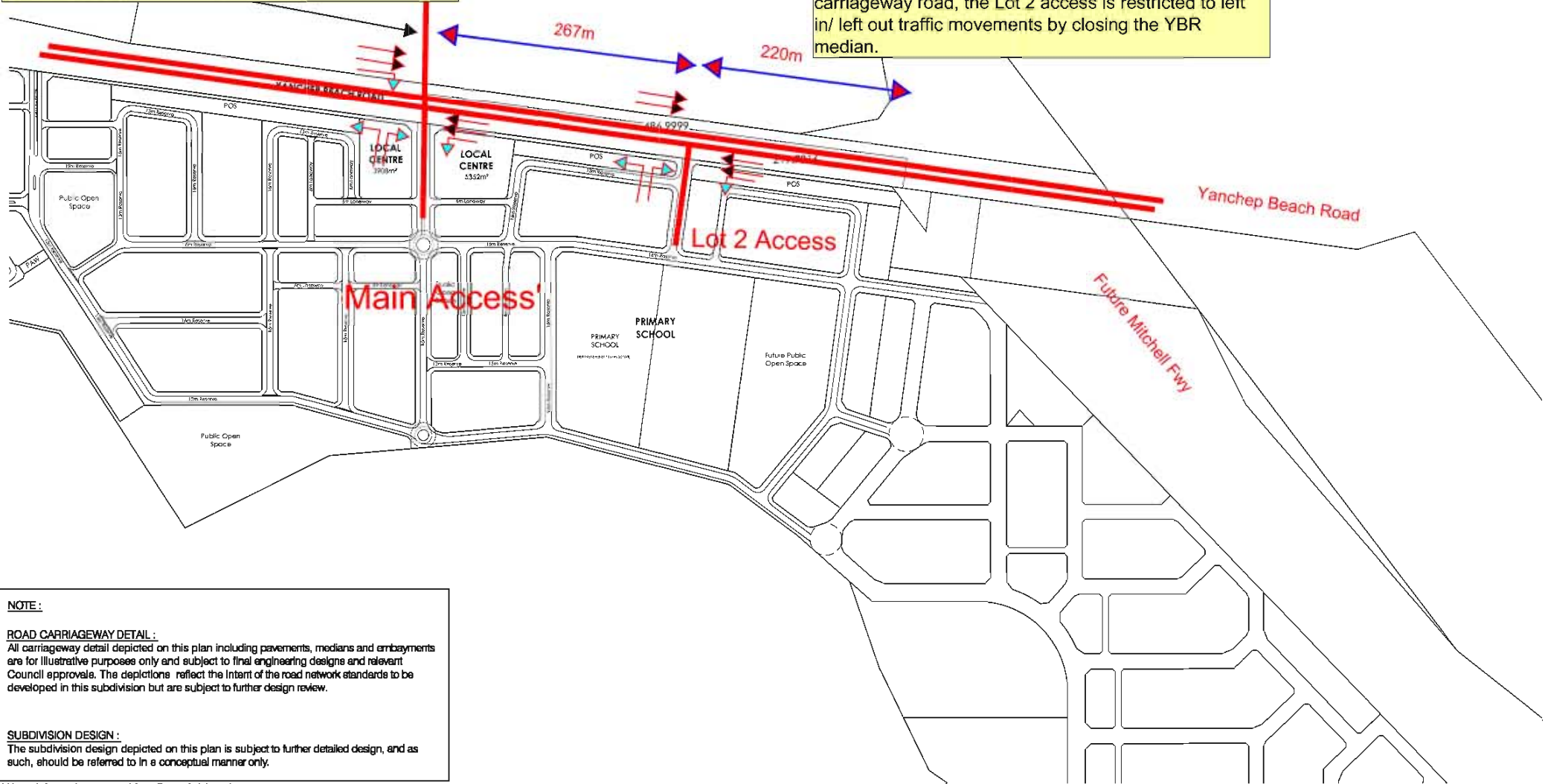
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Note: Information sourced from Bruce Aulabaugh

Assume north leg of this intersection is constructed and the 4-way intersection is signalised (as proposed in the Lot 103 LSP). If the 4-way comes on before dual carriageway then either roundabout control or signal control at this location at that time.

Stage3 Access
At the time the 'Main Access' is operating as a signalised 4-way intersection and YBR is a dual carriageway road, the Lot 2 access is restricted to left in/ left out traffic movements by closing the YBR median.

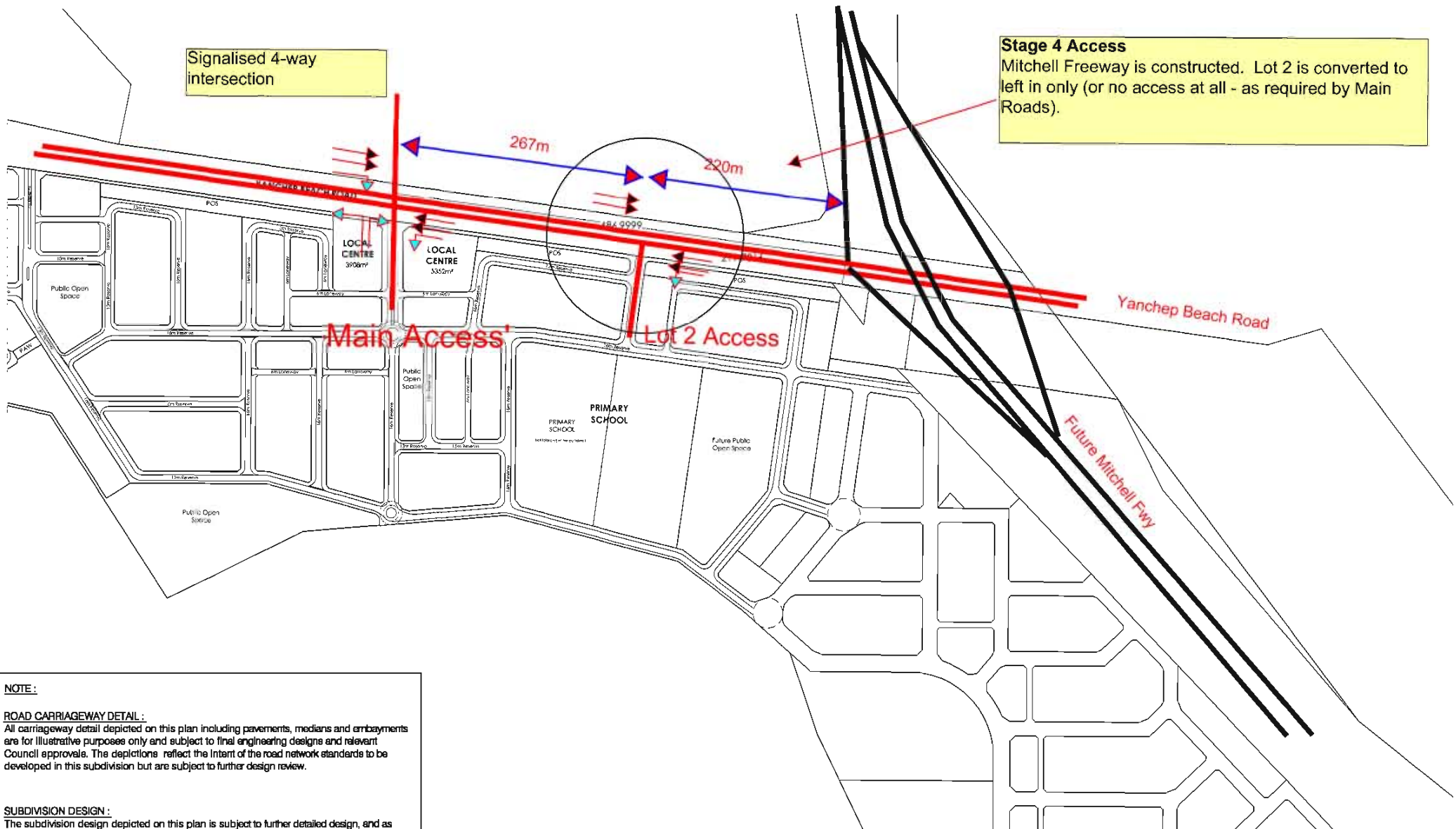


NOTE:

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Note: Information sourced from Bruce Aulabaugh.

APPENDIX 3

Proposed New Part 1 for ASP 76

3

AGREED STRUCTURE PLAN 76

**LOTS 1 AND 2 YANCHEP BEACH ROAD, YANCHEP (JINDOWIE EAST)
LOCAL STRUCTURE PLAN**

PART ONE | IMPLEMENTATION SECTION

Prepared by:



2 Abbotsford Street
West Leederville WA 6007
PO Box 796
Subiaco WA 6904
08 9382 1233
www.cleplan.com.au

2125Rep231A
July 2020

Title: Agreed Structure Plan No. 76
Lots 1 + 102 Yanchep Beach Road, Yanchep (Jindowie East)
Local Structure Plan
Part One | Implementation Section

Prepared for: Department of Communities

CLE Reference: 2125Rep231A

Date: 31 July 2020

Status: Final

Review date: 31 July 2020

Prepared by: CLE Town Planning + Design

Project team: Town Planning + Design - CLE Town Planning + Design
Engineering - Development Engineering Consultants
Hydrology - Development Engineering Consultants
Environmental - Coffey Environments
Bushfire - Entire Fire Managements
Acoustic - Lloyd George Acoustics
Landscape Design - EPCAD

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This amendment to Agreed Structure Plan 76 is prepared under the provisions of Part 4 of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

IT IS CERTIFIED THAT AMENDMENT NO. 1 TO AGREED STRUCTURE PLAN 76 WAS ADOPTED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON

.....

Signed for and on behalf of the Western Australian Planning Commission:

.....

an officer of the Commission duly authorised by the Commission pursuant to section 16 of the *Planning and Development Act 2005* for that purpose, in the presence of:

..... Witness

..... Date

..... Date of expiry

Table of amendments

Amendment No.	Description of Amendment	Amendment Type	Date approved by WAPC
1	Reclassify Lot 9040 Yanchep Road, Yanchep from 'Mixed Use' to 'Residential" with density code of R30-60.	Minor	

CONTENTS

- 1.0 Structure plan area
- 2.0 Structure plan content
- 3.0 Operation
- 4.0 Land use and subdivision requirements
- 5.0 Local Development Plans
- 6.0 Additional Information

PLANS

- Plan 1: Local Structure Plan (CLE Ref. 2125-35K-01)
- Plan 2: Zoning Plan (CLE Ref. 2125-254-01)
- Plan 3: R-Code Plan (CLE Ref. 2125-255-01)

1.0 STRUCTURE PLAN AREA

This structure plan applies to the land within the line identified as the 'Structure Plan Boundary' on Plan A: Lots 1 and 2 Yanchep Beach Road, Yanchep (Jindowie East) Local Structure Plan.

2.0 STRUCTURE PLAN CONTENT

This structure plan consists of:

- Part One – Implementation Section (this section);
- Part Two – Explanatory Report (report reference 2310Rep188);
- Appendices – technical reports supporting the structure plan.

Part One of the Local Structure Plan comprises the structure plan map and planning provisions. Part Two and all Appendices are a reference provided to guide the interpretation and implementation of Part One.

3.0 STRUCTURE PLAN OPERATION

This structure plan is prepared in accordance with Part 4 of Schedule 2 (Deemed Provisions) in the *Planning and Development (Local Planning Schemes) Regulations 2015* ('the Regulations'). It is a Local Structure Plan fulfilling the requirements of City of Wanneroo District Planning Scheme No. 2 for the applicable 'Urban Development' zone.

The Regulations require decision-makers to have due regard for the provisions of this structure plan, which takes effect on the date on which it is approved by the Western Australian Planning Commission ('WAPC').

Unless otherwise specified in this Part, all words and expressions used in this structure plan have the same meaning as the same words and expressions in the Regulations and City of Wanneroo District Planning Scheme No. 2.

4.0 LAND USE AND SUBDIVISION

4.1 Zones and reserves

Subdivision and development of land within the structure plan area should be in accordance with the structure plan and the corresponding zone or reserve under City of Wanneroo District Planning Scheme No. 2

4.2 Residential densities

4.2.1 Dwelling target

It is the objective of this structure plan to provide a minimum of 22 dwellings per hectare of Net Developable Area, consistent with *Liveable Neighbourhoods*.

[4.2.2 Residential density](#)

The residential density range applicable to the structure plan area is shown on the Structure Plan Map. Specific residential density codes will be applied at the subdivision stage through an R-Code Plan assessed and approved by the WAPC.

The R-Code Plan:

- a. Is required to be submitted with each subdivision application/s, and shall be consistent with the density ranges and locational criteria in this structure plan.
- b. Is to include a summary of the proposed lot yield of the subdivision application to which it relates.
- c. Forms part of this structure plan once it has been approved by the WAPC (as part of its determination of the subdivision application).
- d. May be varied subject to the further approval of the WAPC. A varied R-Code Plan will replace (entirely or partially) the previously-approved R-Code Plan.
- e. May not be required if the WAPC considers that the subdivision application is for one or more of the following:
 - (i) Amalgamation of lots, including for land assembly;
 - (ii) Provision of access, services or infrastructure; or
 - (iii) Non-residential use, with reference to the zone or reserve indicated on this structure plan.

[4.2.3 Locational criteria](#)

The allocation of residential densities shall be generally in accordance with the following criteria:

- a. A base residential density coding of R30.
- b. A residential density coding of R40 or R60 where:
 - (i) Vehicular access is provided via a public laneway;
 - (ii) The proposed lot is located in the vicinity of a Local Centre, public open space, school, Neighbourhood Connector road or public transport route;
 - (iii) The proposed lot is created as a grouped or multiple housing site.

[4.2.4 R-Codes variations](#)

The R-Codes variations specified in Planning Bulletin 112: *Medium-density single house development standards – Development Zones* and duplicated in the City of Wanneroo Local Planning Policy 4.19: *Medium-Density Housing Standards* are applicable to all densities between R30 and R60, inclusive.

4.3 Local Centre

A Local Centre comprising up to 2500 square metres of Net Lettable Area is permitted on the land zoned 'Commercial' on the Structure Plan Map.

4.4 Public open space

A minimum of 10 per cent of the gross subdivisible area, less deductions permitted under *Liveable Neighbourhoods*, is to be provided as public open space. This should be provided generally in the locations shown on the Structure Plan Map.

5.0 LOCAL DEVELOPMENT PLANS

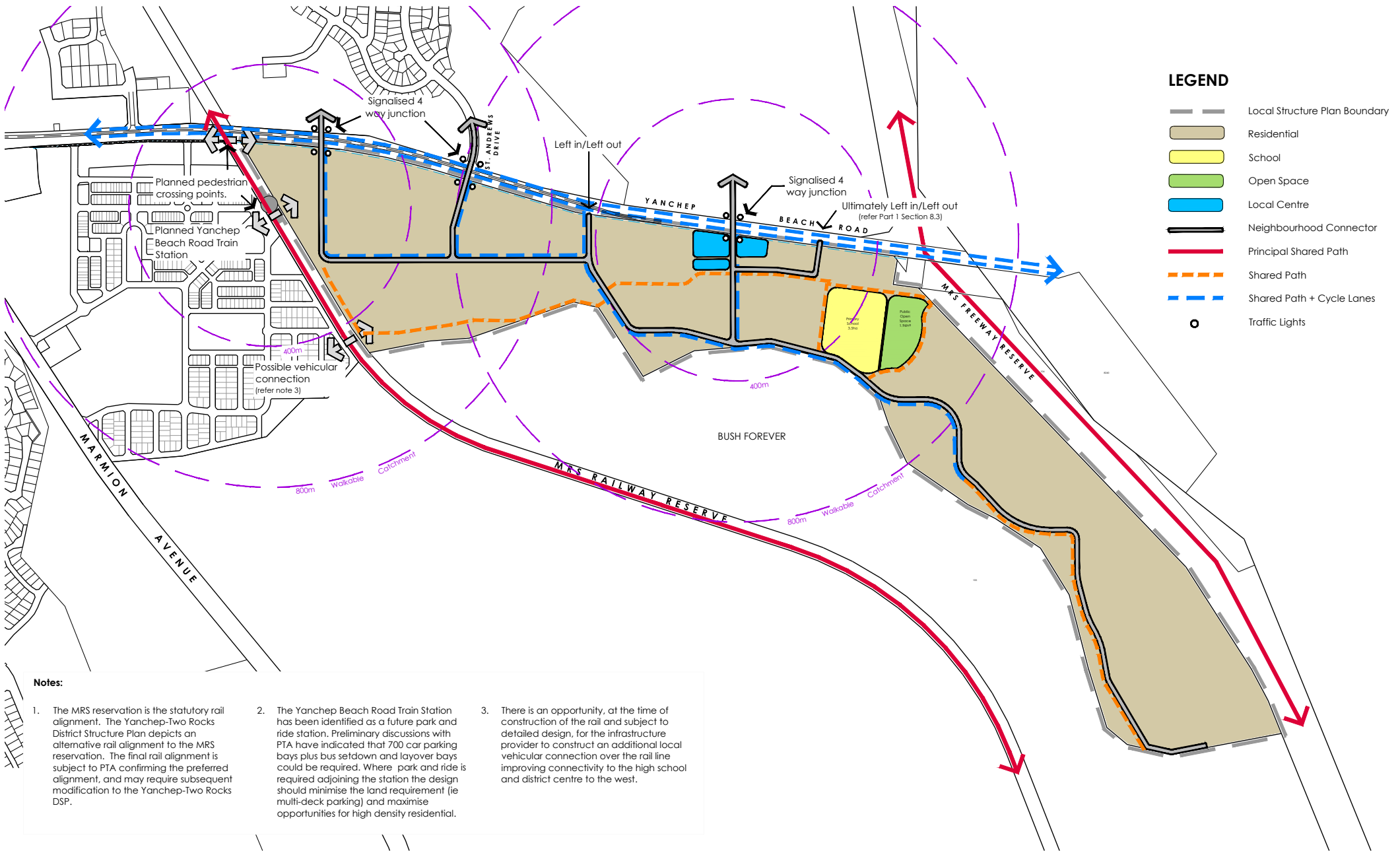
At the subdivision stage, the WAPC may impose a condition/s of approval requiring Local Development Plan/s to be prepared, in accordance with Part 6 of the Regulations, for lots that:

- Are rear-loaded;
- Abut public open space;
- Are identified for a Commercial purpose;
- Are affected by road or rail transport noise and require noise mitigation measures at the development stage.

6.0 ADDITIONAL INFORMATION

At the subdivision stage, as relevant, the WAPC may require and/or impose a condition/s of approval requiring the preparation and submission of the following technical reports:

Additional Information	Approval Stage	Consultation Required
Bushfire Management Plan (BAL Contour Plan)	Subdivision (pre-approval)	City of Wanneroo WAPC
Acoustic Assessment	Subdivision (pre-approval)	City of Wanneroo WAPC
Urban Water Management Plan	Subdivision (condition of approval)	City of Wanneroo Department of Water and Environmental Regulation WAPC

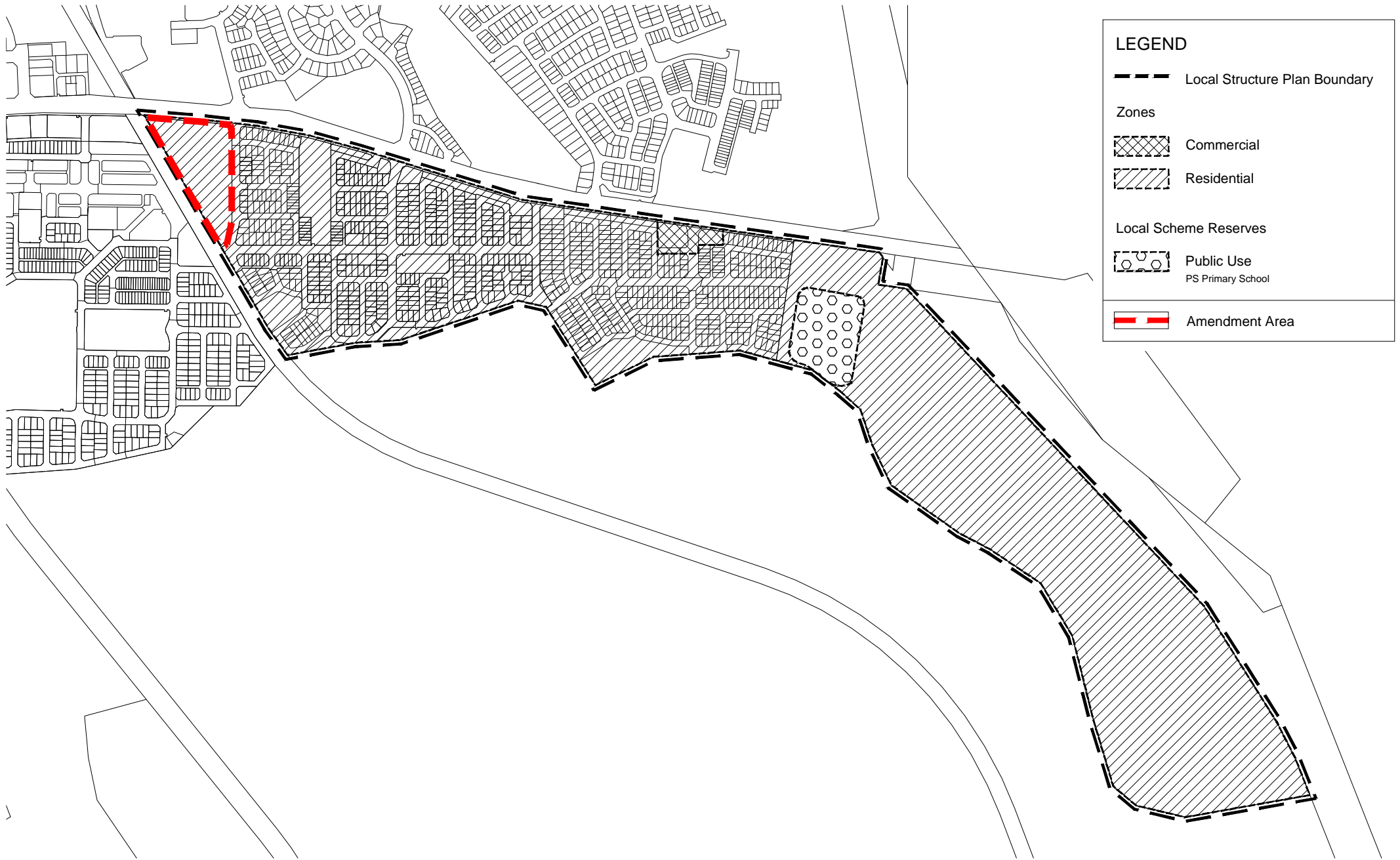


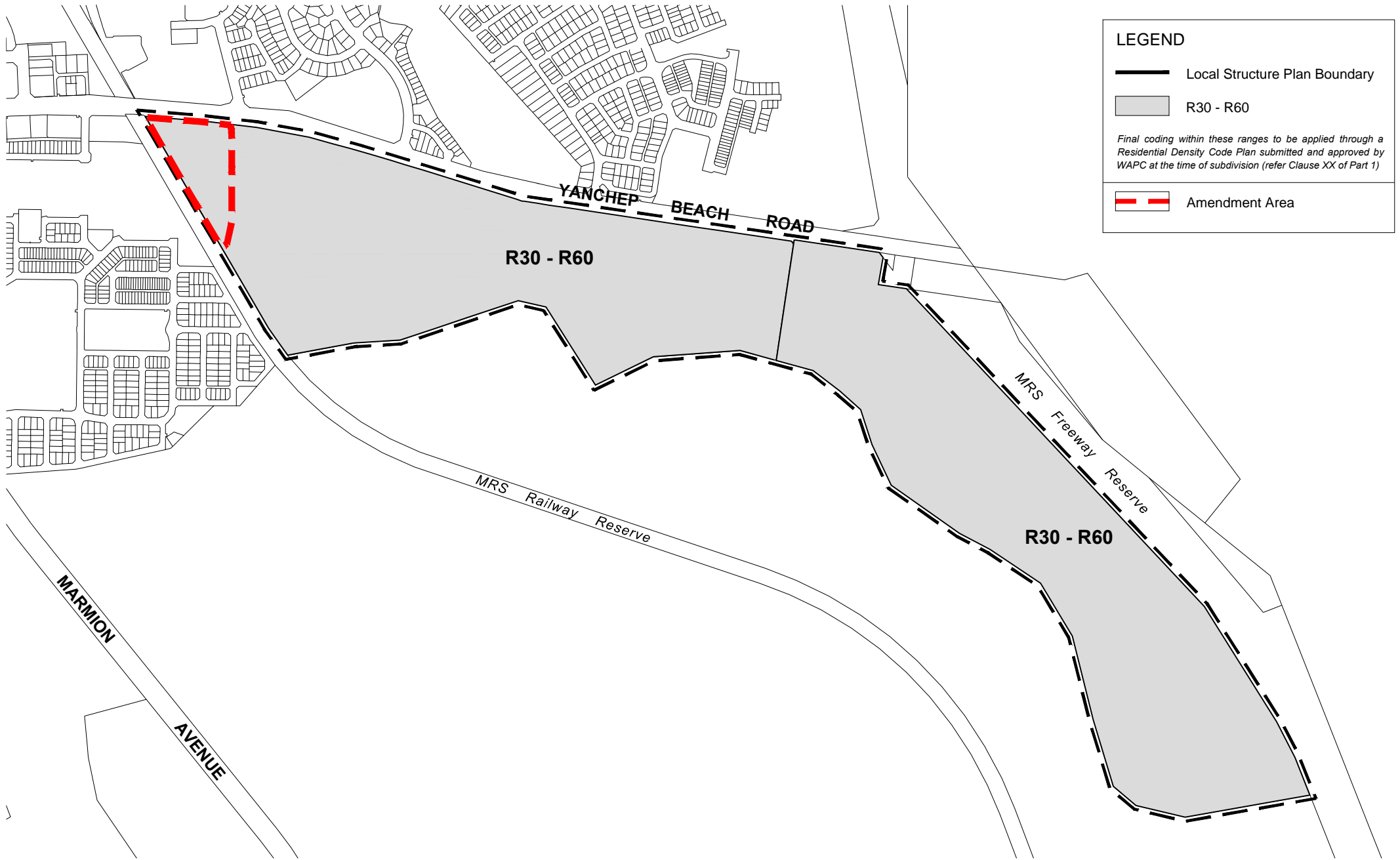
LEGEND

- Local Structure Plan Boundary
- Residential
- School
- Open Space
- Local Centre
- Neighbourhood Connector
- Principal Shared Path
- Shared Path
- Shared Path + Cycle Lanes
- Traffic Lights




- Notes:**
1. The MRS reservation is the statutory rail alignment. The Yanchep-Two Rocks District Structure Plan depicts an alternative rail alignment to the MRS reservation. The final rail alignment is subject to PTA confirming the preferred alignment, and may require subsequent modification to the Yanchep-Two Rocks DSP.
 2. The Yanchep Beach Road Train Station has been identified as a future park and ride station. Preliminary discussions with PTA have indicated that 700 car parking bays plus bus setdown and layover bays could be required. Where park and ride is required adjoining the station the design should minimise the land requirement (ie multi-deck parking) and maximise opportunities for high density residential.
 3. There is an opportunity, at the time of construction of the rail and subject to detailed design, for the infrastructure provider to construct an additional local vehicular connection over the rail line improving connectivity to the high school and district centre to the west.







LEGEND

-  Local Structure Plan Boundary
-  R30 - R60
-  Amendment Area

Final coding within these ranges to be applied through a Residential Density Code Plan submitted and approved by WAPC at the time of subdivision (refer Clause XX of Part 1)

APPENDIX 4

PTA Advice on South Yanchep Station



Mark de Cruz

To: Alex Watson
Subject: RE: Jindowie Land Estate

From: Lam Sin Cho, Jade <Jade.LamSinCho@pta.wa.gov.au>
Sent: Thursday, 31 October 2019 8:04 AM
To: Stuart Sinclair <Stuart.Sinclair@housing.wa.gov.au>
Subject: Jindowie Land Estate

Hi Stuart

Thanks for your query regarding the provision for a future train station in Jindowie Land Estate (Australand) in Yanchep. The Yanchep Rail Extension will deliver three new stations, Alkimos, Eglinton and Yanchep. No future provision has been made for a station at Australand.

If you have any further queries please don't hesitate to contact me.

Regards

Jade Lam Sin Cho
Strategic Railway Network Planner | Infrastructure Planning & Land Services
Public Transport Authority of Western Australia
Level 4, Public Transport Centre, West Parade, Perth, 6000
PO Box 8125, Perth Business Centre, WA, 6849
Tel: (08) 9326 2473
Email: jade.lamsincho@pta.wa.gov.au | Web: www.pta.wa.gov.au

Please note that my working days are Monday, Tuesday, Thursday and Friday.



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The Department of Communities acknowledges the traditional owners of country throughout Western Australia and their connection to land, waters and community. We pay our respects to them and their cultures, and to their elders past and present.

The Department of Communities (Communities) formed on 1 July 2017 and is responsible for the delivery of child protection and family support, community grants, funding and initiatives, education and care regulation, disability services, housing and regional services reform. During the transition phase emails sent from the Housing Authority domain will be converted to the Communities email address. This message may contain privileged and confidential information and is intended for the exclusive use of the addressee(s). You must not disclose this communication to anyone without the prior consent of Communities. If you have received this email in error, please notify us by return mail, delete it from your system and destroy all copies. Communities has exercised care to avoid errors in the information contained in this email but does not warrant that it is error or omission free.

APPENDIX 5

**Transportation Noise Assessment (Lloyd George
Acoustics, April 2020)**

5



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Transportation Noise Assessment

Lots 9038 & 9040 Yanchep Beach Road

Structure Plan

Reference: 19105224-01A

Prepared for:
Department of Communities



Report: 19105224-01A

Lloyd George Acoustics Pty Ltd

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This report has been prepared in accordance with the scope of services described in the contract or agreement between Lloyd George Acoustics Pty Ltd and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client, and Lloyd George Acoustics Pty Ltd accepts no responsibility for its use by other parties.

Date:	Rev	Description	Prepared By	Verified
30/01/2020	-	Issued to Client	Daniel Lloyd	Terry George
09/04/2020	A	Updated Structure Plan	Daniel Lloyd	Terry George

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Appendices

- A Acceptable Treatment Packages
- B Terminology

1 INTRODUCTION

The Department of Communities is developing a Structure Plan for residential development on Lots 9038 and 9040 Yanchep Beach Road, Yanchep. The land is defined by Yanchep Beach Road to the north and the future Passenger railway to the east of Lot 9038 and the west of Lot 9040.

Lloyd George Acoustics have been commissioned to undertake a transport noise assessment in accordance with the *State Planning Policy No. 5.4 Road and Rail Noise* and to prepare a report detailing the noise impacts associate with the surrounding roads and passenger railway.

The proposed structure plan is presented in *Figures 1-1 and 1-2*.

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

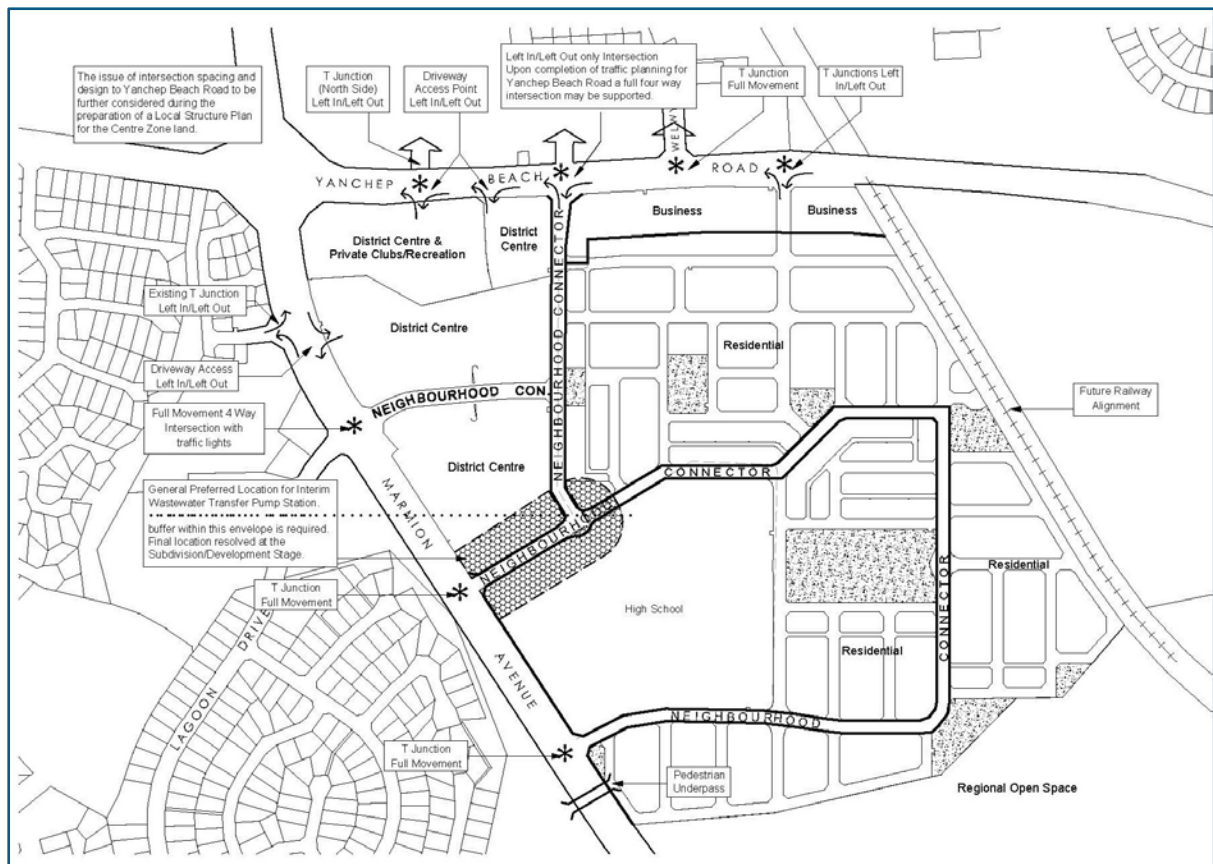


Figure 1-1 Structure Plan for Lot 9038



Figure 1-2 Concept Subdivision for Lot 9040

2 CRITERIA

The criteria relevant to this assessment is provided in *State Planning Policy No. 5.4 Road and Rail Noise* (hereafter referred to as SPP 5.4) produced by the Western Australian Planning Commission (WAPC). The objectives of SPP 5.4 are to:

- Protect the community from unreasonable levels of transport noise;
- Protect strategic and other significant freight transport corridors from incompatible urban encroachment;
- Ensure transport infrastructure and land-use can mutually exist within urban corridors;
- Ensure that noise impacts are addressed as early as possible in the planning process; and
- Encourage best practice noise mitigation design and construction standards

Table 2-1 sets out noise targets that are to be achieved by proposals under which SPP 5.4 applies. Where the targets are exceeded, an assessment is required to determine the likely level of transport noise and management/mitigation required.

Table 2-1 Noise Targets for Noise-Sensitive Land-Use

Outdoor Noise Target		Indoor Noise Target	
55 dB $L_{Aeq}(\text{Day})$	50 dB $L_{Aeq}(\text{Night})$	40 dB $L_{Aeq}(\text{Day})$ (Living and Work Areas)	35 dB $L_{Aeq}(\text{Night})$ (Bedrooms)

Notes:

- Day period is from 6am to 10pm and night period from 10pm to 6am.
- The outdoor noise target is to be measured at 1-metre from the most exposed, habitable¹ facade of the noise sensitive building.
- For all noise-sensitive land-use and/or development, indoor noise targets for other room usages may be reasonable drawn from Table 1 of Australian Standard/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors (as amended) for each relevant time period.
- Outdoor targets are to be met at all outdoor areas as far as is reasonable and practicable to do so using the various noise mitigation measures outlined in the Guidelines.

The application of SPP 5.4 is to consider anticipated traffic volumes for the next 20 years from when the noise assessment is undertaken.

In the application of the noise targets, the objective is to achieve:

- indoor noise levels specified in *Table 2-1* in noise-sensitive areas (e.g. bedrooms and living rooms of houses and school classrooms); and
- a reasonable degree of acoustic amenity for outdoor living areas on each residential lot. For non-residential noise-sensitive developments, for example schools and childcare centres, the design of outdoor areas should take into consideration the noise target.

It is recognised that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets. Where transport noise is above the noise targets, measures are expected to be implemented that balance reasonable and practicable considerations with the need to achieve acceptable noise protection outcomes.

3 METHODOLOGY

Noise measurements and modelling have been undertaken generally in accordance with the requirements of SPP 5.4 and associated Guidelines² as described in *Section 3.1* and *Section 3.2*.

3.1 Site Measurements

Noise monitoring was undertaken at one (1) location in order to:

- Quantify the existing noise levels;
- Determine the differences between different acoustic parameters ($L_{Aeq}(\text{Day})$ and $L_{Aeq}(\text{Night})$); and
- Calibrate the noise model for existing conditions.

¹ A habitable room is defined in State Planning Policy 3.1 as a room used for normal domestic activities that includes a bedroom, living room, lounge room, music room, sitting room, television room, kitchen, dining room, sewing room, study, playroom, sunroom, gymnasium, fully enclosed swimming pool or patio.

² Road and Rail Noise Guidelines, September 2019

The measurements were taken over a two-hour period during peak times using a Rion NA28 hand-held sound level meter (S/N: 1270692) located 11 metres from the edge of Yanchep Road. The microphone was positioned 1.4 metres above ground. This instrument complies with the instrumentation requirements of *Australian Standard 2702-1984 Acoustics – Methods for the Measurement of Road Traffic Noise*. The meter was field calibrated before and after the measurement session and found to be accurate to within +/- 1 dB. Lloyd George Acoustics also holds current laboratory calibration certificate for the loggers.

The overall daytime and night-time noise levels were calculated by adjusting the hourly noise levels based on the measured hourly traffic volumes provided by Main Roads via their website.

3.2 Noise Modelling

The computer programme *SoundPLAN 8.1* was utilised incorporating the *Calculation of Road Traffic Noise* (CoRTN) algorithms for road noise and the Nordic Rail Prediction Method (Kilde Rep. 130) algorithm for train noise. Both algorithms have been modified to reflect Australian conditions.

The modifications included the following:

- Vehicles were separated into heavy (Austroads Class 3 upwards) and non-heavy (Austroads Classes 1 & 2) with non-heavy vehicles having a source height of 0.5 metres above road level and heavy vehicles having two sources, at heights of 1.5 metres and 3.6 metres above road level, to represent the engine and exhaust respectively. By splitting the noise source into three, allows for less barrier attenuation for high level sources where barriers are to be considered.
- Note that a -8.0 dB correction is applied to the exhaust and -0.8 dB to the engine (based on Transportation Noise Reference Book, Paul Nelson, 1987), so as to provide consistent results with the CoRTN algorithms for the no barrier scenario;
- Adjustments of -0.8 dB and -1.7 dB have been applied to the predicted levels for the ‘free-field’ and ‘at facade’ cases respectively, based on the findings of *An Evaluation of the U.K. DoE Traffic Noise Prediction*; Australian Road Research Board, Report 122 ARRB – NAASRA Planning Group (March 1983).
- Train modification to align with measured noise levels of passenger trains operating in the Perth region. Measured noise levels used are shown in *Table 3-1*.

Table 3-1 Sound Pressure Levels Used in the Noise Model

Description	dB(A) at One-Third Octave Frequencies (Hz)									Overall dB(A)
	31.5	63	125	250	500	1K	2K	4K	8K	
Train speed of 130 km/hr at a distance of 15m	30	51	59	62	73	79	79	77	69	87
	35	54	61	65	73	79	80	74	64	
	42	53	61	69	78	80	78	72	58	

Predictions are made at heights of 1.4 m above ground floor level for single storey houses. The noise is predicted at 1.0 metre from an assumed building facade resulting in a + 2.5 dB correction due to reflected noise.

Various input data are included in the modelling such as ground topography, road design, traffic volumes etc. These model inputs are discussed in the following sections.

3.2.1 Ground Topography

Topographical data for this project was provided by CLE Plan. As this project is only at “Structure Plan” stage, information on subdivision levels are preliminary only and therefore the modelling uses the preliminary earthworks topography.

The approximate location of future houses have also been included as these can provide barrier attenuation when located between a source and receiver, in much the same way as a hill or wall provides noise shielding. All buildings are assumed to be single storey with a height of 3.5 metres.

3.2.2 Traffic Data

Traffic data includes:

- Road Surface – The noise relationship between different road surface types is shown in *Table 3-2*.

Table 3-2 Noise Relationship Between Different Road Surfaces

Road Surfaces						
Chip Seal			Asphalt			
14mm	10mm	5mm	Dense Graded	Novachip	Stone Mastic	Open Graded
+3.5 dB	+2.5 dB	+1.5 dB	0.0 dB	-0.2 dB	-1.5 dB	-2.5 dB

The existing and future road surface on Yanchep Beach Road is assumed to be dense graded asphalt.

- Vehicle Speed – The existing and future posted speed is assumed to be 80km/hr.
- Traffic Volumes – 2016 and 2041 traffic volumes were provided by Main Roads WA (Clare Yu ref: 41352). *Table 3-3* provides the traffic volume input data in the model.

Table 3-3 Traffic Information Used in the Modelling

Parameter	2016			2041		
	Eastbound	Westbound	% Heavy	Eastbound	Westbound	% Heavy
24 Hour Volume	5,200	4,100	1	21,400	21,300	1

Note: 18 hour volumes used in the CoRTN algorithms are assumed to be 94% of 24-hour volumes

3.2.3 Train Movements

The number of train movements assumed in the model has been provided by PTA and are detailed in *Table 3-4*.

Table 3-4 Daily Rail Movements Assumed in the Modelling

Train Description	Train Movements	
	Day	Night
Northbound		
6 Car Sets	75	22
Southbound		
6 Car Sets	75	22

3.2.4 Ground Attenuation

The ground attenuation has been assumed to be 0.0 (0%) for the road, 0.75 (75%) throughout the subdivision, except for the public open space, which was set to 1.00 (100%). Note 0.0 represents hard reflective surfaces such as water and 1.00 represents absorptive surfaces such as grass.

3.2.5 Parameter Conversion

The CoRTN algorithms used in the *SoundPLAN* modelling package were originally developed to calculate the $L_{A10,18\text{hour}}$ traffic noise level. SPP 5.4 however uses $L_{Aeq(\text{Day})}$ and $L_{Aeq(\text{Night})}$. The relationship between the parameters varies depending on the composition of traffic on the road (volumes in each period and percentage heavy vehicles).

As noise monitoring was undertaken, the relationship between the parameters is based on the results of the monitoring – refer *Section 4.1*.

4 RESULTS

4.1 Noise Measurements

The results of the noise measurements are summarised in *Table 4-1*.

Table 4-1 Measured Noise Levels

Date	Average Weekday Noise Level, dB		
	Hourly (0600 & 0700)	L _{Aeq} (Day)	L _{Aeq} (Night)
2 December 2019	62.0	60.8	54.2

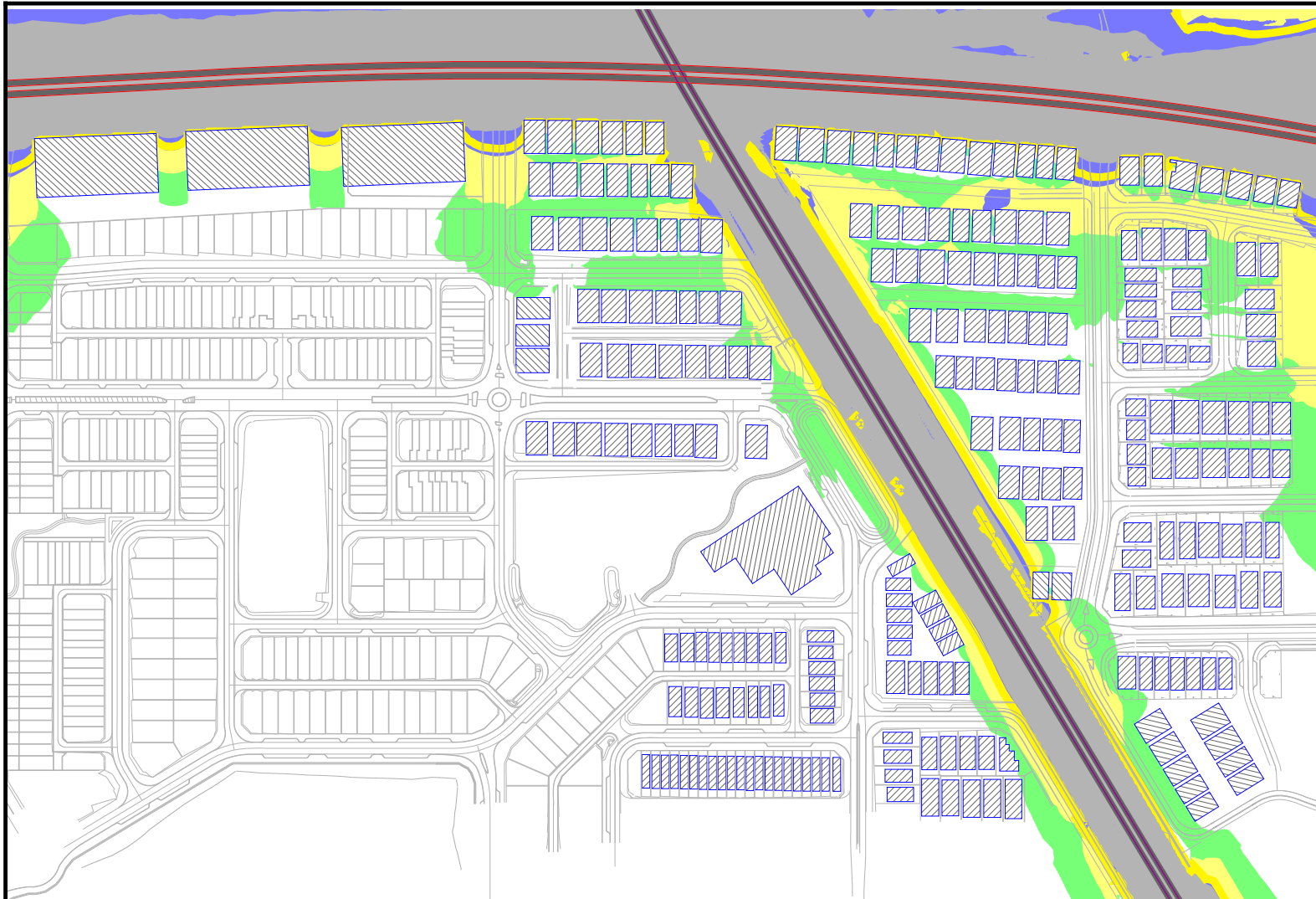
The average differences between the weekday L_{Aeq}(Day) and L_{Aeq}(Night) is 6.6 dB. This same difference has been assumed to exist in future years. As such, it is the daytime noise levels that will dictate compliance since these are at least 5 dB more than night-time levels.

This data is also used to calibrate the noise model. This is achieved by predicting the traffic noise level at the noise measurement location assuming the existing traffic volumes and comparing these results against the measured values. The results of the calibration showed that the model was over predicting by 2.1 dB and the results of the modelling have been adjusted accordingly.

4.2 Noise Modelling

The results of the noise modelling for future conditions is provided in *Figure 4-1* as an L_{Aeq}(Day) noise level contour plot. It can be seen that predicted noise levels at the nearest houses will be above the *target* and therefore noise control is to be considered.

Figure 4-1



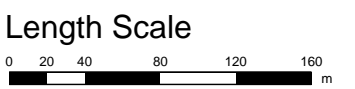
Noise levels
L_{Aeq,Day} dB

≤ 55	Exposure A
≤ 56	
≤ 57	Exposure B
≤ 58	
≤ 59	
≤ 60	
≤ 61	Exposure C
≤ 62	
≤ 63	
≤ 64	
≤ 65	
≤ 66	Exposure D
> 66	

SPP 5.4 (Sep 2019)

Signs and symbols

- Building
- Road
- Railway



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Lots 9038 & 9040 Yanchep Beach Road
Predicted Noise Level Contours - No Noise Mitigation

L_{Aeq}(Day) Noise Level Contours
Ground Floor Level

SoundPlan v8.1
CoRTN & Nordic Algorithms

7 January 2020

5 ASSESSMENT

The objectives of SPP 5.4 are to achieve:

- indoor noise levels specified in *Table 2-1* in noise-sensitive areas (e.g. bedrooms and living rooms of houses and school classrooms); and
- a reasonable degree of acoustic amenity for outdoor living areas on each residential lot.

Where the outdoor noise targets of *Table 2-1* are achieved, no further controls are necessary.

With reference to the predicted noise levels in *Section 4.2*, it is evident the outdoor noise target will be exceeded.

As this project is only at “Structure Plan” phase, the suggested noise mitigation measures are indicative only. They have been designed to achieve a reasonable degree of amenity and facade packages may also be required to achieve compliance with SPP 5.4.

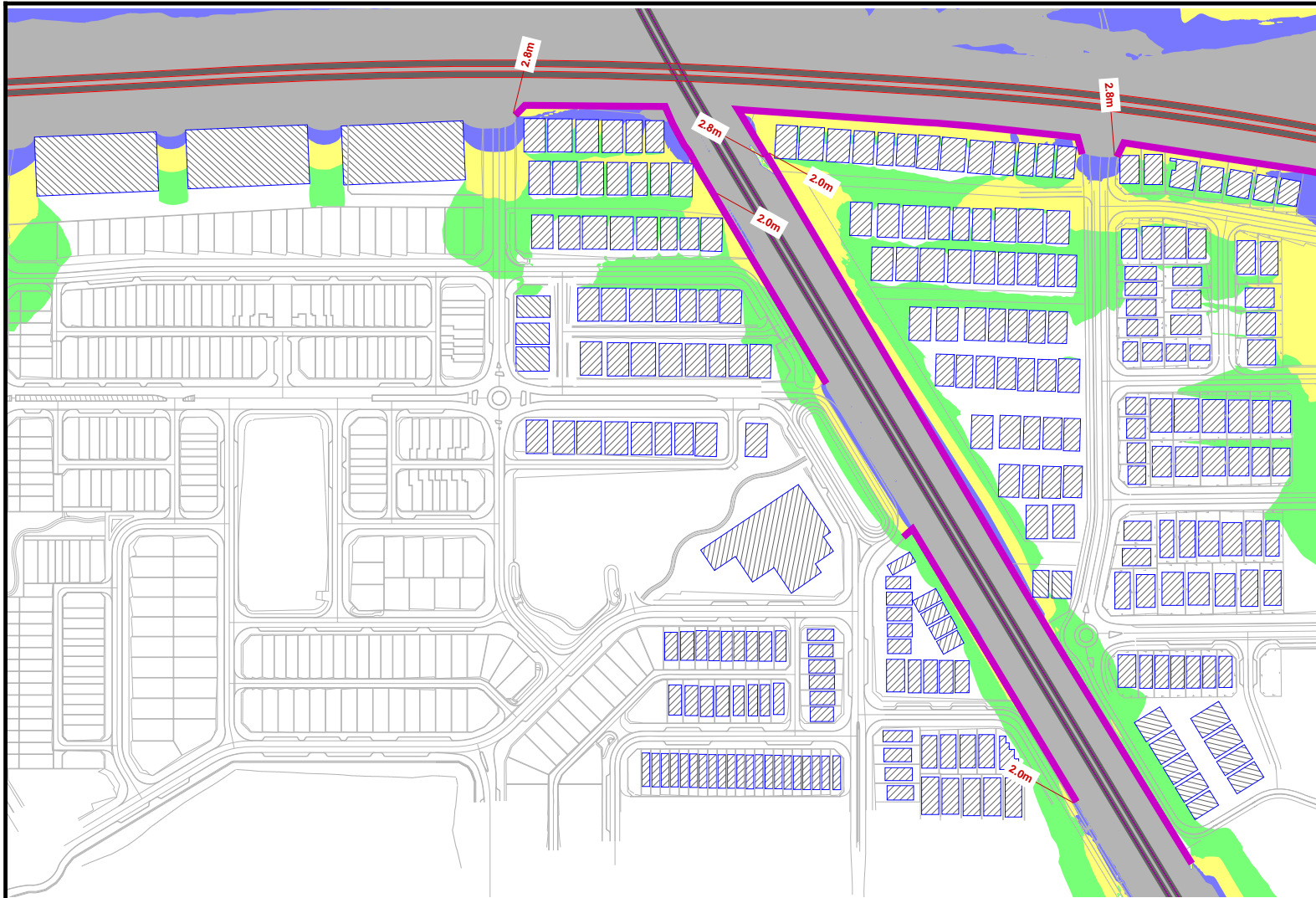
Therefore our preliminary recommendations are:

- Construct noise barriers as shown in *Figure 5-1*. The noise barrier is to be solid, free of gaps and of minimum surface mass 15kg/m^2 . Alternatively, an earth bund could be constructed.
- Where lots are still above the outdoor noise target (refer *Figure 5-1*), the following Packages (refer *Appendix A*) are required:
 - Package A where noise levels are between 56 dB and 58 dB $L_{Aeq(\text{Day})}$;
 - Package B where noise levels are between 59 dB and 62 dB $L_{Aeq(\text{Day})}$;
 - Package C where noise levels are between 63 dB and 66 dB $L_{Aeq(\text{Day})}$;

Alternative constructions from the deemed to satisfy packages may be acceptable if supported by a report undertaken by a suitably qualified acoustical consultant (member from of the Association of Australasian Acoustical Consultants (AAAC)), once the lots specific building plans are available.

- All affected lots are to have notifications on lot titles as per SPP 5.4 requirements – refer *Appendix A*.

Figure 5-1



Noise levels
L_{Aeq,Day} dB

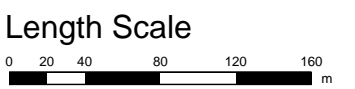
<= 55	Exposure A
<= 56	
<= 57	Exposure B
<= 58	
<= 59	
<= 60	Exposure C
<= 61	
<= 62	
<= 63	
<= 64	Exposure D
<= 65	
<= 66	
> 66	

SPP 5.4 (Sep 2019)

Signs and symbols

- Building
- Road
- Railway
- Wall

N



**Lots 9038 & 9040 Yanchep Beach Road
Predicted Noise Level Contours - With Noise Mitigation**

L_{Aeq}(Day) Noise Level Contours
Ground Floor Level

SoundPlan v8.1
CoRTN & Nordic Algorithms

7 January 2020



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Appendix A

ACCEPTABLE TREATMENT PACKAGES

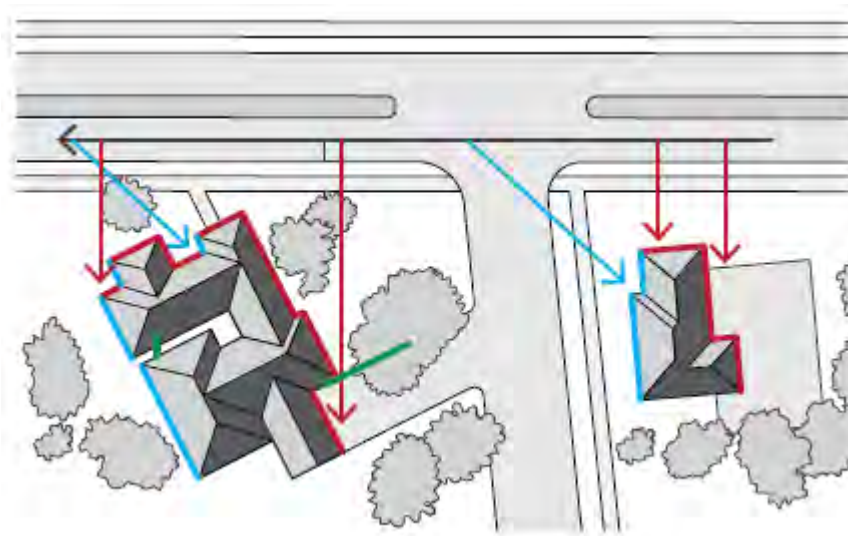
The packages and information provided on the following pages are taken from *Road and Rail Noise Guidelines* (September 2019).

Where outdoor and indoor noise levels received by a noise-sensitive land-use and/or development exceed the policy's noise target, implementation of quiet house requirements is an acceptable solution.

The quiet house packages are not the only solution to achieving acceptable internal transport noise levels. A suitably qualified acoustical engineer or consultant may also determine more tailored acoustic design requirements for buildings in a transport noise corridor by carrying out acoustic design in accordance with relevant industry standards. This includes the need to meet the relevant design targets specified in AS/NZS 2107:2016 for road traffic noise.

With regards to the packages, the following definitions are provided:

- **Facing** the transport corridor (red): Any part of a building façade is 'facing' the transport corridor if any straight line drawn perpendicular (at a 90 degree angle) to its nearest road lane or railway line intersects that part of the façade without obstruction (ignoring any fence).
- **Side-on** to transport corridor (blue): Any part of a building façade that is not 'facing' is 'side-on' to the transport corridor if any straight line, at any angle, can be drawn from it to intersect the nearest road lane or railway line without obstruction (ignoring any fence).
- **Opposite** to transport corridor (green): Neither 'side on' nor 'facing', as defined above.



Quiet House Package A

56-58 dB $L_{Aeq}(\text{Day})$ & 51-53 dB $L_{Aeq}(\text{Night})$

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Windows	Facing	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> Sliding or double hung with minimum 10mm single or 6mm-12mm-10mm double insulated glazing; Sealed awning or casement windows with minimum 6mm glass. Up to 60% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Sealed awning or casement windows with minimum 6mm glass. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 25$): <ul style="list-style-type: none"> Sliding or double hung with minimum 6mm single or 6mm-12mm-6mm double insulated glazing; Up to 60% floor area ($R_w + C_{tr} \geq 28$); Up to 80% floor area ($R_w + C_{tr} \geq 31$).
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	Opposite	No specific requirements	
External Doors	Facing	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 25$: <ul style="list-style-type: none"> 35mm Solid timber core hinged door and frame system certified to $R_w 28$ including seals; Glazed sliding door with 10mm glass and weather seals.
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less.	
	Opposite	No specific requirements	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 45$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 20mm cavity; Single leaf of 150mm brick masonry with 13mm cement render on each face. One row of 92mm studs at 600mm centres with: <ul style="list-style-type: none"> Resilient steel channels fixed to the outside of the studs; and 9.5mm hardboard or fibre cement sheeting or 11mm fibre cement weatherboards fixed to the outside; 75mm thick mineral wool insulation with a density of at least 11kgkg/m³; and 2 x 16mm fire-rated plasterboard to inside. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$: <ul style="list-style-type: none"> Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard. 	
Outdoor Living Areas	At least one outdoor living area located on the opposite side of the building from the transport corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum 2 metres height above ground level.		

Quiet House Package B

59-62 dB $L_{Aeq}(\text{Day})$ & 54-57 dB $L_{Aeq}(\text{Night})$

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Windows	Facing	<ul style="list-style-type: none"> • Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> ○ Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. • Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> ○ Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> • Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> ○ Sliding or double hung with 6mm-12mm-10mm double insulated glazing; ○ Sealed awning or casement windows with minimum 6mm glass. • Up to 60% floor area ($R_w + C_{tr} \geq 31$); • Up to 80% floor area ($R_w + C_{tr} \geq 34$).
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	Opposite	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Doors	Facing	<ul style="list-style-type: none"> • Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ rated door and frame including seals and 10mm glass. 	<ul style="list-style-type: none"> • Doors to achieve $R_w + C_{tr} \geq 28$: <ul style="list-style-type: none"> ○ 40mm Solid timber core hinged door and frame system certified to $R_w 32$ including seals; ○ Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass.
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	Opposite	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Walls	All	<ul style="list-style-type: none"> • $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> ○ Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 50mm glasswool or polyester insulation (R2.0+). Resilient ties used where required to connect leaves. ○ Two leaves of 110mm clay brick masonry with minimum 50mm cavity between leaves and 50mm glasswool or polyester insulation (R2.0+). ○ Single leaf of 220mm brick masonry with 13mm cement render on each face. ○ 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face. ○ Single leaf of 90mm clay brick masonry with: <ul style="list-style-type: none"> ▪ A row of 70mm x 35mm timber studs or 64mm steel studs at 600mm centres; ▪ A cavity of 25mm between leaves; ▪ 50mm glasswool or polyester insulation (R2.0+) between studs; and ▪ One layer of 10mm plasterboard fixed to the inside face. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> • $R_w + C_{tr} \geq 35$: <ul style="list-style-type: none"> ○ Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling with R3.0+ fibrous insulation. 	
Outdoor Living Areas		At least one outdoor living area located on the opposite side of the building from the transport corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum 2.4 metres height above ground level.	

Quiet House Package C

63-66 dB $L_{Aeq}(\text{Day})$ & 58-61 dB $L_{Aeq}(\text{Night})$

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Windows	Facing	<ul style="list-style-type: none"> Up to 20% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 40% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing.
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	Opposite	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Doors	Facing	<ul style="list-style-type: none"> Not recommended. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 30$: <ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ rated door and frame including seals and 10mm glass; 40mm Solid timber core side hinged door, frame and seal system certified to $R_w 32$ including seals. Any glass inserts to be minimum 6mm.
	Side On	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	Opposite	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 50mm glasswool or polyester insulation (R2.0+). Resilient ties used where required to connect leaves. Two leaves of 110mm clay brick masonry with minimum 50mm cavity between leaves and 50mm glasswool or polyester insulation (R2.0+). Single leaf of 220mm brick masonry with 13mm cement render on each face. 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face. Single leaf of 90mm clay brick masonry with: <ul style="list-style-type: none"> A row of 70mm x 35mm timber studs or 64mm steel studs at 600mm centres; A cavity of 25mm between leaves; 50mm glasswool or polyester insulation (R2.0+) between studs; and One layer of 10mm plasterboard fixed to the inside face. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 40$: <ul style="list-style-type: none"> Concrete or terracotta tile roof with sarking, or metal sheet roof with foil backed R2.0+ fibrous insulation between steel sheeting and roof battens; R3.0+ insulation batts above ceiling; 2 x 10mm plasterboard ceiling or 1 x 13mm sound-rated plasterboard affixed using steel furring channel to ceiling rafters. 	
Outdoor Living Areas		At least one outdoor living area located on the opposite side of the building from the transport corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum 2.4 metres height above ground level.	

Mechanical Ventilation requirements

In implementing the acceptable treatment packages, the following mechanical ventilation / air-conditioning considerations are required:

- Acoustically rated openings and ductwork to provide a minimum sound reduction performance of R_w 40 dB into sensitive spaces;
- Evaporative systems require attenuated ceiling air vents to allow closed windows;
- Refrigerant based systems need to be designed to achieve National Construction Code fresh air ventilation requirements;
- Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable.

Notification

Notifications on title advise prospective purchasers of the potential for noise impacts from major transport corridors and help with managing expectations.

The Notification is to state as follows:

This lot is in the vicinity of a transport corridor and is affected, or may in the future be affected, by road and rail transport noise. Road and rail transport noise levels may rise or fall over time depending on the type and volume of traffic.

Appendix B

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.

L_1

An L_1 level is the noise level which is exceeded for 1 per cent of the measurement period and is considered to represent the average of the maximum noise levels measured.

L_{10}

An L_{10} level is the noise level which is exceeded for 10 per cent of the measurement period and is considered to represent the “intrusive” noise level.

L_{90}

An L_{90} level is the noise level which is exceeded for 90 per cent of the measurement period and is considered to represent the “background” noise level.

L_{eq}

The L_{eq} level represents the average noise energy during a measurement period.

$L_{A10,18hour}$

The $L_{A10,18hour}$ level is the arithmetic average of the hourly L_{A10} levels between 6.00 am and midnight. The *CoRTN* algorithms were developed to calculate this parameter.

$L_{Aeq,24hour}$

The $L_{Aeq,24hour}$ level is the logarithmic average of the hourly L_{Aeq} levels for a full day (from midnight to midnight).

$L_{Aeq,8hour} / L_{Aeq} (Night)$

The $L_{Aeq} (Night)$ level is the logarithmic average of the hourly L_{Aeq} levels from 10.00 pm to 6.00 am on the same day.

$L_{Aeq,16hour} / L_{Aeq} (Day)$

The $L_{Aeq} (Day)$ level is the logarithmic average of the hourly L_{Aeq} levels from 6.00 am to 10.00 pm on the same day. This value is typically 1-3 dB less than the $L_{A10,18hour}$.

Noise-sensitive land use and/or development

Land-uses or development occupied or designed for occupation or use for residential purposes (including dwellings, residential buildings or short-stay accommodation), caravan park, camping ground, educational establishment, child care premises, hospital, nursing home, corrective institution or place of worship.

About the Term 'Reasonable'

An assessment of reasonableness should demonstrate that efforts have been made to resolve conflicts without comprising on the need to protect noise-sensitive land-use activities. For example, have reasonable efforts been made to design, relocate or vegetate a proposed noise barrier to address community concerns about the noise barrier height? Whether a noise mitigation measure is reasonable might include consideration of:

- The noise reduction benefit provided;
- The number of people protected;
- The relative cost vs benefit of mitigation;
- Road conditions (speed and road surface) significantly differ from noise forecast table assumptions;
- Existing and future noise levels, including changes in noise levels;
- Aesthetic amenity and visual impacts;
- Compatibility with other planning policies;
- Differences between metropolitan and regional situations and whether noise modelling requirements reflect the true nature of transport movements;
- Ability and cost for mobilisation and retrieval of noise monitoring equipment in regional areas;
- Differences between Greenfield and infill development;
- Differences between freight routes and public transport routes and urban corridors;
- The impact on the operational capacity of freight routes;
- The benefits arising from the proposed development;
- Existing or planned strategies to mitigate the noise at source.

About the Term 'Practicable'

'Practicable' considerations for the purposes of the policy normally relate to the engineering aspects of the noise mitigation measures under evaluation. It is defined as "reasonably practicable having regard to, among other things, local conditions and circumstances (including costs) and to the current state of technical knowledge" (*Environmental Protection Act 1986*). These may include:

- Limitations of the different mitigation measures to reduce transport noise;
- Competing planning policies and strategies;
- Safety issues (such as impact on crash zones or restrictions on road vision);
- Topography and site constraints (such as space limitations);
- Engineering and drainage requirements;
- Access requirements (for driveways, pedestrian access and the like);
- Maintenance requirements;
- Bushfire resistance or BAL ratings;
- Suitability of the building for acoustic treatments.

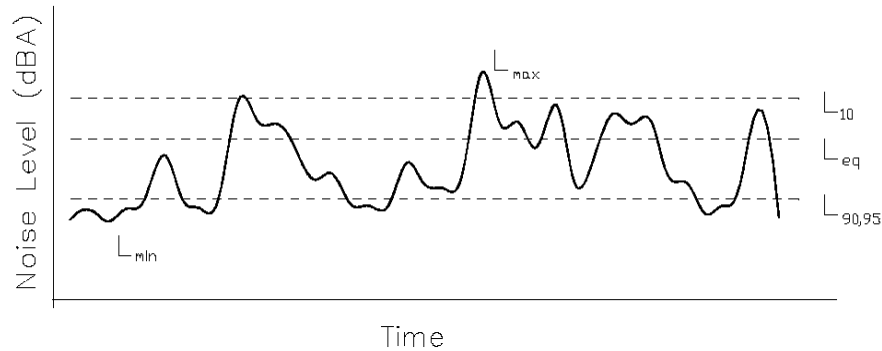
R_w

This is the weighted sound reduction index and is similar to the previously used STC (Sound Transmission Class) value. It is a single number rating determined by moving a grading curve in integral steps against the laboratory measured transmission loss until the sum of the deficiencies at each one-third-octave band, between 100 Hz and 3.15 kHz, does not exceed 32 dB. The higher the R_w value, the better the acoustic performance.

C_{tr}

This is a spectrum adaptation term for airborne noise and provides a correction to the R_w value to suit source sounds with significant low frequency content such as road traffic or home theatre systems. A wall that provides a relatively high level of low frequency attenuation (i.e. masonry) may have a value in the order of -4 dB, whilst a wall with relatively poor attenuation at low frequencies (i.e. stud wall) may have a value in the order of -14 dB.

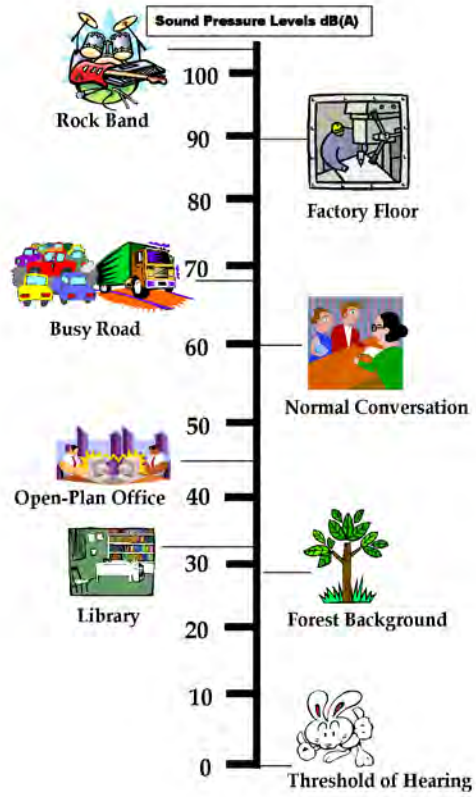
Chart of Noise Level Descriptors



Austrroads Vehicle Class

VEHICLE CLASSIFICATION SYSTEM	
AUSTRADS	
CLASS	LIGHT VEHICLES
1	SHORT Car, Van, Wagon, 4WD, Utility, Bicycle, Motorcycle
2	SHORT - TOWING Trailer, Caravan, Boat
HEAVY VEHICLES	
3	TWO AXLE TRUCK OR BUS *2 axles
4	THREE AXLE TRUCK OR BUS *3 axles, 2 axle groups
5	FOUR (or FIVE) AXLE TRUCK *4 (5) axles, 2 axle groups
6	THREE AXLE ARTICULATED *3 axles, 3 axle groups
7	FOUR AXLE ARTICULATED *4 axles, 3 or 4 axle groups
8	FIVE AXLE ARTICULATED *5 axles, 3+ axle groups
9	SIX AXLE ARTICULATED *6 axles, 3+ axle groups of 7+ axles, 3 axle groups
LONG VEHICLES AND ROAD TRAINS	
10	8 DOUBLE or HEAVY TRUCK and TRAILER *7+ axles, 4 axle groups
11	DOUBLE ROAD TRAIN *7+ axles, 5 or 6 axle groups
12	TRIPLE ROAD TRAIN *7+ axles, 7+ axle groups

Typical Noise Levels



APPENDIX 6



**Bushfire Management Plan (Entire Fire Management
March 2020)**

6

AS 3959 Bushfire Contour & Bushfire Hazard Level Report

Site Details			
Address:	Jindowie		
Suburb:	Yanchep	Postcode:	6035
Local Government Area:	City of Wanneroo		
Description of Building Works:	Redevelopment		

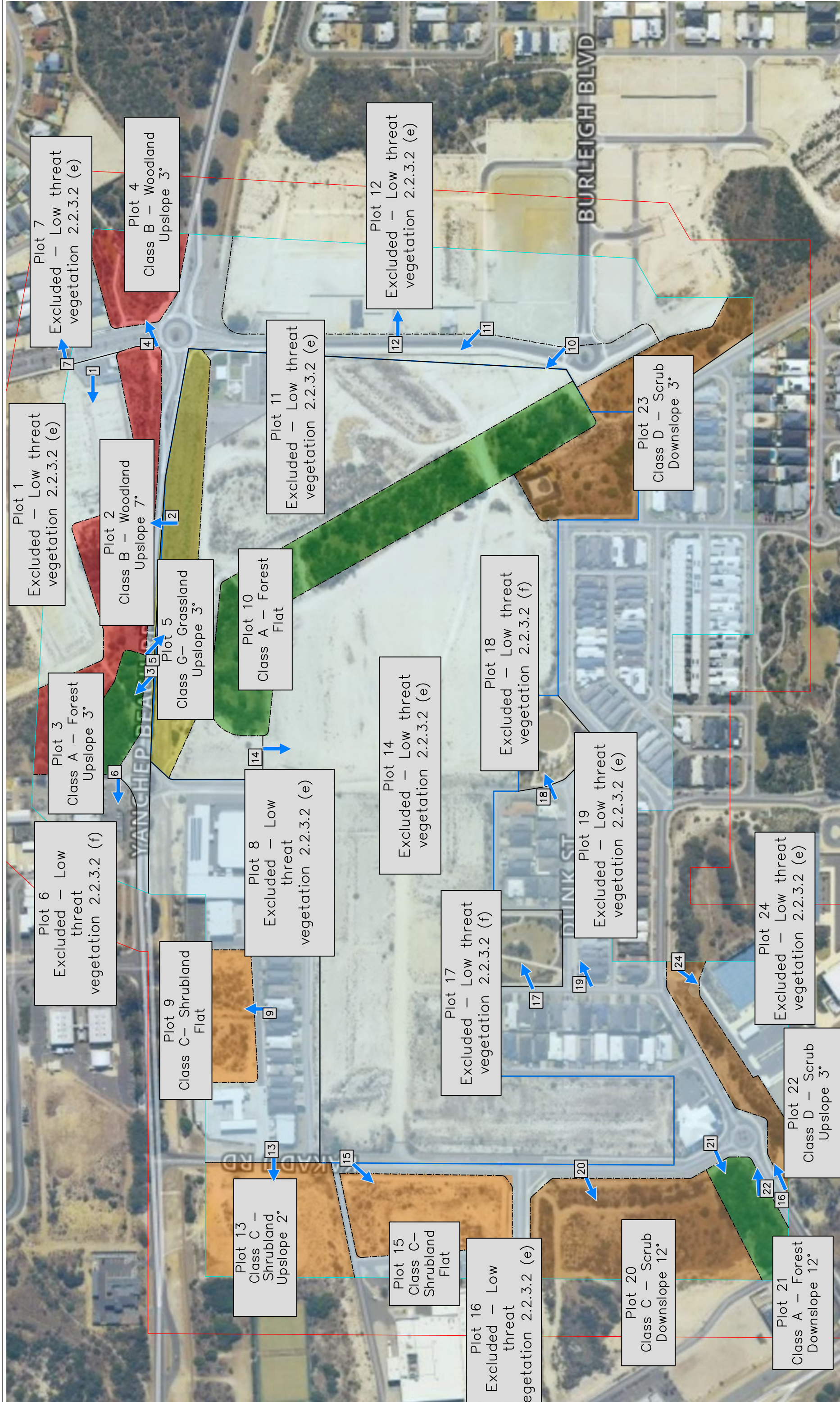
Report Details			
Report Number:	2-2824	Report Revision:	1
Assessment Date:	19/03/2020	Report Date:	31/03/2020

BPAD Accredited Practitioner Details	
Name:	Gavin Fancote
Company Details:	Entire Fire Management
<p>I hereby certify that I have undertaken the assessment of the above-mentioned site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959 -2009 (Method 1)</p>	
<p>I hereby declare that I am a BPAD accredited bushfire practitioner.</p> 	
Accreditation No.	BPAD37922
Signature:	
<p><i>Authorised Practitioner Stamp</i></p>	
<p><i>Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the Assessment date. If the assessment was completed more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated report issued.</i></p>	

Site Assessment & Site Plans

(Attached as page 2 of this report)

The assessment of this site / development was undertaken on the above-mentioned date by an Accredited BPAD Practitioner for determining the Bushfire Attack Level in accordance with AS 3959 - 2009 Simplified Procedure (Method 1).



Plot 1
Excluded - Low threat
vegetation 2.2.3.2 (e)

Plot 2
Class B - Woodland
Upslope 7°

Plot 3
Class A - Forest
Upslope 3°

Plot 4
Class B - Woodland
Upslope 3°

Plot 5
Class G - Grassland
Upslope 3°

Plot 6
Excluded - Low
threat
vegetation 2.2.3.2 (f)

Plot 7
Excluded - Low threat
vegetation 2.2.3.2 (e)

Plot 8
Excluded - Low
threat
vegetation 2.2.3.2 (e)

Plot 9
Class C - Shrubland
Flat

Plot 10
Class A - Forest
Flat

Plot 11
Excluded - Low threat
vegetation 2.2.3.2 (e)

Plot 12
Excluded - Low threat
vegetation 2.2.3.2 (e)

Plot 13
Class C - Shrubland
Upslope 2°

Plot 14
Excluded - Low
threat
vegetation 2.2.3.2 (e)

Plot 15
Class C - Shrubland
Flat

Plot 16
Excluded - Low
threat
vegetation 2.2.3.2 (e)

Plot 17
Excluded - Low threat
vegetation 2.2.3.2 (f)

Plot 18
Excluded - Low threat
vegetation 2.2.3.2 (f)

Plot 19
Excluded - Low threat
vegetation 2.2.3.2 (e)

Plot 20
Class C - Scrub
Downslope 12°

Plot 21
Class A - Forest
Downslope 12°

Plot 22
Class D - Scrub
Upslope 3°

Plot 23
Class D - Scrub
Downslope 3°

Plot 24
Excluded - Low threat
vegetation 2.2.3.2 (e)

Entire Empire Pty Ltd
 ABN: 63 468 728 651
 Office: (08) 9498 0056
 Address: 6 Potts Road
 Forrestdale Business Park
 Forrestdale WA 6112

Project Yindowie - Yanchep

Title: Vegetation Classification

Size: A3 Scale: 1:3000 Sheet: 2-2824 Rev: 0

Name: Gavin Fancote Date: 20 Mar 2020

Legend

- Subject Property
- 150m Exclusion Zone
- 100m Exclusion Zone
- Photo Location
- Vegetation Plot Boundary
- Class A - Forest
- Class B - Woodland
- Class C - Shrubland
- Class D - Scrub
- Class G - Grassland

Excluded c2.2.3.2(f)

Notes

0 40 80 Meters



Plot 4
Class B - Woodland
Upslope 3°

Plot 2
Class B - Woodland
Upslope 7°

Plot 3
Class A - Forest
Upslope 3°

Plot 9
Class C - Shrubland
Flat

Plot 13
Class C - Shrubland
Upslope 2°

Plot 15
Class C - Shrubland
Flat

Plot 20
Class C - Scrub
Downslope 12°

Plot 21
Class A - Forest
Downslope 12°

Plot 22
Class D - Scrub
Upslope 3°

Plot 23
Class D - Scrub
Downslope 3°

Entire Empire Pty Ltd
 ABN: 63 468 728 651
 Office: (08) 9498 0056
 Address: 6 Potts Road
 Forrestdale Business Park
 Forrestdale WA 6112

Project Yindowie - Yanchep

Title BAL Contour Assessment

Size A3 **Scale** 1:3000 **Sheet** BAL C 2-2824 **Rev** 0

Name Gavin Fancote **Date** 20 Mar 2020

Legend

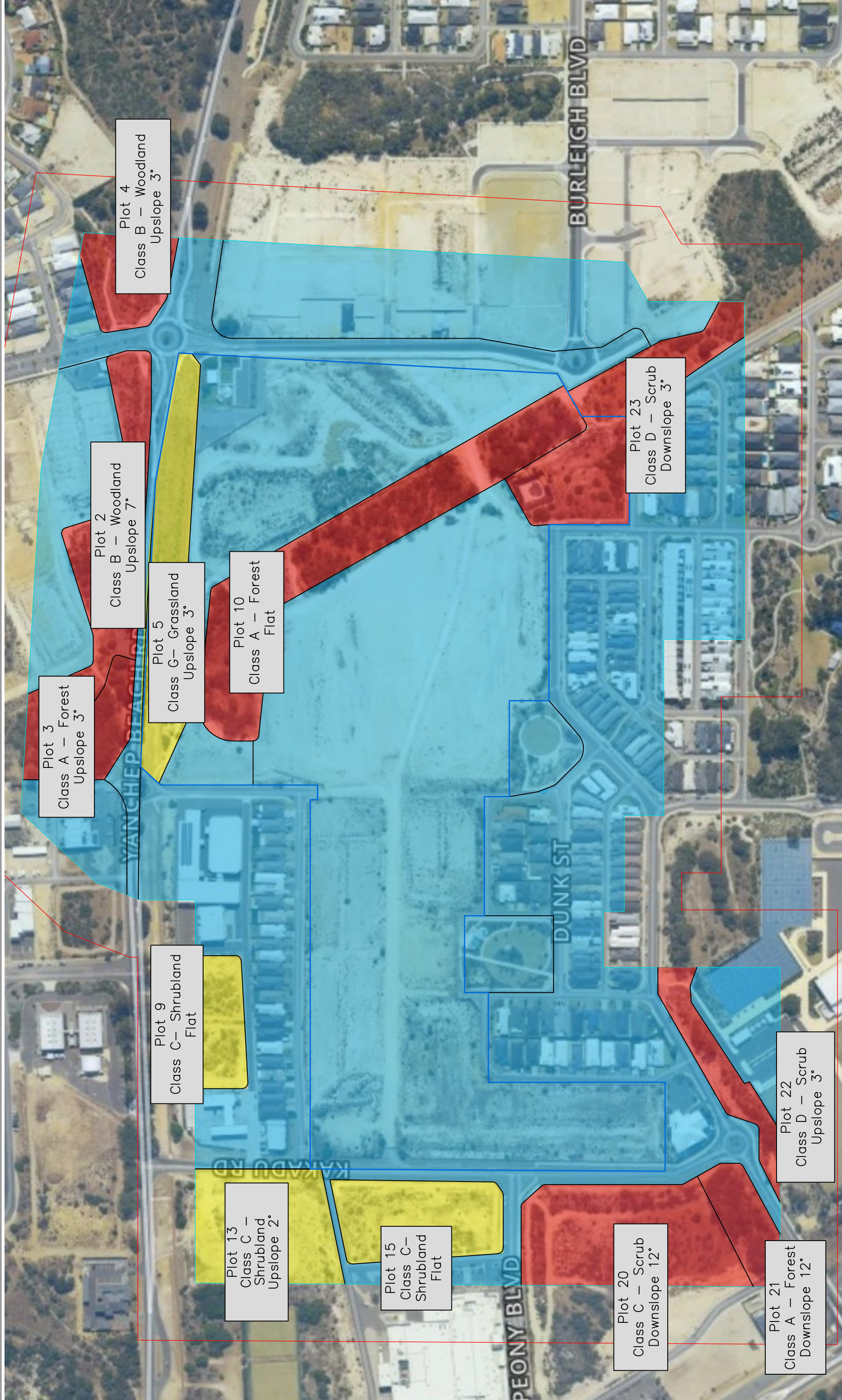
- Property Boundary
- Proposed Building
- 100m Exclusion Zone
- 150m Assessment area
- Vegetation Plot Boundary

Indicative Bushfire Attack Levels:

- BAL-LOW
- BAL-12.5
- BAL-19
- BAL-29
- BAL-40
- BAL-FZ

Notes

0 120 240 Meters



Plot 3
Class A – Forest
Upslope 3°

Plot 2
Class B – Woodland
Upslope 7°

Plot 4
Class B – Woodland
Upslope 3°

Plot 5
Class G – Grassland
Upslope 3°

Plot 10
Class A – Forest
Flat

Plot 23
Class D – Scrub
Downslope 3°

Plot 9
Class C – Shrubland
Flat

Plot 13
Class C – Shrubland
Upslope 2°

Plot 15
Class C – Shrubland
Flat

Plot 20
Class C – Scrub
Downslope 12°

Plot 21
Class A – Forest
Downslope 12°

Plot 22
Class D – Scrub
Upslope 3°



Entire Empire Pty Ltd
ABN: 63 468 728 651
Office: (08) 9498 0056
Address: 6 Potts Road
Forrestdale Business Park
Forrestdale WA 6112

Project Yindowie – Yanchiep

Title Bushfire Hazard Level

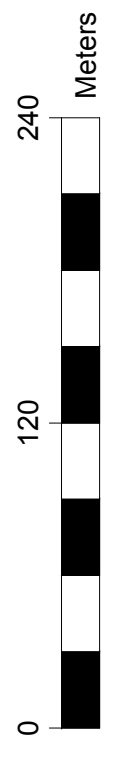
Size A3 Scale 1:3000 Sheet BHL 2-2824 Rev 0

Name Gavin Fancote Date 20 Mar 2020



- Legend
- Subject Development
 - Low Hazard Level
 - Moderate Hazard Level
 - Extreme Hazard Level

Notes



Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	1	Plot no:	1	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings and rocky outcrops.				



Photo ID:	2	Plot no:	2	
Vegetation Classification or Exclusion Clause				
Class B - Woodland				
Description				
Trees averaging height 10m-12m with 10%-30% foliage cover dominated by eucalypts with a prominent grassy understorey, includes small shrubs.				

Photo ID:	3	Plot no:	3	
Vegetation Classification or Exclusion Clause				
Class A - Forrest				
Description				
Trees averaging height 10m-12m; 30%-70% foliage cover Typically dominated by eucalypts. May include low trees or shrubs. Dense vegetation within Plot				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	4	Plot no:	4	
Vegetation Classification or Exclusion Clause				
Class B - Woodland				
Description				
Trees averaging height 10m-15m with 10%-30% foliage cover dominated by eucalypts with a prominent grassy understorey. Low Shrubs surrounding set in a small reserve.				



Photo ID:	5	Plot no:	5	
Vegetation Classification or Exclusion Clause				
Class G - Grassland				
Description				
Low lying sparse vegetation including situations with shrubs and isolated trees, if the overstorey foliage cover is less than 10%.				

Photo ID:	6	Plot no:	6	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings.				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	7	Plot no:	7	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings.				



Photo ID:	8	Plot no:	8	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings.				

Photo ID:	9	Plot no:	9	
Vegetation Classification or Exclusion Clause				
Class C - Shrubland				
Description				
Found in area affected by poor quality soil or shallow soils. Shrubs average height 1m not greater than 2m high.				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID:	10	Plot no:	10	
Vegetation Classification or Exclusion Clause				
Class A - Forrest				
Description				
Trees averaging height 10m-12m; 30%-70% foliage cover Typically dominated by eucalypts. May include low trees or shrubs. Dense vegetation within Plot.				

Photo ID:	11	Plot no:	11	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings and rocky outcrops. Plot is included within the development.				

Photo ID:	12	Plot no:	12	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings and rocky outcrops.				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	13	Plot no:	13	
Vegetation Classification or Exclusion Clause				
Class C - Shrubland				
Description				
Found in area affected by poor quality soil or shallow soils. Shrubs 1m-2m high.				



Photo ID:	14	Plot no:	14	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings and rocky outcrops. Plot is included within the development.				

Photo ID:	15	Plot no:	15	
Vegetation Classification or Exclusion Clause				
Class C - Shrubland				
Description				
Found in area affected by poor quality soil or shallow soils. Shrubs averaging height of 1m not greater 2m high.				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	16	Plot no:	16	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings and rocky outcrops.				



Photo ID:	17	Plot no:	17	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (f) Regarded as Low threat vegetation : managed grasslands in a minimum fuel condition. Including Public reserves, parklands, nature strips and windbreaks				

Photo ID:	18	Plot no:	18	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (f) Regarded as Low threat vegetation : managed grasslands in a minimum fuel condition. Including Public reserves, parklands, nature strips and windbreaks				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	19	Plot no:	19	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings.				



Photo ID:	20	Plot no:	20	
Vegetation Classification or Exclusion Clause				
Class D - Scrub				
Description				
Found in areas with poor soil fertility. Shrubs >2m high up to 6m				

Photo ID:	21	Plot no:	21	
Vegetation Classification or Exclusion Clause				
Class A - Forrest				
Description				
Trees averaging height 12-15m; 30%-70% foliage cover Typically dominated by eucalypts. May include low trees or shrubs. Dense vegetation within Plot.				

Vegetation Classification (continued)

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


Photo ID:	22	Plot no:	22	
Vegetation Classification or Exclusion Clause				
Class D - Scrub				
Description				
Found in areas with poor soil fertility. Shrubs >2m high up to 6m. Plot joins larger area of Scrub out of 100m radius.				



Photo ID:	23	Plot no:	23	
Vegetation Classification or Exclusion Clause				
Class D - Scrub				
Description				
Found in areas with poor soil fertility. Shrubs >2m high up to 6m				

Photo ID:	24	Plot no:	24	
Vegetation Classification or Exclusion Clause				
Excluded - Low Threat Vegetation				
Description				
2.2.3.2 (e) Non vegetated areas that are permanently cleared of vegetation, roads, buildings. Developed sporting complex, car parks, tennis courts, maintained ovals.				

Appendix 2: Plans and Drawings

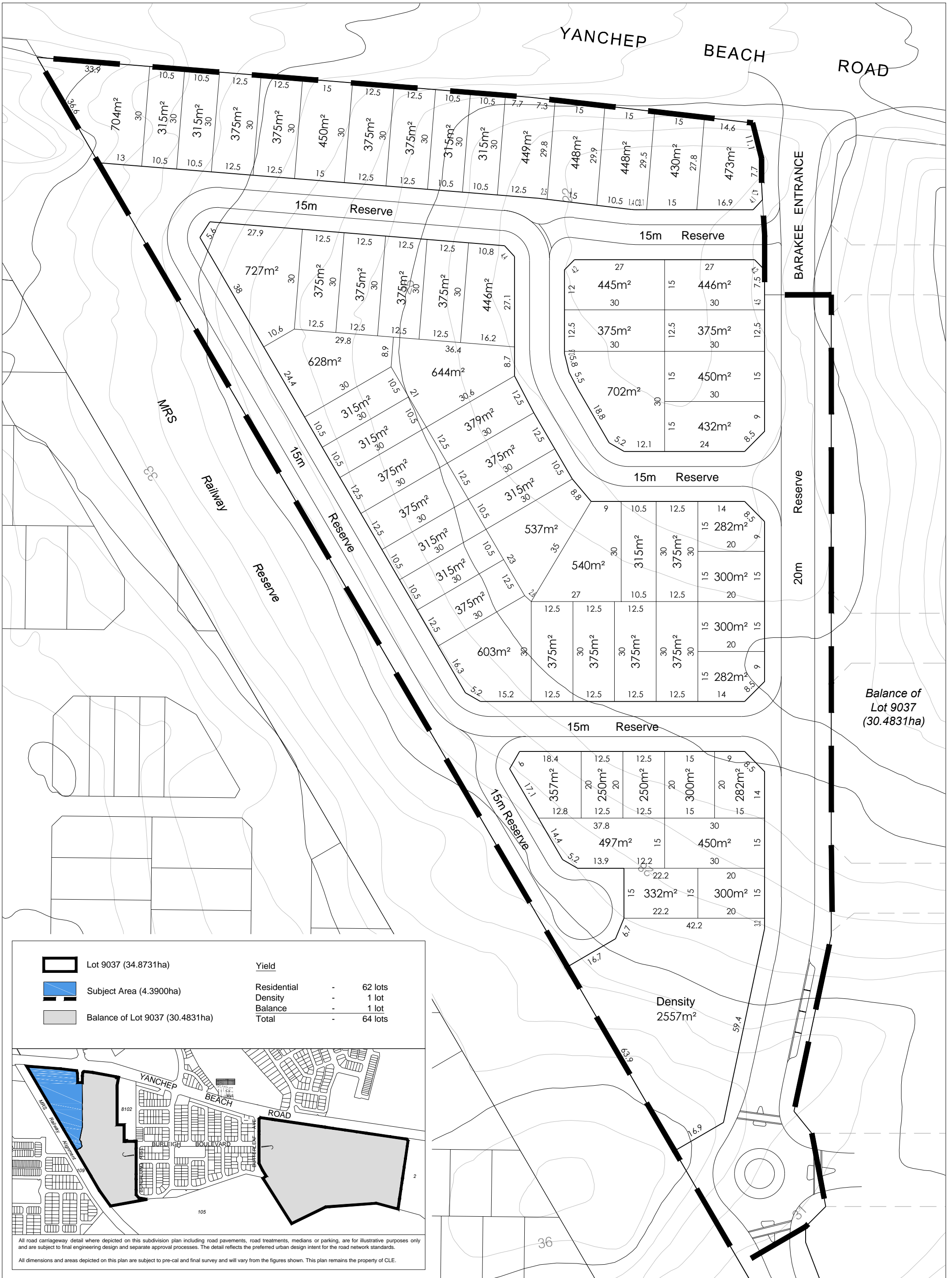
Plans and drawings relied on to determine the Bushfire Attack Level.






APPENDIX 7

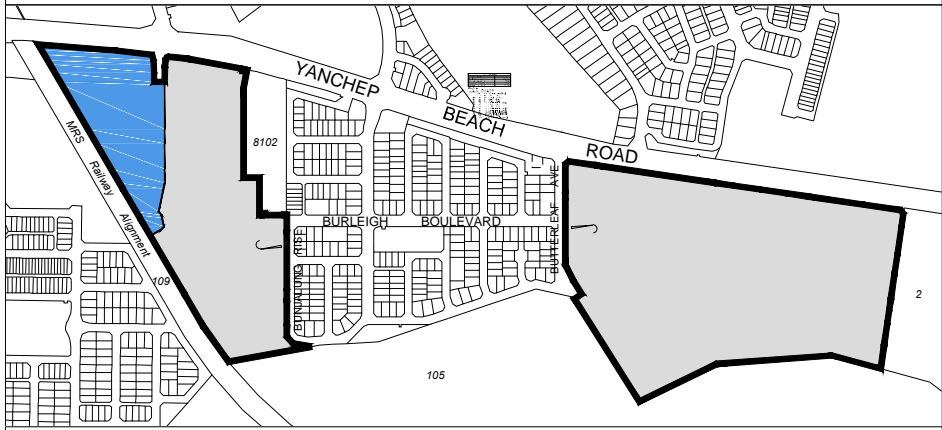
Subdivision Concept (CLE Ref. 2125-222-01)

7



Balance of Lot 9037 (30.4831ha)

	Lot 9037 (34.8731ha)		
	Subject Area (4.3900ha)	Yield	
	Balance of Lot 9037 (30.4831ha)	Residential	- 62 lots
		Density	- 1 lot
		Balance	- 1 lot
		Total	- 64 lots



All road carriageway detail where depicted on this subdivision plan including road pavements, road treatments, medians or parking, are for illustrative purposes only and are subject to final engineering design and separate approval processes. The detail reflects the preferred urban design intent for the road network standards.
All dimensions and areas depicted on this plan are subject to pre-cal and final survey and will vary from the figures shown. This plan remains the property of CLE.

